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

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SEE SHEET IA

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

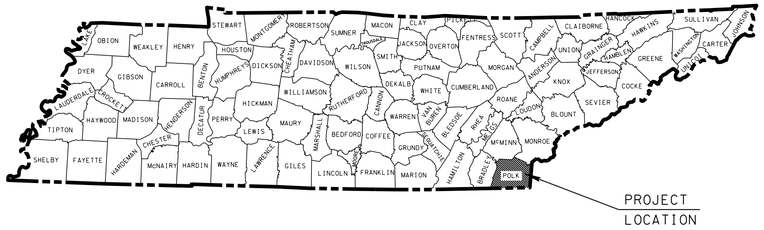
TENN.	YEAR	SHEET NO.
	2015	1
FED. AID PROJ. NO.	BR-NH-40(27)	
STATE PROJ. NO.	70004-3299-94	

POLK COUNTY

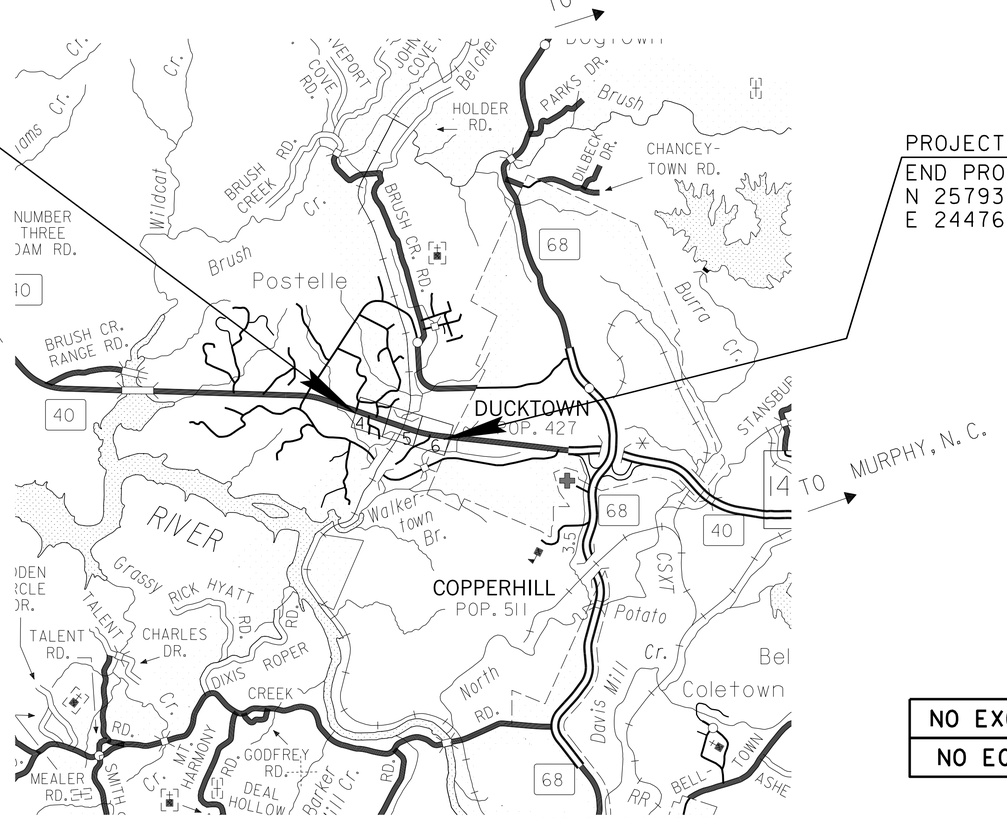
SR-40
BRIDGE OVER BRANCH AND T.O.H.A. OLD LINE RAILROAD,
L.M. 24.85

CONSTRUCTION

STATE HIGHWAY NO. 40 F.A.H.S. NO. 64/74



70004-3299-94
PROJECT NO. BR-NH-40(27) CONST.
BEGIN PROJECT STA. 11+00.00
N 258671.5341
E 2445059.7554



SCALE: 1"= ½ MILE

0 0.5 1.0 1.5
MILES

70004-3299-94
PROJECT NO. BR-NH-40(27) CONST.
END PROJECT STA. 38+24.41
N 257937.2082
E 2447677.3789

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SEALED BY
KATHERINE J. LLOYD
REGISTERED TENNESSEE
KY
AGRICULTURE
ENGINEER
NO. 106423
STATE OF TENNESSEE

SPECIAL NOTES

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

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

TDOT C.E. MANAGER 1 ROBERT BRAUN, P.E.

DESIGNER KHUZAIMA MAHDI, P.E. CHECKED BY SHANNON HENRY

P.E. NO. 70004-1299-94 (DESIGN)

PIN NO. 115685.00

ROADWAY LENGTH	0.445 MILES
BRIDGE LENGTH	0.070 MILES
BOX BRIDGE LENGTH	0.000 MILES
PROJECT LENGTH	0.515 MILES

NO EXCLUSIONS
NO EQUATIONS

TRAFFIC DATA	
ADT (2015)	4,990
ADT (2035)	5,980
DHV (2035)	718
D	65 - 35
T (ADT)	09 %
T (DHV)	06 %
V	60 MPH

SURVEY DATES:
ORIGINAL 09/04/2012
UPDATES 10/22/2014

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
JOHN SCHROER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

12-OCT-2015 09:28
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	1A

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* SHEETS 15I, 16I ARE NOT USED.

STANDARD BRIDGE DRAWINGS

DWG. NO.	REV.	DESCRIPTION
BRIDGE APPURTENANCES ENGLISH (NEW STRUCTURES)		
STD-1-1	5-1-14	BRIDGE RAILING CONCRETE PARAPET
STD-1-1SS	5-1-14	BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET
STD-1-2	3-28-08	SLIDER PLATES AND DECK DRAINS
STD-1-2SS		STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE AND BRIDGE DECK DRAIN DETAILS – 2007
STD-1-4SS		STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE BARRIER

STANDARD ROADWAY DRAWINGS

DWG. NO	REV.	DESCRIPTION
STD-1-5	3-26-14	PAVEMENT AT BRIDGE ENDS
STD-1-6	4-28-97	BRIDGE END DRAIN W/ PABE
STD-1-7	8-24-11	BRIDGE END DRAIN W/ PABE
STD-1-8	5-01-95	BRIDGE END DRAIN 2'x8'-7" W/ PABE
STD-1-9	5-01-95	BRIDGE END DRAIN 4'x8'-7" W/ PABE
ROADWAY DESIGN STANDARDS		
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-4	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	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-8		STANDARD LEGEND FOR NATURAL STREAM DESIGN
RD01-S-11	04-04-03	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD01-S-11A	10-15-02	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD01-S-11B	10-15-02	DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT
RD01-SA-1	10-15-02	SAFETY APPROACH TO UNDERPASSES GRADING DESIGN & SLOPE PROTECTION
RD01-SD-1		INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
RD01-SD-2		INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION
RD01-SD-3		INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS
RD01-SE-3	10-15-02	RURAL SUPERELEVATION DETAILS
RD01-TS-1	10-15-02	DESIGN STANDARDS FOR LOCAL ROADS AND STREETS
RD01-TS-1A		DESIGN STANDARDS FOR LOW-VOLUME LOCAL ROADS (ADT<=400)
RD01-TS-3	10-15-02	DESIGN STANDARD FOR 2-LANE ARTERIAL HIGHWAYS
DRAINAGE - CULVERTS AND ENDWALL		
D-PB-1	01-02-13	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PB-2	01-29-14	STANDARD DETAILS FOR FLEXIBLE PIPE INSTALLATION
D-PB-3		INDUCED TRENCH SOIL EMBANKMENT FOR PIPE CULVERT INSTALLATION
D-PE-1	02-12-76	TYPE "A" CONCRETE ENDWALL 2:1 SLOPE, 36" TO 78"
D-PE-4	04-23-15	STRAIGHT CONCRETE ENDWALL
D-PE-18A	01-06-15	18" CONCRETE ENDWALL CROSS DRAIN
D-PE-18B		18" CONCRETE ENDWALL CROSS DRAIN
D-PE-24A	01-06-15	24" CONCRRETE ENDWALL CROSS DRAIN
D-PE-24B		24" CONCRRETE ENDWALL CROSS DRAIN
ROADWAY AND PAVEMENT APPURTENANCES		
RP-D-15	07-15-08	DETAILS OF STANDARD CONCRETE DRIVEWAYS
RP-R-1	05-27-01	STANDARD RAMPS TO SIDE ROADS
SAFETY APPURTENANCES AND FENCE		
S-F-1	05-24-12	HIGH VISIBILITY FENCE
S-RP-2	01-19-99	STANDARD CONCRETE RIGHT-OF-WAY MARKERS
S-CZ-1		CLEAR ZONE CRITERIA
S-PL-1	02-02-15	SAFETY PLAN AT ROADSIDE HAZARDS
S-PL-2		SAFETY PLAN AT SIDE ROADS OR PRIVATE DRIVES
S-PL-3		SAFETY PLAN: MINIMUM INSTALLATION AT BRIDGE ENDS
S-GR31-1	12-01-14	W-BEAM GUARDRAIL
S-GRC-1		GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL
S-GRA-3	05-01-15	GUARDRAIL ANCHOR FOR TYPE 12, 13 AND IN-LINE TERMINALS
S-GRA-4		IN-LINE GUARDRAIL ANCHOR
S-GRT-2	11-03-14	TYPE 38 GUARDRAIL TERMINAL
S-GRT-2P		EARTH PAD FOR TYPE 38 TERMINAL
S-GRT-3		TYPE 21 GUARDRAIL TERMINAL
S-GRT-3D		TYPE 21 GUARDRAIL TERMINAL (DETAILS)
S-GRT-3P		EARTH PAD FOR TYPE 21 TERMINAL
S-SSMB-3	07-16-13	51" HALF SIZE SINGLE SLOPE CONCRETE BARRIER WALL
S-RP-2	01-19-99	STANDARD CONCRETE RIGHT-OF-WAY MARKERS
TRAFFIC CONTROL APPURTENANCES		
T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-1	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-15A	01-30-15	ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES
T-PBR-1	06-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-2	11-01-11	DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS
T-WZ-10	04-04-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-18	03-13-09	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-2	08-01-12	SEDIMENT FILTER BAG
EC-STR-3B	08-01-12	SILT FENCE
EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-6	08-01-12	ROCK CHECK DAM

UNOFFICIAL SET

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SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INDEX AND STANDARD DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	1B

EC-STR-6A	08-01-12	ENHANCED ROCK CHECK DAM
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-11	08-01-12	CULVERT PROCTECTION TYPE 1
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-27	08-01-12	TEMPORARY SLOPE DRAIN AND BERM
EC-STR-34	08-01-12	EROSION CONTROL BLANKET FOR SLOPE INSTALLATION
EC-STR-37	06-10-14	SEDIMENT TUBE

TRAFFIC OPERATION STANDARD DRAWINGS

DWG. NO.	REV.	DESCRIPTION
TRAFFIC SIGNS		
T-S-9	06-10-14	STANDARD LAYOUT GROUND MOUNTED SIGNS
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-16	06-05-14	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
T-S-17	07-19-13	STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE
T-S-18	02-14-14	END OF ROADWAY AND DEAD END SIGNS, METAL BARRICADES (TYPE III) & WORK ZONE SPEED SIGNS
T-S-19	07-19-13	STANDARD STEEL SIGN SUPPORTS

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SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

INDEX AND STANDARD DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	1C

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA. / LOCATION
EDEC003	ENVIRONMENTAL DIVISION, ECOLOGY	DUE TO CONCERNS FOR THE NORTHERN PINE SNAKE, THERE SHALL BE NO INTENTIONAL KILLING OF SNAKES. ANY SIGHTING OF A SNAKE BELIEVED TO BE A NORTHERN PINE SNAKE SHALL BE REPORTED TO TWRA. TO CONTACT TWRA'S VINCE PONTELLO OR CASEY PITTMAN PLEASE CALL 1-800-262-6704.	ENTIRE PROJECT AREA
EDEC004	ENVIRONMENTAL DIVISION, ECOLOGY	DUE TO CONCERN FOR THE SEEPAGE SALAMANDER, TDOT ECOLOGY SHALL BE NOTIFIED ONE (1) WEEK BEFORE ANY DISTURBANCE / CLEARING ACTIVITY NEAR THE EXISTING BRIDGE TO PERFORM A SPECIES SWEEP TO REMOVE ALL LOCATED SALAMANDERS.	STA. 21+00 TO STA. 26+50.00
EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	AN ASBESTOS CONTAINING MATERIAL (ACM) SURVEY WAS CONDUCTED ON BRIDGE # 70SR0400023, SR-40 OVER BRANCH & CSX R/R, LM 24.85, (70-SR40-24.85). NO ACM WAS DETECTED. NO SPECIAL ACCOMMODATIONS FOR DEMOLITION AND WASTE DISPOSAL ARE ANTICIPATED FOR THIS BRIDGE AND THE MATERIAL CAN BE DEPOSITED IN A C&D LANDFILL. PLEASE NOTE THAT EVEN THOUGH THE SAMPLES WERE FOUND TO CONTAIN NO ASBESTOS, THE DEMOLITION CONTRACTOR IS REQUIRED TO SUBMIT THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS STANDARD 10-DAY NOTICE OF DEMOLITION TO THE TENNESSEE DIVISION OF AIR POLLUTION CONTROL.	SR-40 over Branch and TOHA Old Line Railroad, LM 24.85

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	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
	201-07.01	REMOVAL AND DISPOSAL OF BRUSH & TREES	LS	1
24)	203-01.07	RD & DRNG EXCV (ACID PRODUCING- OFF SITE DISPOSAL)	C.Y.	45788
1)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	56856
12)	203-06	WATER	M.G.	99
	203-07	FURNISHING & SPREADING TOPSOIL	C.Y.	2224
4,23)	209-02.04	10" TEMPORARY SLOPE DRAIN	L.F.	107
	203-03.02	BORROW EXCAVATION (UNCLASSIFIED)	TON	7545
4,23)	209-03.21	FILTER SOCK (12 INCH)	L.F.	4490
23)	209-05	SEDIMENT REMOVAL	C.Y.	405
3,4,23)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	2142
4,23)	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	500
4,23)	209-08.07	ROCK CHECK DAM PER	EACH	46
4,23)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	8
4,23)	209-09.03	SEDIMENT FILTER BAG (15' X 15')	EACH	2
4,21,23)	209-09.24	JUTE MESH FABRIC	S.Y.	2084
21,23)	209-20.03	POLYETHYLENE SHEETING (6 MIL. MINIMUM)	S.Y.	43000
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	9830
5)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	1072
	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	1178
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	782
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	19
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	74
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	4
	411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	406
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	464
	411-12.02	SCORING SHOULDERS (NON-CONTINUOUS) (16IN WIDTH)	L.M.	1
27)	503-01.01	MILLING CONCRETE PAVEMENT	S.Y.	900
	604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	250
31)	604-07.01	RETAINING WALL (WALL NO.1)	S.F.	10698
18)	606-24.10	SHEET PILES	S.F.	2500
	607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	40
	607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	L.F.	70
19)	607-37.02	18" CORRUGATED METAL PIPE CULVERT	L.F.	8
19)	607-37.06	42" CORRUGATED METAL PIPE CULVERT	L.F.	18
	607-39.03	24" PIPE CULVERT (SIDE DRAIN)	L.F.	62
15)	610-07.03	18" PIPE DRAIN (BRIDGE DRAIN)	L.F.	230
	611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	C.Y.	11
	611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB.	283
	611-07.54	18IN ENDWALL (CROSS DRAIN) 3:1	EACH	3
	611-07.58	24IN ENDWALL (CROSS DRAIN) 4:1	EACH	1
	621-05.01	TEMPORARY SHORING	S.F.	3000
	701-02	CONCRETE DRIVEWAY	S.F.	570
26)	703-01	CEMENT CONCRETE DITCH PAVING	C.Y.	126
	705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	135
	705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	832
	705-04.04	GUARDRAIL TERMINAL (TYPE 21)	EACH	1
	705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	EACH	2
	705-04.07	TAN ENERGY ABSORBING TERM (NCHRP 350, TL3)	EACH	6
6)	705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	5
13)	706-01	GUARDRAIL REMOVED	L.F.	1600
23)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	1800
	708-02.01	MARKERS (CONCRETE R.O.W. POSTS)	EACH	3
15)	709-01.01	RUBBLE STONE RIP-RAP	C.Y.	9
7)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	50
8,17)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	4460
28)	709-05.08	MACHINED RIP-RAP (CLASS B)	TON	89
	711-05.72	SINGLE SLOPE HALF CONCRETE BARRIER WALL	L.F.	700
	712-01	TRAFFIC CONTROL	LS	1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	4300
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	50
	712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	216
	712-06	SIGNS (CONSTRUCTION)	S.F.	368
	712-08.03	ARROW BOARD (TYPE C)	EACH	2
	713-11.01	"U" SECTION STEEL POSTS	LB.	47
	713-11.02	PERFORATED/KNOCKOUT SQUARE TUBE POST	LB.	189
	713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	S.F.	22
	713-13.03	FLAT SHEET ALUMINUM SIGNS (0.100" THICK)	S.F.	38

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
25)	713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
9)	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
	716-01.05	TEMPORARY RAISED PAVEMENT MARKER	EACH	45
20)	716-01.21	Snwplwble Pvmt Mrkrs (Bi-Dir)(1 Color)	EACH	34
14)	716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	36
	716-05.02	PAINTED PAVEMENT MARKING (8" BARRIER LINE)	L.F.	7140
	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	2
	717-01	MOBILIZATION	LS	1
10,23)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	289
16)	740-10.04	GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.	5377
23)	740-11.02	TEMPORARY SEDIMENT TUBE 12IN (EROSION CONTROL)	L.F.	100
	801-01	SEEDING (WITH MULCH)	UNIT	20
4,23,29)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	71
	801-02.01	CROWN VETCH MIXTURE (WITHOUT MULCH)	UNIT	58
4,23,29)	801-02.08	TEMPORARY SEEDING (WITHOUT MULCH)	UNIT	68
11)	801-03	WATER (SEEDING & SODDING)	M.G.	16
22)	803-01	SODDING (NEW SOD)	S.Y.	7000
30,23)	805-12.01	EROSION CONTROL BLANKET (TYPE I)	S.Y.	2000
23)	805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	6893

1) INCLUDES 160 C.Y. TO BE USED WITH TEMPORARY BERM, 8 C.Y. FOR TEMPORARY CONSTRUCTION ENTRANCE/EXIT.
2) NOT USED.
3) INCLUDES 98 FT. TO BE USED WITH SEDIMENT FILTER BAG.
4) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE AND REPLACEMENT.
5) 20 TONS TO BE USED WITH SEDIMENT FILTER BAG, 9 TONS FOR CULVERTS PROTECTION TYPE 1, AND 1043 TONS USED FOR HAUL ROAD.
6) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLE WOULD BE A QUAD-GUARD OR A REACT 350 OR A TRACC. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.
7) TO BE USED WITH TEMPORARY CONSTRUCTION ENTRANCE/EXIT.
8) 60 TONS TO BE USED WITH TEMPORARY SLOPE DRAINS,46 TONS USED FOR CULVERTS PROTECTION TYPE 1, 20 TONS USED AT CROSS DRAIN INLETS, 34 TONS TO BE USED AT OUTFALLS 3&4, AND 4300 TONS WITH HAUL ROADS.
9) TO BE USED AS NEEDED OR WHERE DIRECTED BY THE ENGINEER.
10) 95 S.Y. TO BE USED WITH SEDIMENT FILTER BAG, 86 S.Y. FOR TEMPORARY CONSTRUCTION ENTRANCE/EXIT, AND 108 S.Y. TO BE USED FOR CULVERTS PROTECTION TYPE 1.
11) INCLUDES 4 M.G. FOR EROSION PREVENTION AND SEDIMENT CONTROL.
12) INCLUDES 20 M.G. FOR EARTH EMANKMENTS AND 79 M.G. FOR BASE MATERIAL.
13)TO BE USED AT BEGIN AND END OF THE EXISTING BRIDGE, AND STATIONS 33+81.81, 33+80.86 LEFT AND RIGHT OF SR40 RESPECTIVELY.
14) THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PERFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC
15) STANDARD DRAWING STD-1-7 IS TO BE USED FOR BURIAL OF THE OUTLET PIPE AND FOR END TREATMENT DETAILS.
16) TO BE USED WITH HAUL ROADS.
17) RE-USE 1346 TONS MACHINED RIP-RAP CONSTRUCTED WITH HAUL ROAD FOR BRIDGE SLOPE PROTECTION. THE COST OF REMOVAL AND RE-USE OF THIS MATERIAL IN BRIDGE SLOPE SHOULD BE INCLUDED IN THE COST OF THIS ITEM.
18) SEE SECTION 621 IN THE 2006 SUPPLEMENTAL SPECIFICATIONS OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MARCH 1, 2006.
19) COST OF CONNECTING NEW CMP TO EXISTING CMP IS INCLUDED IN THE COST OF THIS ITEM.
20) REMOVING EXISTINGS ARE INCLUDED IN THE COST OF OTHER ITEMS.
21) TO BE USED WHEN DEEMED NECESSARY BASED ON FIELD CONDITIONS. TO STAY IN PERMIT COMPLIANCE.
22) TO BE USED WITH SLOPES FLATTER THAN 3:1.
23) ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
24) SEE TDOT SPECIAL PROVISION SP107L.
25) REMOVE SIGN FACE AND SUPPORT (NO FOOTINGS ON THESE SIGNS) ON APPROXIMATELY 10 EXISTING SIGNS AND SUPPORTS WITHIN THE GRADING LIMITS OF THE PROJECT AND ANY OTHER CONFLICTING SIGNING OR AS DIRECTED BY THE ENGINEER.
26) 52 C.Y. TO BE USED WITH CONCRETE SWALE, 74 C.Y. USED WITH CONCRETE DITCHES.
27) TO BE USED WITH TRAFFIC CONTROL PAVEMENT TRANSITIONS AT EACH END OF THE PROJECT.
28) TO BE USED FOR STABILIZING SLOPE AT STA. 35+29.87
29) INCLUDES 8 UNITS FOR STOCK PILE AT WASTE DISPOSAL SITE.
30) INCLUDES 1000 S.Y. FOR STOCK PILE AT WASTE DISPOSAL SITE.
31) SEE SHEET 2I FOR SPECIAL RETAINING WALL NOTES.

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2B

ESTIMATED UTILITY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	70004-3299-94 QUANTITY
793-13.07	4IN SCHEDULE 40 PVC	LF	11530
793-13.17	2 DUCT FORMATION @ 36IN DEPTH	LF	65
793-13.28	4 DUCT FORMATION @ 36IN DEPTH	LF	2850
793-14.02	CONCRETE ENCASEMENT PER DUCT	LF	150
793-14.05	MH PRECAST 4FT W X 8FT L X 6FT H	EACH	8
793-14.09	BRIDGE CONDUIT HANGER SYSTEM	LS	1
793-14.11	1IN INNERDUCT	LF	2850
793-14.21	ROD DUCTS	LF	2850
793-98.04	REMOVE POLES ALL SIZES	EACH	2
793-98.05	RETIRE BURIED FACILITIES IN PLACE	LF	6764
793-98.06	REMOVE PEDESTALS	EACH	9

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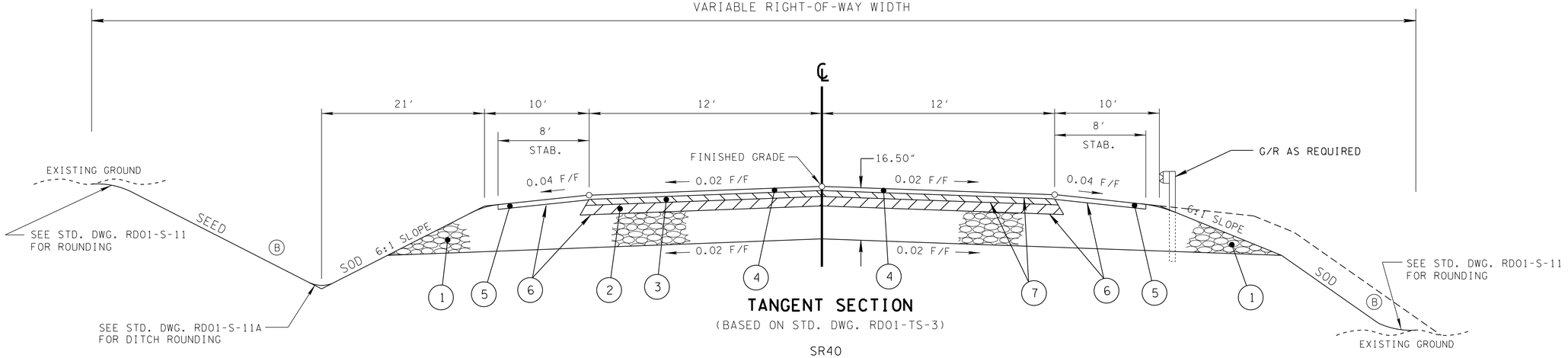
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED UTILITIES QUANTITIES

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	2
CONST.	2015	BR-NH-40(27)	2C



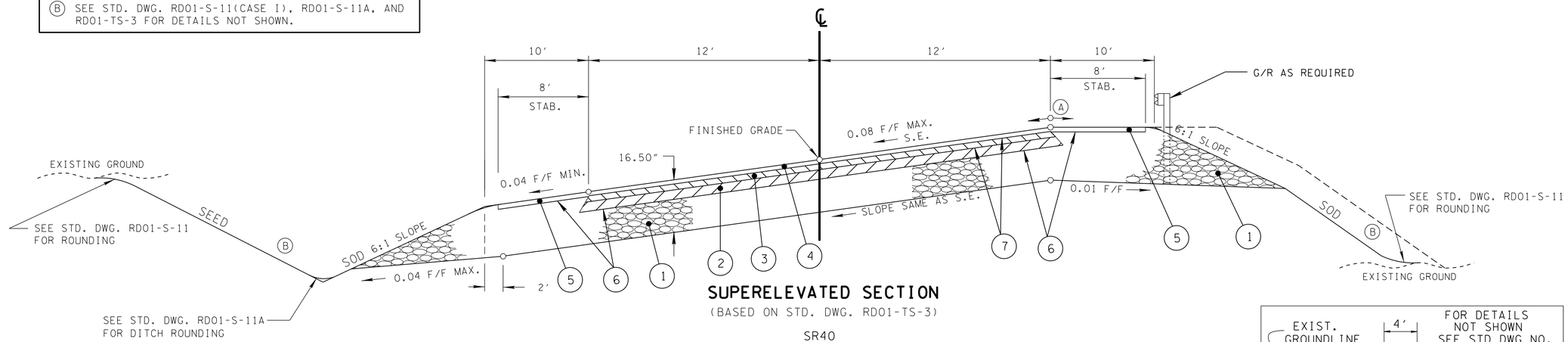
TANGENT SECTION

(BASED ON STD. DWG. RD01-TS-3)

SR40
STA. 21+66.54 TO STA. 21+95.00
STA. 25+65.00 TO STA. 28+07.99
(BRIDGE STA. 21+95.00 TO STA. 25+65.00

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

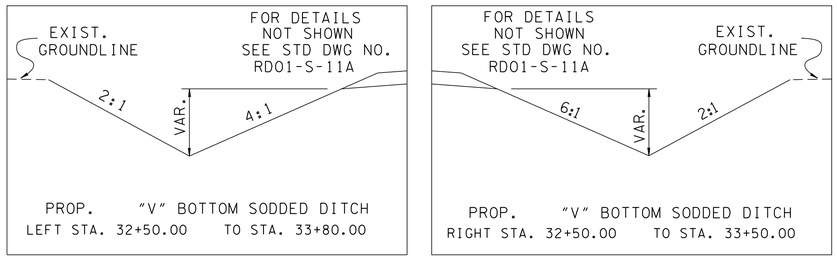
(B) SEE STD. DWG. RD01-S-11(CASE I), RD01-S-11A, AND RD01-TS-3 FOR DETAILS NOT SHOWN.



SUPERELEVATED SECTION

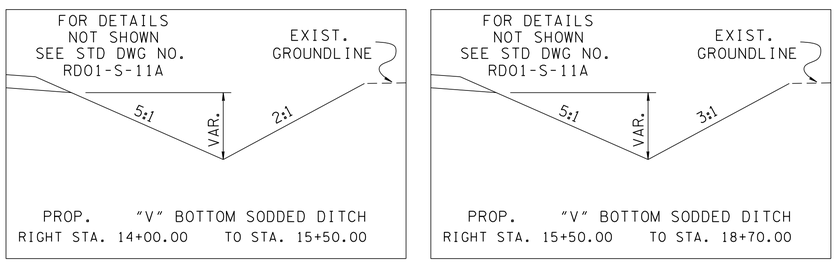
(BASED ON STD. DWG. RD01-TS-3)

SR40
STA. 11+00.00 TO STA. 21+66.54
STA. 28+07.99 TO STA. 38+24.41



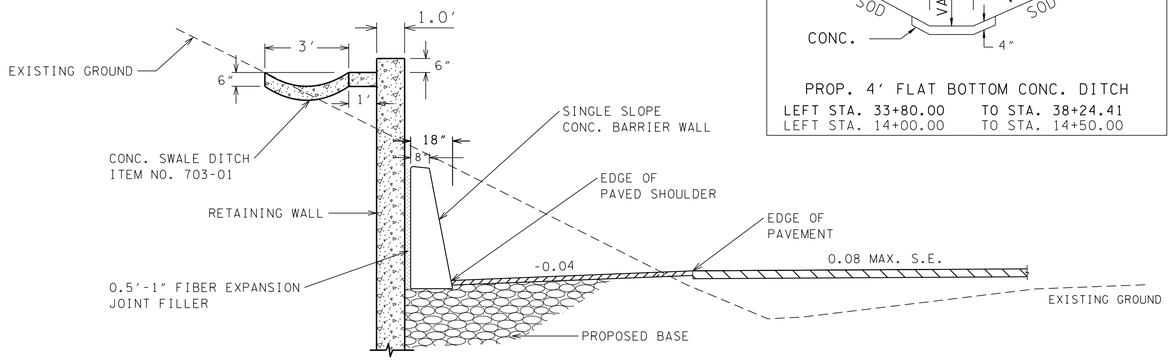
PROP. "V" BOTTOM SODDED DITCH
LEFT STA. 32+50.00 TO STA. 33+80.00

PROP. "V" BOTTOM SODDED DITCH
RIGHT STA. 32+50.00 TO STA. 33+50.00



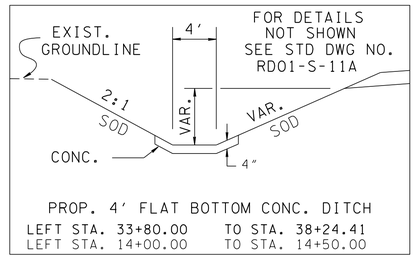
PROP. "V" BOTTOM SODDED DITCH
RIGHT STA. 14+00.00 TO STA. 15+50.00

PROP. "V" BOTTOM SODDED DITCH
RIGHT STA. 15+50.00 TO STA. 18+70.00



TYPICAL SECTION OF RETAINING WALL

SR40
STA. 14+50.00 TO STA. 21+50.00



PROP. 4' FLAT BOTTOM CONC. DITCH
LEFT STA. 33+80.00 TO STA. 38+24.41
LEFT STA. 14+00.00 TO STA. 14+50.00

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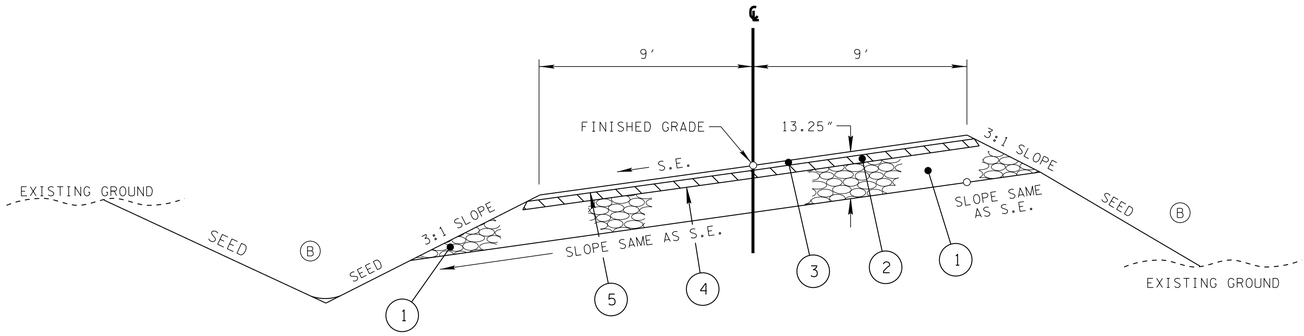
KATHERINE J. LLOYD
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AGRICULTURE
47
OWNERS
NO. 106427
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	2A
CONST.	2015	BR-NH-40(27)	2D

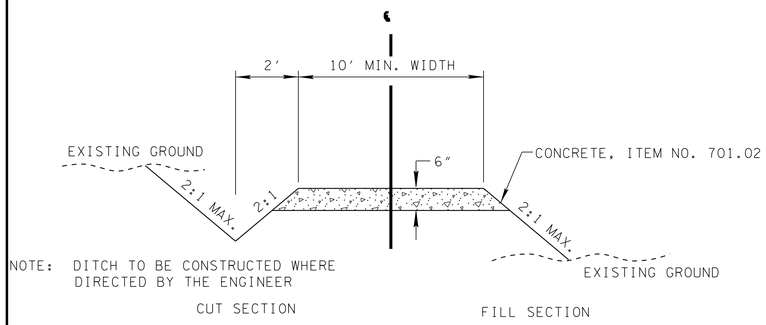


SUPERELEVATED SECTION

(BASED ON STD. DWG. RD01-TS-1A)

HICKORY TREE DR.
STA. 100+14.80 TO STA. 100+87.86

EASTWOOD DR.
STA. 0+12.00 TO STA. 1+38.49



NOTE: DITCH TO BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER

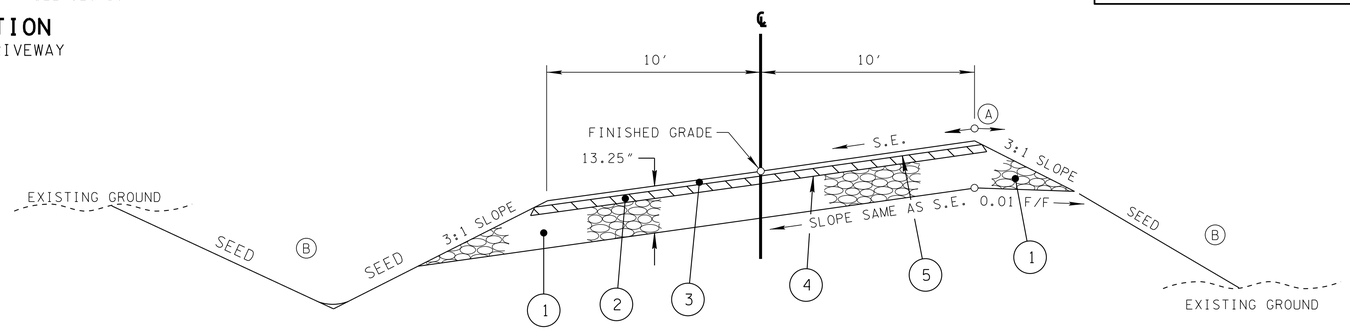
CUT SECTION FILL SECTION

TYPICAL SECTION

CONCRETE PAVED DRIVEWAY

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

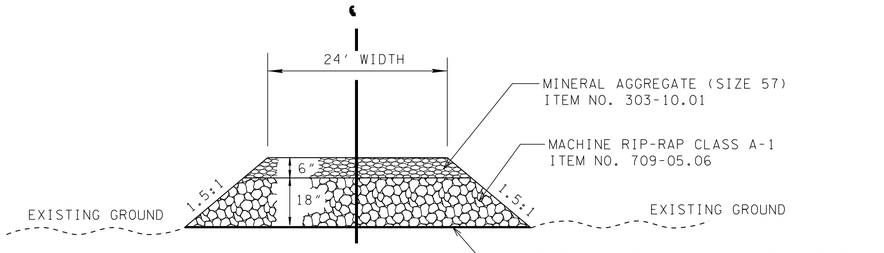
Ⓑ SEE STD. DWG. RD01-S-11(CASE II), RD01-S-11A, AND RD01-TS-1,1A FOR DETAILS NOT SHOWN.



SUPERELEVATED SECTION

(BASED ON STD. DWG. RD01-TS-1)

PINECREST DR.
STA. 18+83.50 TO STA. 19+87.53



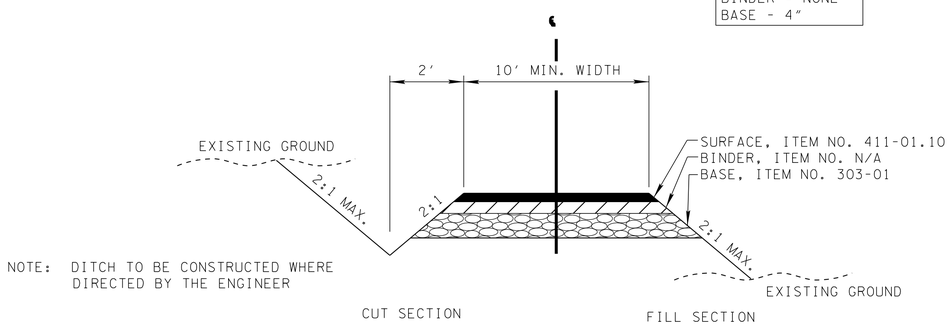
TYPICAL SECTION

TEMPORARY HAUL ROAD

1. THE EXISTING CONCRETE DITCH MUST BE REPAIRED OR REPLACED TO ORIGINAL CONDITION AFTER COMPLETION WORK. THE COST OF DITCH REPAIR OR RESTORATION SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS COST SHOULD ALSO INCLUDE RESTORATION OF DISTURBED/DAMAGED ROADWAY SLOPES TO ORIGINAL CONDITION.
2. REMOVING THE HAUL ROAD AND RETURNING AREA TO EXISTING CONDITIONS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE PAYMENT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS.

FIELD OR RESIDENTIAL

SURFACE - 1½″
BINDER - NONE
BASE - 4″



NOTE: DITCH TO BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER

CUT SECTION FILL SECTION

TYPICAL SECTION

PRIVATE DRIVE TO BUSINESS,
FIELD, OR RESIDENTIAL PROPERTY

UNOFFICIAL SET

NOT FOR BIDDING

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2E

PROPOSED PAVEMENT SCHEDULE FOR SR40

(1) BASE STONE - 10" THICK (FULL DEPTH UNDER SHLDR'S) 303-01 MINERAL AGGREGATE . TYPE A BASE. GRADING "D"	(5) SURFACE - 1.5" THICK (APPROX. 154.50 LB/SQ.YD.) 411-01.07 ASPHALT CEMENT (PG64-22) (ACS) GRADING "E" SHOULDERS
(2) BLACK BASE - 3.25" THICK (APPROX. 373.75 LB/SQ.YD 307-01.01 ASPHALT CONCRETE MIX (PG64-22) GRADING "A"	(6) PRIME COAT 402-01 BIT. MATERIAL FOR PRIME COAT (PC) (0.30-0.35 GAL/SQ.YD.) 402-02 AGGREGATE FOR COVER MATERIAL (PC) (8-12 LB/SQ.YD.)
(3) BINDER - 2" THICK (APPROX. 226 LB/SQ.YD.) 307-01.08 ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING "B-M2"	(7) TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) (0.07 GAL/SQ.YD.)
(4) SURFACE - 1.25" THICK (APPROX. 132.50 LB/SQ.YD.) 411-01.10 ASPHALT CEMENT (PG64-22) (ACS) GRADING D	

PROPOSED PAVEMENT SCHEDULE FOR ALL INTERSECTING ROADS

(1) BASE STONE - 10" THICK (FULL DEPTH UNDER SHLDR'S) 303-01 MINERAL AGGREGATE . TYPE A BASE. GRADING "D"	(4) PRIME COAT 402-01 BIT. MATERIAL FOR PRIME COAT (PC) (0.30-0.35 GAL/SQ.YD.) 402-02 AGGREGATE FOR COVER MATERIAL (PC) (8-12 LB/SQ.YD.)
(2) BINDER - 2" THICK (APPROX. 226.00 LB/SQ.YD.) 307-01.08 ASPHALT CONCRETE MIX (PG64-22) GRADING "B-M2"	(5) TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) (0.07 GAL/SQ.YD.)
(3) SURFACE - 1.25" THICK (APPROX. 132.50 LB/SQ.YD.) 411-01.10 ASPHALT CEMENT (PG64-22) (ACS) GRADING "D"	

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

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COMMERCE
No. 106473
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT SCHEDULE

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2F

GENERAL NOTES

GRADING

(1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE 0F THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

(2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.

(3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY 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

(1) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.

(2) ITEM NO. 801-02.01, CROWN VETCH MIXTURE (WITHOUT MULCH) SHALL BE USED ON SLOPES 3:1 OR STEEPER AND OTHER AREAS AS INDICATED IN THE PLANS THAT ARE INACCESSIBLE FOR MOWING.

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

GUARDRAIL

(1) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.

(2) 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.

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

DRAINAGE

(1) THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.

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

(3) 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).

(4) 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.

(5) 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 (SEE SHEET NO. 3A)

MISCELLANEOUS

(1) ALL DETOUR, ACCESS, SERVICE AND FRONTAGE ROADS SHALL BE CONSTRUCTED WITH A MINIMUM OF ONE (1) COURSE OF BASE MATERIAL BEFORE TRAFFIC IS INTERRUPTED ON EXISTING ROADS.

(2) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES WHERE AND AS DIRECTED BY THE ENGINEER.

(3) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA

RIGHT - OF - WAY (SEE SHEET NO. 3A)

PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING ON INTERMEDIATE LAYERS

(1) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAYS WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.02, PAINTED PAVEMENT MARKING (8" BARRIER LINE), L.F.

(2) WIDE (8 INCH) TEMPORARY PAVEMENT MARKING LINE WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.02 PAINTED PAVEMENT MARKING (8" BARRIER LINE), LIN. FT.

FINAL PAVEMENT MARKING IF 6" ENHANCED FLATLINE THERMOPLASTIC IS USED

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

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

(4) BEFORE OPENING THE DETOUR 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

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

(2) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

SIGNING

(1) 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.

(2) 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.

(3) 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.

(4) 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

(1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.

(2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.

(3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

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

(5) USE OF BARRICADES, PORTABLE BARRIER RAILS, 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.

(6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF A OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE.. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

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

(8) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED AND THE VERTICAL PANELS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.

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EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

(1) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.

(2) 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.

(3) 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.

(4) 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.

(5) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.

(6) 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

(7) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

(8) 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.

(9) 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.

(10) 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.

(11) DELAYING PLANTING OF PERMANENT COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.

(12) 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.

(13) 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.

(14) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

STREAM/WETLAND

(15) 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.

(16) 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.

(17) 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.

SPECIES

(18) 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

(19) EPSC CONTROLS WILL BE MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES.

(20) 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.

(21) 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.

(22) 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.

(23) 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.

(24) 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.

(25) 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.

(26) THE TDOT PROJECT SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT PROJECT SUPERVISOR OR THEIR DESIGNEE WILL COMPLETE THE INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

MATERIALS AND STAGING

(27) 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.

(28) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING, ANY STAGING AREAS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREAS

PERMITS, PLANS, RECORDS

(29) 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.

(30) 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, ROOADWAY 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.

(31) 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.

(32) 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

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SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
AGRICULTURE
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NO. 109425
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BREIF 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.

(33) 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 ROOADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(34) 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.

(35) THE SWPPP SHALL BE UPDATED BY CONSTRUCTION WHENEVER A CHANGE IN CHEMICAL TREATMENT METHODS IS MADE INCLUDING USE OF A DIFFERENT CHEMICAL, DIFFERENT DOSAGE OR APPLICATION RATE, OR A DIFFERENT AREA OF APPLICATION.

(36) IF A TMDL IS DEVELOPED FOR THE RECEIVING WATERS FOR A POLLUTANT OF CONCERN (SILTATION AND/OR HABITAT ALTERATION) THE SWPPP SHALL BE MODIFIED OR UPDATED.

(37) 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

(38) 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.

(39) 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.

SPILL PREVENTION, MANAGEMENT AND NOTIFICATION

(40) ONLY NEEDED PRODUCTS WILL BE STORED ON-SITE BY THE CONTRACTOR. THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.

(41) WHEN POSSIBLE, ALL PRODUCTS WILL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFF SITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED.

(42) WHEEL WASH WATER WILL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER WILL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.

(43) ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.

(44) FERTILIZERS WILL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED BY TDOT. ONCE APPLIED, FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.

(45) ALL PAINT CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

(46) CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED AND NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE. UPON COMPLETION OF CONSTRUCTION WASHOUT AREAS WILL BE PROPERLY STABILIZED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON-SITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

(47) FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

(48) APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT WILL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

(49) ALL SPILLS WILL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

(50) THE CONTRACTOR'S SITE SUPERINTENDENT WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

(51) IF OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

(52) WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, SEE THE LATEST TENNESSEE GENERAL PERMIT NO. TNR100000 STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SECTION 5.1 FOR REPORTING REQUIREMENTS.

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SPECIAL NOTES

GRADING

(1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.

(2) BORING DEPICTIONS SHOWN ON THE FOUNDATION DATA SHEETS, SOILS SHEETS, PLANS, AND CROSS-SECTIONS INDICATE SOIL AND ROCK CONDITIONS AT THE SPECIFIC BORING LOCATIONS. ANY SOIL PROFILE AND/OR ROCK LINE IS INTERPRETIVE BASED ON THE JUDGMENT OF THE GEOTECHNICAL ENGINEER/GEOLOGIST. THE TRANSITION BETWEEN BORINGS AND LAYERS MAY VARY SIGNIFICANTLY DEPENDING ON THE GEOLOGIC FORMATIONS ENCOUNTERED.

(3) TO ASSIST IN BID PREPARATION FOR EARTHWORK AND FOUNDATION CONSTRUCTION, DETAIL ROCK AND SOIL DESCRIPTION AND ON SOME PROJECTS, ROCK CORE SAMPLES ARE AVAILABLE FOR INSPECTION AT THE MATERIALS AND TESTS HEADQUARTERS AT 6601 CENTENNIAL BOULEVARD, NASHVILLE, TN OR AT THE TDOT REGION 1 BUILDING IN KNOXVILLE, TN.

(4) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.

(5) EARTHWORK IS PAID FOR UNDER ITEM 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.

DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

(6) IF THE CONTRACTOR SHALL VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATIONS ACTIVITIES (NOT INCLUDING ASPHALT MILLING OR OVERLAY).

(7) ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATION OF BRIDGE(S). ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OFASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.

(8) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A NOTICE TO THE TDEC, DIVISION OF AIR POLLUTION CONTROL TEN (10) DAYS IN ADVANCE OF ANY ACM ABATEMENT, DEMOLITION, OR MAJOR REPAIR INVOLVING THE REMOVAL/REPLACEMENT OF A STRUCTURAL COMPONENT.

RETAINING WALL

(1) THE (RIGHT-OF-WAY/EASEMENT) BETWEEN STATION 14+50.00 TO STATION 21+50.00 SHALL REMAIN IN CLEAR FOR THE CONSTRUCTION OF THE RETAINING WALL. NO UTILITY LINES MAY BE PLACED HERE WITHOUT APPROVAL FROM STRUCTURES DIVISION.

(2) THE OPTION OF RETAINING WALL TYPES SHALL BE LIMITED TO THE APPROVED ALTERNATIVES AS SPECIFIED ON THE RETAINING WALL SHEETS.

(3) VALUE ENGINEERING CHANGE PROPOSALS WILL NOT BE ACCEPTED FOR RETAINING WALLS. (ITEM NUMBER(S): 604-07.01).

(4) ALL COST OF BUILDING, INSTALLING AND BACKFILLING THE RETAINING WALL SHALL BE INCLUDED IN THE COST OF THE RETAINING WALL.

EROSION PREVENTION AND SEDIMENT CONTROL

NPDES

(1) REFER TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN, SHEET 15 , FOR NOTES REGARDING SEASONAL WORK LIMITATION OR LIMITATION ON THE TOTAL AREA OF EXPOSED SOIL.

ENVIRONMENTAL

(1) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPREHENSIVE INSPECTION OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

ECOLOGY

(2) 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.

(3) 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

(4) 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.

PROJECT COMMTIMENTS

(1) SEE PROJECT COMMITMENTS, SHEET 1C , FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENTS REQUIRED BY THIS PROJECT.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPECIAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2J

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE		STATION		GUARDRAIL				TERMINAL ANCHORS					REMARKS
		LT	RT	FROM	TO	BRIDGE ENDS 705-01.01 (L.F.)	BRIDGE PIERS (L.F.)	SINGLE TYPE 2 705-02.02 (L.F.)	MEDIAN TYPE 2 (L.F.)	TYPE 12 (EACH)	TYPE 13 (EACH)	TYPE 21 705-04.04 (EACH)	TYPE IN-LINE 705-04.05 (EACH)	TYPE 38 705-04.07 (EACH)	
4A	SR40	X		13+76.23	14+50	26.9								1	
5A	SR40		X	19+77.48	21+95	26.9		143.75						1	
5A	SR40	X		21+50	21+95	26.9		18.75							
5A	SR40		X	25+65	27+38.78	26.9		100						1	
5A	SR40	X		25+65	27+45.03	26.9		106.25						1	
6A	EASTWOOD DR-SR40		X	0+81.00	36+41.77			237.5				1	1	1	
6A	SR40	X		33+89.70	36+44.65			225					1	1	PVT. DR.
TOTALS						134.5	0	831.25	0	0	0	1	2	6	

R.O.W. MARKERS

SHEET NO.	QUANTITIES "A"	"B"	"C"	TOTALS
5	2			2
6	1			1
				0
				0
				0
TOTALS	3	0	0	3

PAVEMENT QUANTITIES

LOCATION	PAY ITEMS 303-01 (TON) ALT. AA1	307-01.01 (TON)	307-01.08 (TON)	402-01 (TON) ALT. AA1	402-02 (TON) ALT. AA1	403-01 (TON)	411-01.07 (TON)	411-01.10 (TON)	701-02 (S.F.)
SR 40	9380.6	1178.0	712.5	17.5	69.4	3.80	406.0	418.0	
SIDE ROADS	436.5		69.5	0.9	3.7	0.20		41.0	
PVT. DRIVES	12.0							4.4	570.0
TOTALS	9829.1	1178.0	782.0	18.4	73.1	4.0	406.0	463.4	570.0

ESTIMATED GRADING QUANTITIES

LOCATION	ROAD & DRAINAGE EXC. (UNCL.) COMMON - C.Y.	S. ROCK - C.Y.	BORROW EXCAVATION UNCL. - C.Y.	S. ROCK - C.Y.	CHANNEL EXC. C.Y.	EXCESS EXC. WASTE C.Y.	EMB. C.Y.
SR 40	37845					30968	4094
HICKORY TREE DR.	29					26	
PINECREST DR.	282					235	
EASTWOOD DR.	53						42
HAUL ROADS	18479					14559	3409
TOTALS	56688	0	0	0	0	45788	7545

CROSS DRAIN TABULATION

STATION	RCP CLASS III OR CMP 12 GA. OR HDPE OR PVC (L.F.) FILL HEIGHT < OR = 18 FT. 18"	24"	30"	36"	42"	SKEW	RIP-RAP 709-05.06 (TON)	RIP-RAP 709-05.08 (TON)	END TREATMENT INLET TYPE	INLET DRAWING NO.	OUTLET TYPE	OUTLET DRAWING NO.	CLASS A CONC. 611-07.01 (C.Y.)	REINF. STEEL 611-07.02 (LB.)	* BEDDING MATERIAL CLASS B (C.Y.)	18" ENDWALL 3:1 611-07.54 (EACH)	24" ENDWALL 4:1 611-07.58 (EACH)	REMARKS
14+00.00		70				90°	10		ST	D-PE-4	U	D-PE-4,D-PE-24(A&B)	1.86	68	13.440		1	SR 40
35+29.87					18	89° 05' 24" LT.		58	A	D-PE-1			4.72	79	6.174			SR 40
0+69.04	8					80° 11' 35" LT.	10		U	D-PE-18(A&B)					1.192	1		EASTWOOD DR
19+55.87	32					74° 54' 36" LT.			U	D-PE-18(A&B)	U	D-PE-18(A&B)			4.47	2		PINECREST DR
TOTALS	40	70	0	0	18		20	58					6.58	147.00	25.28	3	1	

*PAYMENT FOR CLASS B BEDDING MATERIAL (FOR CUBIC YARD) WILL BE INCLUDED IN THE UNIT PRICE OF THE PIPE.

SIDE DRAIN TABULATION

STATION	LOCATION LT	RT	DESCRIPTION	SURFACE WIDTH (L.F.)	RCP CLASS III OR CMP 16 GA. OR HDPE OR PVC (L.F.) FILL HEIGHT < OR = 10 FT. 18"	24"	30"	36"	48"	END TREATMENT TYPE	DRAWING NO.	CLASS A CONC. 611-07.01 (C.Y.)	REINF. STEEL 611-07.02 (LB.)	STRUC. STEEL 611-07.03 (LB.)	REMARKS
33+70.00	X		Pvt. Dr.- SR 40	12		32				ST	D-PE-4	3.72	136		INLET&OUTLET
36+95.74		X	Pvt. Dr.- SR 40	15		30									
TOTALS					0	62	0	0	0			3.72	136	0	

BRIDGE DRAINS

STATION	LOCATION	SPILLWAY WIDTH	RUBBLE-STONE RIP-RAP 709-01.01 (CU. YD.)	18" PIPE DRAIN (BRIDGE DRAIN) 610-07.03 (L.F.)	REMARKS
21+80.00	LT. SIDE OF SR40	6	3	60	
25+79.50	LT. SIDE OF SR40	6	3	60	
25+79.50	RT. SIDE OF SR40	6	3	110	
TOTALS			9	230	

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SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
COMMERCE
NO. 109425
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2K

RETAINING WALL DESIGN NOTES

UNLESS SPECIFICALLY STATED OTHERWISE IN THE CONTRACT PLANS, THE BIDDING FOR, THE DESIGN OF AND THE CONSTRUCTION OF RETAINING WALLS SHOWN IN THE PLANS SHALL BE GOVERNED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION 624 REGARDING RETAINING WALLS. THIS SPECIAL PROVISION SHALL BE CONSIDERED AS ONE OF THOSE DOCUMENTS WHICH THE BIDDER/CONTRACTOR HAS EXAMINED AND MADE HIMSELF FAMILIAR WITH AS DESCRIBED IN SECTION 102.04 – EXAMINATION OF THE SITE, THE WORK, THE PLANS, AND THE SPECIFICATIONS IN THE TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

EXCAVATION FOR THE WALL AND/OR ITS FOOTING SHALL NOT BE ACCOMPLISHED UNTIL THE CONTRACTOR HAS SUBMITTED WALL DESIGNS AND CALCULATIONS AND HAS BEEN ISSUED AN APPROVED SET OF WALL PLANS AND HAS LABOR AND MATERIAL RESOURCES AVAILABLE TO BEGIN AND CONTINUE WALL CONSTRUCTION IMMEDIATELY AFTER EXCAVATION.

THIS WALL SHALL BE DESIGNED IN ACCORDANCE WITH LRFD DESIGN PROCEDURES AND REQUIREMENTS AS DESCRIBED IN: 1) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2012 AND INTERIMS 2) PUBLICATION FHWA-NHI-10-024/FHWA GEC 011, DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SOIL SLOPES, NOVEMBER 2009 FOR MSE WALLS AND 3) PUBLICATION FHWA-IF-99-015/FHWA GEC 4, GROUND ANCHORS AND ANCHORED SYSTEMS, JUNE 1999(8).

FOR PROPRIETARY WALL SYSTEMS THAT HAVE BEEN APPROVED AS SHOWN IN SPECIAL PROVISION 624, THE WALL DESIGNER SHALL BE RESPONSIBLE FOR PROVIDING WALL DESIGNS INCORPORATING MATERIALS AND COMPONENTS (I.E. REINFORCEMENT CONNECTION DEVICES, SPECIFIC MANUFACTURER AND PROPERTIES OF GEOGRID) AS WAS ORIGINALLY SUBMITTED AND APPROVED BY TDOT, IF A MATERIAL AND/OR COMPONENT OF THE WALL SYSTEM HAVE BEEN MODIFIED FROM THE ORIGINALLY APPROVED SYSTEM, A WALL DESIGN AND SET OF PLANS AND CALCULATIONS FOR THIS WALL SYSTEM CANNOT BE SUBMITTED FOR REVIEW AND APPROVAL UNTIL THE WALL SYSTEM DESIGNER WHO ORIGINALLY SUBMITTED THE WALL SYSTEM FOR APPROVAL BY TDOT SUBMITS A REQUEST FOR RE-APPROVAL UTILIZING THE MODIFIED ELEMENTS OF THE WALL. THIS SUBMITTAL DOES NOT GUARANTEE APPROVAL OF THE MODIFIED SYSTEM. IF THIS RE-APPROVAL PROCESS DOES NOT MEET THE CONTRACTOR'S SCHEDULE OR IF THE MODIFIED SYSTEM IS NOT APPROVED, THE CONTRACTOR/WALL DESIGNER SHALL PROVIDE A WALL DESIGN FOR ONE OF THE APPROVED SYSTEMS AT NO CHANGE IN CONTRACT PRICE FOR THE RETAINING WALL AND NO CHANGE IN PROJECT SCHEDULE REQUIREMENTS WILL BE ALLOWED.

THE WALL DESIGNER SHALL PROVIDE RETAINING WALL PLANS, DETAILS AND CALCULATIONS AS REQUIRED BY SPECIAL PROVISION 624 AND AS REQUIRED HEREIN.

- THE WALL DESIGNER SHALL UTILIZE THE GEOTECHNICAL PARAMETERS AND RESISTANCE FACTORS AS PROVIDED FOR EACH PROJECT RETAINING WALL ON THE WALL CONCEPT SHEET AND RELATED RETAINING WALL SHEETS TO PREPARE AND SUBMIT DESIGN CALCULATIONS. LOAD FACTORS AND OTHER PERTINENT DESIGN REQUIREMENTS PROVIDED IN AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2012 AND INTERIMS SHALL BE USED FOR NON-MSE WALLS AND PUBLICATION FHWA-NHI-10-024/FHWA GEC 011, DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SOIL SLOPES, NOVEMBER 2009 FOR MSE WALLS.
- CALCULATIONS FOR BOTH INTERNAL AND EXTERNAL STABILITY (SLIDING, ECCENTRICITY, AND BEARING CAPACITY-GLOBAL STABILITY AND SETTLEMENT BEING THE EXCEPTIONS) SHALL BE PROVIDED FOR EACH CRITICAL WALL SECTION WHICH DEMONSTRATES THE REQUIRED CAPACITY TO DEMAND RATIO OF 1.0 IS MET UTILIZING THE DESIGN PARAMETERS PROVIDED. FOR MSE WALLS, THE WALL DESIGNER MUST ADJUST THE REINFORCEMENT LENGTHS BEYOND THOSE MINIMUM REQUIRED LENGTHS, IF REQUIRED, TO MEET BOTH INTERNAL AND EXTERNAL REQUIREMENTS. THE WALL DESIGNER/CONTRACTOR PLANS MUST INCLUDE ANY FOUNDATION IMPROVEMENTS AS REQUIRED HEREIN ON THE WALL DESIGNER/CONTRACTOR'S WALL ELEVATION VIEWS AND ANY CROSS-SECTIONAL DETAIL DRAWINGS.
- UNLESS OTHERWISE STATED, THE WALL DESIGNER CAN ASSUME THAT MINIMUM GLOBAL STABILITY AND SETTLEMENT CRITERIA IS ACHIEVED WITH A WALL DESIGN MEETING OTHER MINIMUM EXTERNAL STABILITY REQUIREMENTS AND ASSUMING WALL FOUNDATION CONDITIONS ARE MET. WHILE THE WALL DESIGNER'S DESIGN MUST DEMONSTRATE COMPLIANCE WITH EXTERNAL STABILITY REQUIREMENTS AS DISCUSSED ABOVE, THE WALL DESIGNER MAY PROVIDE CERTIFICATION (BY SIGNING AND STAMPING BY PROFESSIONAL ENGINEER REGISTERED IN STATE OF TENNESSEE) OF THE WALLS PLANS AND CALCULATIONS "FOR INTERNAL STABILITY ONLY".
- LOAD COMBINATIONS STRENGTH I, EXTREME EVENT I, AND EXTREME EVENT II AS GIVEN IN TABLE 4-1 OF PUBLICATION FHWA-NHI-10-024/FHWA GEC 011, DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SOIL SLOPES, NOVEMBER 2009 FOR MSE WALLS SHALL BE EVALUATED FOR MSE WALLS. LOAD COMBINATIONS FOR OTHER WALL TYPES SHALL BE AS GIVEN IN AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2012 AND INTERIMS.
- PAYMENT FOR ANY ITEMS REQUIRED FOR ACCESS TO AND CONSTRUCTION OF THE WALL (INCLUDING TEMPORARY SHORING, EXCAVATION, AND BACKFILLING) SHALL BE INCLUDED WITH THE SQUARE FOOT RETAINING WALL PAY QUANTITY. THE BACKFILLING OF THE ACCESS ROAD TO GRADE AFTER WALL COMPLETION SHALL CONSIST OF OFFSITE BORROW MATERIAL MEETING SECTION 203, TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, REVISED, JANUARY 2015.
- ALL EXCAVATION SHALL BE DISPOSED OF OFFSITE IN A PROPERLY PERMITTED/LICENSED LANDFILL.
- ALL RETAINING WALL BACKFILL SHALL BE LIMESTONE, AND SHALL CONSIST OF MATERIAL MEETING SECTION F, PART 1, ITEM E OF TDOT SPECIAL PROVISION 624.
- BORROW MATERIAL SHALL NOT BE ACID PRODUCING MATERIAL.
- THE GEOTECHNICAL REPORT WHICH INCLUDES DETAILED BORING RECORDS, SOIL AND ROCK TESTING DATA IS AVAILABLE UPON REQUEST. ON SOME PROJECTS SOIL AND ROCK CORE SAMPLES ARE AVAILABLE FOR INSPECTION BY THE CONTRACTOR.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE PLANS, GEOTECHNICAL REPORT, AND BORING LOGS TO BECOME FAMILIAR WITH THE SUBSURFACE CONDITIONS PERTINENT TO THE ASSOCIATED WORK TO BE CONDUCTED BY THE CONTRACTOR. THE CONTRACTOR SHOULD ALSO CONSIDER THEIR EXPERIENCE IN THE PROJECT'S GEOLOGIC AND SUBSURFACE SETTING AND THEIR EXPERIENCE IN DEALING WITH VARIABLE SUBSURFACE CONDITIONS ACROSS A PROJECT SITE TO BASE THEIR BID UPON AND DECISIONS REGARDING APPROPRIATE EQUIPMENT TO BE UTILIZED.

ACCEPTABLE WALL TYPES

THE RETAINING WALL SHALL BE ONE OF THE WALL TYPES LISTED BELOW. FOR RETAINING WALL SYSTEMS LISTED AS BIN WALL, CRIB WALL, MSE (EITHER SEGMENTAL PANEL OR MODULAR BLOCK) AND GROUND ANCHOR WALL, THE SPECIFIC WALL SYSTEM SUPPLIER/INSTALLER SHALL BE ONE OF THOSE LISTED AS PRE-APPROVED IN THE SPECIAL PROVISION 624.

- ANCHOR WALL
- CANTILEVER SOLDIER PILE WALL

TABLE 1-DESIGN REQUIREMENTS AND PARAMETERS

DESCRIPTION	VALUE-ANCHOR WALLS	NOTE *
DESIGN LIFE	75 YEARS	
SEISMIC ACCELERATION COEFFICIENT (As)		
PULLOUT RESISTANCE OF ANCHORS		
COHESIONLESS (GRANULAR) SOILS	0.65	1
COHESIVE SOILS	0.70	
ROCK	0.50	
WHERE PROOF TESTS ARE CONDUCTED	1.0	2
TENSILE RESISTANCE OF ANCHOR TENDON		
MILD STEEL, (E.G., ASTM A615 BARS)	0.90	3
HIGH STRENGTH STEEL (E.G., ASTM A722 BARS)	0.80	
FLEXURAL CAPACITY OF VERTICAL ELEMENTS	0.90	
RESISTANCE FACTORS OF A SINGLE DRIVEN PILE		
STATIC ANALYSIS METHODS		
SLIDE BEARING RESISTANCE AND END BEARING: CLAY AND MIXED SOILS		
a-METHOD (TOMLINSON, 1987; SKEMPTON, 1951)	0.35	
b-METHOD (ESRIG & KIRBY, 1997; SKEMPTON 1951)	0.25	
l -METHOD (VIJAYVERGIYA & FOCHT, 1972; SKEMPTON 1951)	0.40	
SLIDE BEARING RESISTANCE AND END BEARING: SAND		
NORDLUND/THURMAND METHOD (HANNIGAN ET AL, 2005	0.45	
SPT-METHOD (MEYERHOF)	0.30	
CPT-METHOD (SCHMERTMANN)	0.50	
END BEARING IN ROCK (CANADIAN GEOTECH SOCIETY)	0.45	
LATERAL GEOTECHNICAL RESISTANCE OF A SINGLE PILE		
ALL SOILS AND ROCK	1.0	
RESISTANCE FACTORS OF A SINGLE DRILLED PILE/SHAFT		
SIDE RESISTANCE IN CLAY		
a-METHOD (O'NEILL AND REESE, 1999)	0.45	
TIP RESISTANCE IN CLAY		
TOTAL STRESS (O'NEILL AND REESE, 1999)	0.40	
SIDE BEARING RESISTANCE IN SAND		
b -METHOD (O'NEILL AND REESE, 1999)	0.55	
TIP RESISTANCE IN SAND		
O'NEILL AND REESE, 1999	0.50	
SIDE BEARING RESISTANCE IN INTERMEDIATE GEOMATERILS (IGMs)		
O'NEILL AND REESE, 1999	0.60	
TIP RESISTANCE IN INTERMEDIATE GEOMATERILS (IGMs)		
O'NEILL AND REESE, 1999	0.55	
SIDE BEARING RESISTANCE IN ROCK		
HORVATH AND KENNEY (1979), O'NEILL AND REESE (1999)	0.55	
CARTER AND KULHAWY (1988)	0.50	
TIP RESISTANCE IN ROCK		
CANADIAN GEOTECH. SOCIETY)1985), O'NEILL AND REESE (1999)	0.50	
LATERAL GEOTECHNICAL RESISTANCE OF A SINGLE PILE/SHAFT		
ALL MATERIALS	1.0	
*REFER TO TABLE 1.1 FOR NOTES.		

TABLE 1.1
NOTES FOR TABLE 1

NO.	NOTE
1	APPLY TO PRESUMPTIVE ULTIMATE UNIT BOND STRESSES FOR PRELIMINARY DESIGN ONLY
2	APPLY WHERE PROOF TEST(S) ARE CONDUCTED ON EVERY PRODUCTION ANCHOR TO A LOAD OF 1.0 OR GREATER TIMES THE FACTORED LOAD ON THE ANCHOR.
3	APPLY TO MAXIMUM PROOF TEST FOR ANCHORS
	UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE FACTORS SHALL BE TAKEN AS 1.0 WHEN INVESTIGATING AN EXTREME EVENT LIMIT STATE

NOTE REGARDING CONSTRUCTION SLOPES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE EXCAVATION IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE STATE AND LOCAL REGULATIONS REGARDING CONSTRUCTION SLOPES AND TRENCHES. IN ADDITION TO THE FOLLOWING APPLICABLE REGULARTORY REQUIREMENTS, AS A MINIMUM REQUIREMENT, ALL TEMPORARY CONSTRUCTION SLOPES REQUIRED FOR SITE ACCESS SHALL NOT EXCEED THREE (3) VERTICAL FEET. THE CONTRACTOR BUILDING THE WALL SHALL ENSURE THAT THESE TEMPORARY BACK SLOPES ARE NOT AND DO NOT BECOME UNSTABLE. IF SLOPE IS UNSTABLE, BECOMES UNSTABLE, IS CUT STEEPER THAN A 1:1 SLOPE OR IS UNACCEPTABLE FOR ANOTHER REASON, THEN TEMPORARY SHORING SHALL BE USED. ANY UNUSUAL SOIL CONDITIONS OTHER THAN THOSE ASSUMED SHOULD BE REPORTED TO THE PROJECT ENGINEER.

TABLE 4-DESIGN PARAMETERS FOR ANCHORED WALL

STATION LIMITS	MATERIAL	FRICTION ANGLE	COHESION	UNIT WEIGHT
14+50 TO 15+20 AND 16+20 TO 17+20	WEATHERED SHALE/SANDSTONE	38 DEGREES	0 PSF	135 PCF
15+20 TO 16+20	DENSE SILTY SAND	34 DEGREES	0 PSF	120 PCF
17+20 TO 20+70	HARD SHALE/SANDSTONE	40 DEGREES	1000 PSF	150 PCF
20+70 TO 21+50	WEATHERED SHALE/SANDSTONE	38 DEGREES	0 PSF	135 PCF

RESISTANCE PARAMETERS

STATION LIMITS	MATERIAL	NOMINAL PULLOUT RESISTANCE	(1) PASSIVE RESISTANCE FOR PILE	MINIMUM ANCHOR FREE LENGTH
14+50 TO 15+20 AND 16+20 TO 17+20	WEATHERED SHALE/SANDSTONE	3.0 KSF	0.49 KSF	15 FEET
15+20 TO 16+20	DENSE SILTY SAND	3.0 KSF	0.33 KSF	15 FEET
17+20 TO 20+70	HARD SHALE/SANDSTONE	6.0 KSF	0.44 KSF	32 FEET
20+70 TO 21+50	WEATHERED SHALE/SANDSTONE	3.0 KSF	0.49 KSF	15 FEET

(1) MINIMUM EMBEDMENT OF SOLDIER PILES SHALL BE 5.5 FEET BENEATH DITCH ELEVATION TO ENSURE GLOBAL STABILITY IS SATISFIED.

OTHER DESIGN REQUIREMENTS

THE WALL SHALL HAVE A DRAINAGE GUTTER AT THE TOP DESIGNED TO CARRY SURFACE RUNOFF TO EITHER OR BOTH ENDS OF WALLS. DETAILS OF THIS DRAINAGE FEATURE SHALL BE PROVIDED IN WALL DESIGNER/CONTRACTOR'S WALL DESIGN PLANS.

CONSTRUCTION NOTES

ASSUME DRILLING THROUGH IN-PLACE ROCK OR COLLUVIUM REQUIRED FOR INSTALLTION OF SOLDIER PILES.

PROVIDE SULFATE RESISTANT CEMENT FOR ALL CONCRETE MIXTURES IN CONTACT WITH BEDROCK.

DUE TO THE SITE GEOLOGY AND THE POTENTIAL CORROSIVE ENVIRONMENT AT THE ANCHOR AREA, IT IS REQUIRED THAT THE TENDON BOND LENGTH BE ENCAPSULATED TO PROVIDE ADDITIONAL CORROSION PROTECTION (DOUBLE CORROSION PROTECTION), THE ENCAPSULATION SHALL BE FABRICATED FROM ONE THE FOLLOWING:

i. HIGH DENSITY CORRUGATED POLYETHYLENE TUBING CONFORMING TO THE REQUIREMENTS OF AASHTO M 252 AND HAVING A MINIMUM WALL THICKNESS OF 0.06 INCH EXCEPT PREGROUTED TENDONS, WHICH MAY HAVE A MINIMUM WALL THICKNESS OF 0.04 INCH.

ii. CORRUGATED POLYVINYL CHLORIDE TUBES MANUFACTURED FROM RIGID PVC COMPOUNDS CONFORMING TO ASTM D 1784, CLASS 13646-B.

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 109473
STATE OF TENNESSEE

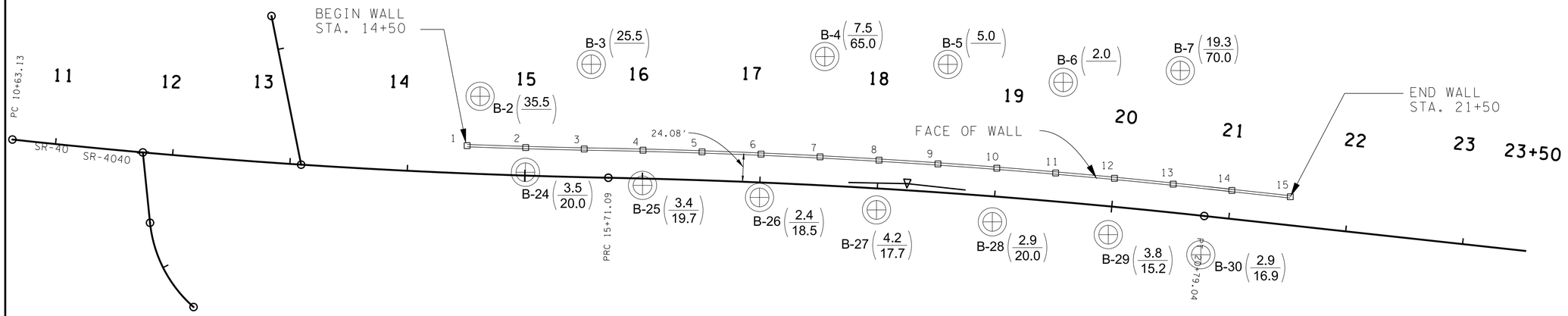
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL DESIGN NOTES AND REQUIREMENTS
RETAINING WALL
STATE ROUTE 40
STATION 14+50 TO 21+50
POLK COUNTY
2014

03-OCT-2015 08:51 C:\Projects\Polk Co\SR40LM24.85\RetainingWallSheets-FINAL\2K.dgn

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2L

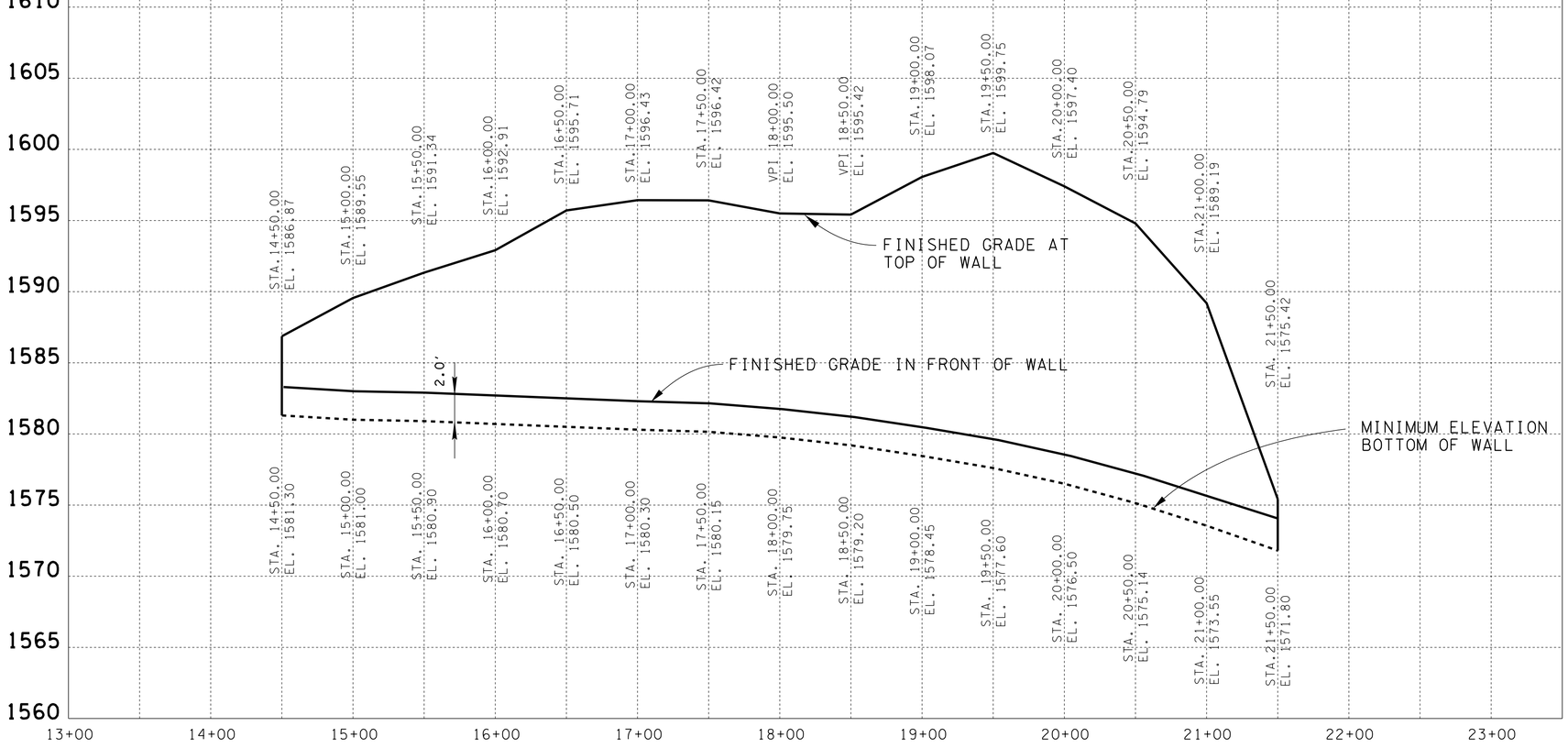
WALL PLAN VIEW (1"=50')



PLAN SYMBOLS

- B-84 (0.7) — BORING LOCATION AND NUMBER WITH DRILL DEPTH (NO REFUSAL)
- B-84 (0.7) — BORING LOCATION AND NUMBER WITH DRILL DEPTH (REFUSED)
- B-84 (0.7 / 10.0) — BORING LOCATION AND NUMBER WITH DEPTH TO REFUSAL (ABOVE LINE) AND BOTTOM OF HOLE DEPTH (BELOW LINE)

WALL ELEVATION VIEW



WALL FACE AREA= 10697.95 SF

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RETAINING WALL CONCEPTUAL DRAWING

13-OCT-2015 08:51
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	2M

STAKING POINTS FOR DRILLING

NO.	STATION	CENTERLINE REFERENCE	N	E	ELEVATIONS *
1	14+50	23.68' LT	258592.43	2445400.71	
2	15+00	23.82' LT	258579.80	2445448.87	
3	15+50	24.00' LT	258567.62	2445497.16	
4	16+00	24.08' LT	258555.58	2445545.72	
5	16+50	24.08' LT	258543.07	2445594.34	
6	17+00	24.08' LT	258530.13	2445642.85	
7	17+50	24.08' LT	258516.77	2445691.24	
8	18+00	24.08' LT	258502.98	2445739.52	
9	18+50	24.08' LT	258488.78	2445787.68	
10	19+00	24.08' LT	258474.15	2445835.70	
11	19+50	24.08' LT	258459.11	2445883.60	
12	20+00	24.08' LT	258443.65	2445931.37	
13	20+50	24.08' LT	258427.77	2445979.00	
14	21+00	24.08' LT	258411.55	2446026.42	
15	21+50	24.08' LT	258395.28	2446073.70	

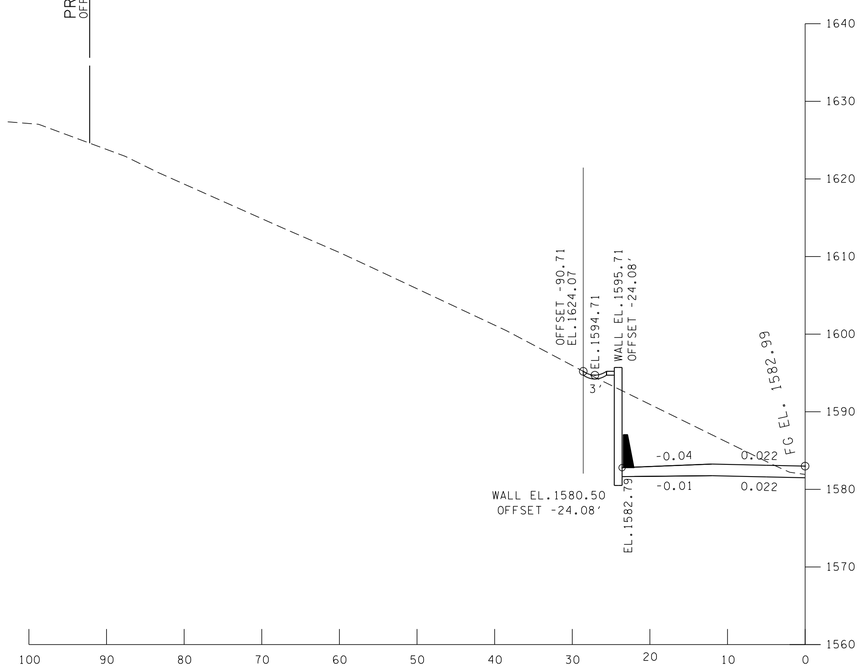
* TO BE OBTAINED IN FIELD BY SURVEY

CORE UNCONFINED COMPRESSIVE STRENGTH

Boring	Station, Offset	Test Depth (ft)	UCS (psi)	Strength	Unit wt (pcf)	RQD at Test (%)
B-7	STA 20+46.1, L 120.8	42.5	28,787	Very Hard	n/a	49
B-9(1)	STA 22+02, L 28	13.0	3,665	Soft	n/a	30
B-9(1)	STA 22+02, L 28	23.1	13,907	Hard	n/a	64
B-10(1)	STA 21+77.7, R 24.6	37.0	4,802	Soft	n/a	47
B-11(1)	STA 23+33.1, L 17.3'	26.9	6,954	Soft	n/a	98
B-12(1)	STA 23+24.9, R 20.8'	20.0	4,488	Soft	n/a	64
B-24	STA 15+00.5, L2.8'	13.4	1,543	Very Soft	168.7	0
B-25	STA 16+00.3, R5.8'	14.4	8,581	Hard	156.9	42
B-26	STA 17+00.2, R12.7'	13.7	18,773	Hard	163.6	72
B-27	STA 18+00.4, R18.3'	8.6	29,771	Very Hard	168.4	40
B-28	STA 18+99.7, R21.7'	7.0	6,125	Soft	178.9	90
B-28	STA 18+99.7, R21.7'	12.4	17,655	Hard	172.2	68
B-29	STA 19+99.3, R24.1'	14.2	15,116	Hard	168.5	59

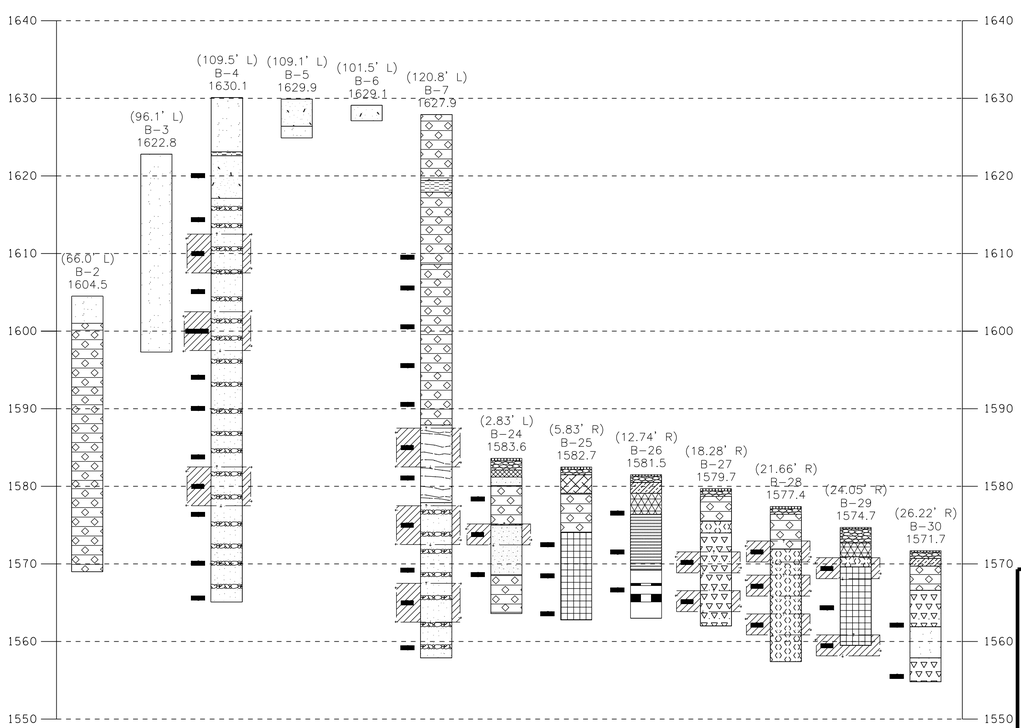
MATERIAL DESCRIPTION PATTERNS

- ASPHALT
- BASE STONE
- CLAYEY SOIL
- SANDY SOIL
- WEATHERED ROCK W/ GRAVEL
- WEATHERED ROCK (SANDSTONE)
- WEATHERED ROCK (SHALE)
- WEATHERED ROCK (GRAPHITE)
- WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- WEATHERED ROCK INTERBEDDED SANDSTONE/SILTSTONE
- WEATHERED ROCK SANDSTONE, MICACEOUS, PYRITIC
- WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE, PYRITIC
- WEATHERED ROCK SANDSTONE/QUARTZ/
- INTERBEDDED SANDSTONE/SHALE/ LIMESTONE
- INTERBEDDED SANDSTONE/SHALE/ LIMESTONE/QUARTZITE
- INTERBEDDED SANDSTONE/SHALE,
- SANDSTONE, MICACEOUS PYRITIC
- OPEN CAVITY



TYPICAL SECTION STATION 16+50

BORING LOG



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STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RETAINING WALL CONCEPTUAL DRAWING

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	3
CONST.	2015	BR-NH-40(27)	3

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. AND ADDED PERM. DRAINAGE EASEMENT FOR TRACT NO. 12. REVISED R.O.W. BEGIN & END STATIONS.

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

PROP_SR-40 STA. 13+09.59 =
PINECREST STA. 20+00.00
N 258612.7531
E 2445259.6849

PROP_SR-40 STA. 11+74.59 =
HICKORY STA. 100+00.00
N 258630.3027
E 2445130.8541

BEGIN PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 26+93.96
N 258196.1100
E 2446580.4319

PROP_SR-40 STA. 24+15.21 =
RAILROAD STA. 507+12.09
N 258287.4800
E 2446314.7027

END PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 38+24.41
N 257937.2082
E 2447677.3789

PROP_SR-40 STA. 33+72.65 =
EASTWOOD STA. 00+00.00
N 258004.0991
E 2447230.8076

END PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 35+51.55
N 257971.6502
E 2447407.4452

TENNESSEE OVERHILL HERITAGE ASSOCIATION RAILROAD (IN USE)

PINECREST DR (osp)
HICKORY TREE DR (osp)
(osp) EASTWOOD DR
EASTWOOD DR
QUAIL CREEK DR
SR-40 / HWY 64 (osp)
PRESENT R.O.W.
PROPOSED ROW
PERM. DRAINAGE ESMT.
CREST RAIL (GRAVEL ROD)
S 71° 01' 28" E
S 83° 58' 35" E
N 28° 12' 12" E
505 RR
510 RR
500 RR

UNOFFICIAL SET

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KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
OMMERCE
NO. 108423
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF L00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPERTY MAP

STA. 11+00 TO STA.38+24.41

SCALE: 1"=100'

12-OCT-2015 09:37
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	3A
CONST.	2015	BR-NH-40(27)	3A

REV. 11-19-2014: REVISED TOTAL AREA, AREA TO BE ACQUIRED, & PERM. DRAINAGE EASEMENT FOR TRACT NO.12.

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 BK.	PAGE	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
1	MARVIN & MARY ANNE ROSE	115	003.20	258	346		3.200	3.200					3.200			
2	KENNETH L & BETTY J STUART	115	003.01	151	98	3.550		3.550				3.550				
3	GLENN L & JUNE S TOWERY	115	003.07	84	261		6.990	6.990					6.990			
4	RANDY & JOYCE SWAFFORD	115	003.05	102	22	4.280		4.280				4.280				
5	GEORGE M & BARBARA A HOLDER	115	003.09	100	368	4.700		4.700				4.700				
1.) 6	UNKNOWN					0.860		0.860				0.860				
1.) 7	UNKNOWN						2.090	2.090					2.090			
8	TENNESSEE OVERHILL HERITAGE ASSOCIATION	040	404.00	223	349											
9	CLARK O BARKER	115	031.00	238	361		3.100	3.100					3.100			
10	RICHARD J KIENZLE	115	030.00	234	382		3.100	3.100					3.100			
11	TERRY A & BRENDA H DICKEY	115	029.00	249	407		3.700	3.700					3.700			
12	BRIAN & CHARLENE THOMAS	115	003.12	102	24	42.440		42.440	4253 S.F.		4253 S.F.	42.342		785		
13	TERRY A & BRENDA H DICKEY	115	028.00	249	407		1.700	1.700					1.700			
14	WILLIAM CARTER	115	038.00	261	19		2.400	2.400					2.400			
15	TROY W & BILLIE R SIMONDS	115	003.02	104	320	7.500		7.500				7.500				
ACQUISITION TOTALS (ACRES)									4253 S.F.		4253 S.F.			785		

DISTURBED AREA		
IN BETWEEN SLOPE LINES	9.185	(AC)
15 FOOT WIDE STRIP (OUTSIDE SLOPE LINES)	2.734	(AC)
TOTAL DISTURBED AREA	11.919	(AC)

1.)THIS PROPERTY IS NOT SHOWN ON THE POLK COUNTY TAX MAPS.
THE PROPERTY IS RESIDUAL PROPERTY LEFT BETWEEN THE RAILROAD RIGHT-OF-WAY AND RECORD SUBDIVISION PLATS.
TENNESSEE CHEMICAL COMPANY WENT INTO BANKRUPTCY CASE NO. 1-89-1106

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 CIVIL ENGINEERING MANAGER 2, ROADWAY DESIGN DIVISION 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 THE DEPARTMENT'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) ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.

(5) NEW DRIVEWAYS PROVIDED IN THE PLANS WILL BE PAVED BASED ON THE 7 PERCENT CRITERIA. THOSE 7 PERCENT OR STEEPER IN GRADE WILL BE PAVED AND THOSE FLATTER THAN 7 PERCENT WILL BE COVERED WITH BASE STONE.

(6) ON PROJECTS WITHOUT CURB AND GUTTER THAT ARE ON STATE ROUTES, IT WILL BE THE RESPONSIBILITY OF THE OWNER TO SECURE A PERMIT AND TO CONSTRUCT ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS.

(7) EASEMENT REQUIRED FOR THE RAILROAD CROSSING IS TO BE OBTAINED BY THE UTILITIES ENGINEER BY PROVISIONS CONTAINED IN THE CROSSING AGREEMENT NEGOTIATED WITH THE RAILROAD.

UTILITIES

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

(2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR 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.

(3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

(4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

(5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

UTILITY OWNERS

ELECTRIC:
TRI-STATE ELECTRIC MEMBERSHIP CORP.
CONTACT: MR. STACY CHASTAIN
PO BOX 68
NCCAYSVILLE, GA 30555
2310 BLUE RIDGR DRIVE
BLUE RIDGE, GA 30513
706.492.3251 (PHONE)
706.492.3255 (FAX)

RAILROAD
TENNESSEE OVERHILL HERITAGE ASSOCIATION
CONTACT: GERALD HODGE
P.O. BOX 143
ETOWAH, TN 37331
423.263.7232 / 877.510.5765
423.263.1670 (FAX)

TELEPHONE / FIBER OPTICS
BELL SOUTH DBA AT&T
CONTACT: MR. TIM MANLEY
300 E. MARTIN LUTHER KING BOULEVARD,5TH FLOOR
CHATTANOOGA, TN 37403
423.752.9144 (PHONE)
423.752.4339 (PHONE)
423.267.0120 (FAX)
TM4644@ATT.COM (E-MAIL)

WATER
CHEROKEE HILLS UTILITY DISTRICT
MR. L.J. HOOGENDOORN, CHAIRMAN
160 CHEROKEE TRAIL
COPPERHILL, TN 37317
(706) 455-5459 (CELL)
(423) 496-3074 (HOME)

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY ACQUISITION TABLE

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POINT	NORTHING	EASTING	ELEV.	FEATURE	GPS POINT	STATION	OFFSET
S1	258601.02	2445156.85	1583.36	XCP	GPS 70-40-85	12+12.88	39.92
S2	258407.87	2445899.62	1574.80	XCP	GPS 70-40-86	19+80.24	18.22
S3	258136.53	2446549.98	1554.42	XCP	GPS 70-40-87	26+84.23	66.24
S4	258020.61	2447215.80	1539.19	XCP	GPS 70-40-88	33+54.17	-13.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	4
CONST.	2015	BR-NH-40(27)	4

N

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

CURVE C3 SR40
PI 13+17.28
N 258,600.7713
E 2,445,265.1863
Δ 5° 04' 45" (LT)
D 1° 00' 00"
R 5,730.00
L 507.96
T 254.14
SE 0.029 FT/FT
DESIGN SPEED 60 MPH
TRANS. LENGTH 175

PROP_SR-40 STA. 13+09.59 =
PINECREST STA. 20+00.00
N 258612.7531
E 2445259.6849

PROP_SR-40 STA. 11+74.59 =
HICKORY STA. 100+00.00
N 258650.3027
E 2445130.8541

CURVE HICKORY
PI 101+03.44
N 258,545.5092
E 2,445,118.1112
Δ 42° 59' 15" (LT)
D 52° 05' 13"
R 110.00
L 82.53
T 43.32
SE 0.059 FT/FT
DESIGN SPEED 15 MPH
TRANS. LENGTH 122

STA. 200+00.00 HAUL RD
=STA. 16+00.00 SR40
N 258532.7199
E 2445539.9404

SEE SHEET NO. 5

KENNETH L & BETTY J STUART ②

MARVIN & MARY ANNE ROSE ①

GLENN L & JUNE S TOWERY ③

RANDY & JOYCE SWAFFORD ④

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
OF
COMMERCE
NO. 108423
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 11+00 TO STA. 18+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	4A
CONST.	2015	BR-NH-40(27)	4A

N

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

10

LIMIT OF CONSTRUCTION
PINECREST DR STA.18+83.50
N 258721.7674
E 2445262.5933

PROP_SR-40 STA. 13+09.59 =
PINECREST DR STA. 20+00.00
N 258612.7531
E 2445259.6849

15

STA.11+00.00
TRANSITION
140'
STA.12+40.00

(2) STOP R1-1

U EW INV. 1581.35

SR-40/ HWY 64 (asp.)
S 71° 01' 28" E
12.76'
13.67'
R 60'
24'
R 25'
S 55° 58' W
R 40'
CONCRETE DITCH
HICKORY TREE DR (SR)
CONCRETE DR
15" CMP

PINECREST DR (SR)
S 11° 29' 14" W
R 60'

U EW INV. 1581.11

PROP. 32' OF 18" RCP

BEGIN CONC. DITCH LT.
STA. 14+00.00
OFF. -46.49'

BEGIN G/R
STA.13+76.23
ST EW INV. 1579.56

4'-CONCRETE DITCH
END G/R
SAT.14+50.00
TYPE 38

(3) CHEROKEE HILLS
UNINCORPORATED
TN-4

CREST TRAIL (GRAVEL RD)

END CONC. DITCH LT.
STA. 14+50.00
OFF. -28.80'

BEGIN RET. WALL (LT.)
STA. 14+50.00/OFFSET -23.68'

PROP. RETAINING WALL
W/CONC. SWALE DITCH

SEE SHEET NO. 5A

18+00 STA.

MATCH LINE

PROP. 70' OF 24" RCP

U EW INV. 1579.22

(1) STOP R1-1

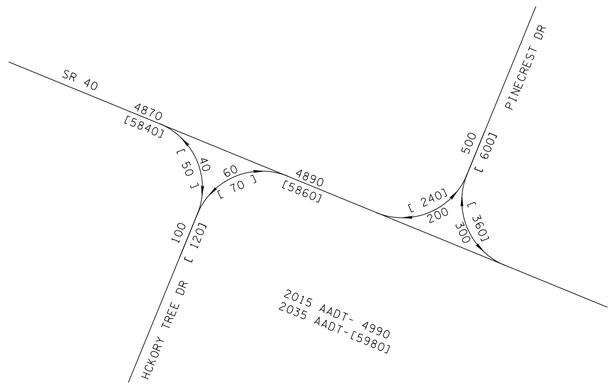
PROP_SR-40 STA. 11+74.59 =
HICKORY TREE DR STA. 100+00.00
N 258650.3027
E 2445130.8541

LIMIT OF CONSTRUCTION
HICKORY TREE DR STA.100+87.86
N 258560.8491
E 2445123.4798

BEGIN SPECIAL V-DITCH RT.
STA. 14+00.00
OFF. 51.44'

6" SSWL

6" DSYL



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KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
NO. 109433
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

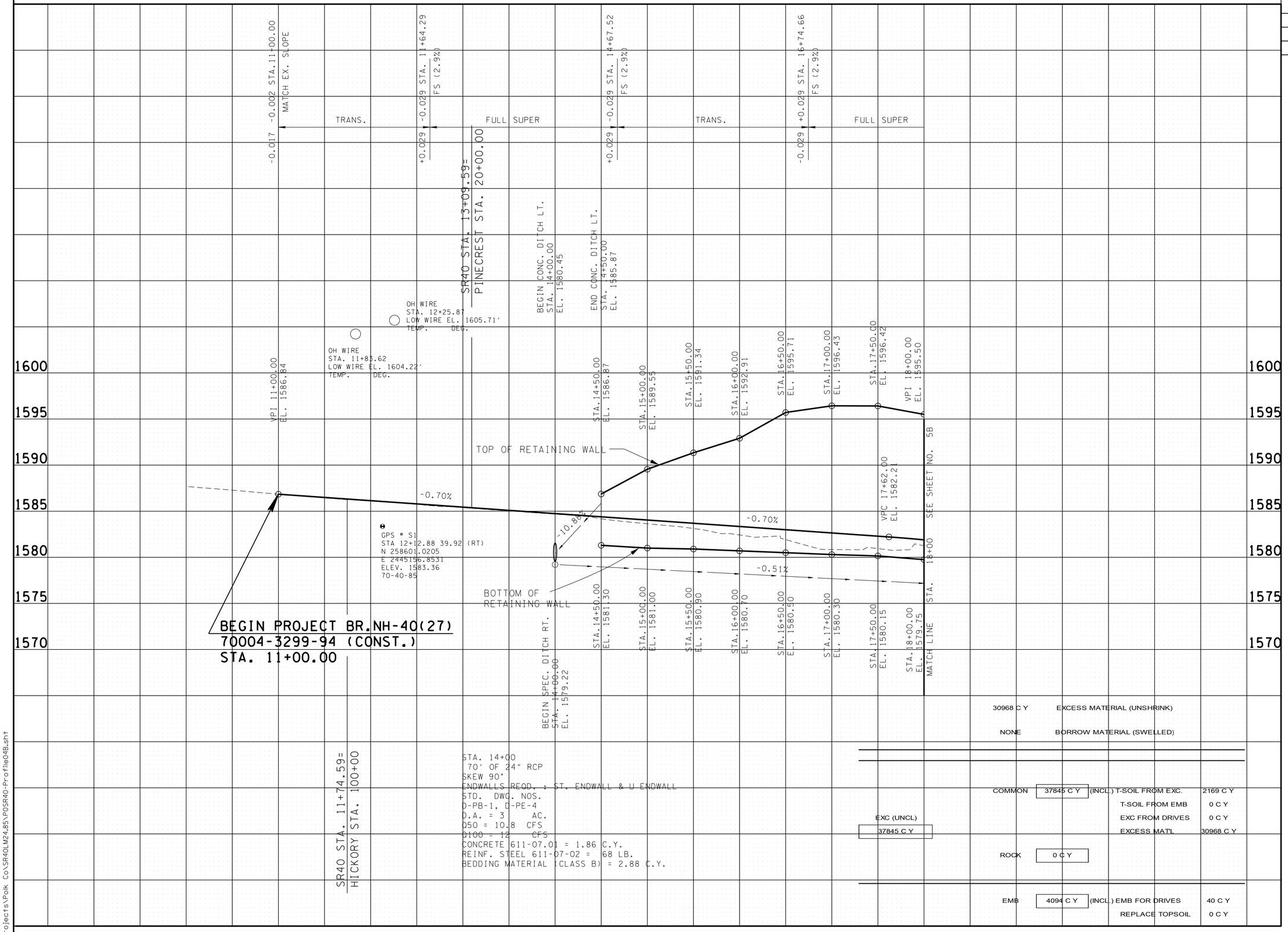
PROPOSED LAYOUT

STA. 11+00 TO STA. 18+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	4B
CONST.	2015	BR-NH-40(27)	4B



SR40 STA. 11+74.59= HICKORY STA. 100+00

STA. 14+00
70' OF 24" RCP
SKEW 90°
ENDWALLS REQD. : ST. ENDWALL & U ENDWALL
STD. DWG. NOS.
D-PB-1, D-PE-4
D.A. = 3 AC.
Q50 = 10.8 CFS
Q100 = 12 CFS
CONCRETE 611-07.01 = 1.86 C.Y.
REINF. STEEL 611-07-02 = 68 LB.
BEDDING MATERIAL (CLASS B) = 2.88 C.Y.

				30968 C Y	EXCESS MATERIAL (UNSHRINK)
				NONE	BORROW MATERIAL (SWELLED)
				COMMON	37845 C Y (INCL.) T-SOIL FROM EXC. 2169 C Y
					T-SOIL FROM EMB 0 C Y
					EXC FROM DRIVES 0 C Y
EXC (UNCL)					EXCESS MATL 30968 C Y
37845 C Y				ROCK	0 C Y
				EMB	4094 C Y (INCL.) EMB FOR DRIVES 40 C Y
					REPLACE TOPSOIL 0 C Y

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DEPARTMENT OF TRANSPORTATION

PROFILE

STA. 11+00 TO STA. 18+00

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	5
CONST.	2015	BR-NH-40(27)	5

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

CURVE C4 SR40
PI 18+25.23
N 258,478.6975
E 2,445,758.5982
Δ 5° 04′ 45″ (RT)
D 1° 00′ 00″
R 5,730.00
L 507.96
T 254.14
SE 0.029 FT/FT
DESIGN SPEED 60 MPH
TRANS. LENGTH 175

TENNESSEE OVERHILL HERITAGE ASSOCIATION RAILROAD (IN USE)

GEORGE M & BARBARA A HOLDER ⑤

RANDY & JOYCE SWAFFORD ④

UNKNOWN

TN OVERHILL HERITAGE ASSOC

BRIAN & CHARLENE THOMAS ⑫

GLENN L & JUNE S TOWERY ③

TERRY A & BRENDA H DICKEY ⑩

UNKNOWN ⑦

510 RR

505 RR

N

PROP_SR-40 STA. 24+15.21 =
RAILROAD STA. 507+12.09
N 258287.4800
E 2446314.7027

BEGIN PROPOSED BRIDGE
STA. 21+95.00

END PROPOSED BRIDGE
STA. 25+65.00

BEGIN PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 26+93.96
N 258196.1100
E 2446580.4319

EXISTING 4 STEEL I BEAM BRIDGE WITH CONCRETE DECK (TO BE REMOVED)

SR-40 / HWY 64 (DSD)

MATCH LINE STA. 18+00 SEE SHEET NO. 4

MATCH LINE STA. 29+00 SEE SHEET NO. 6

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XVI
AGRICULTURE
OWNERS
NO. 106427
STATE OF TENNESSEE

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DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

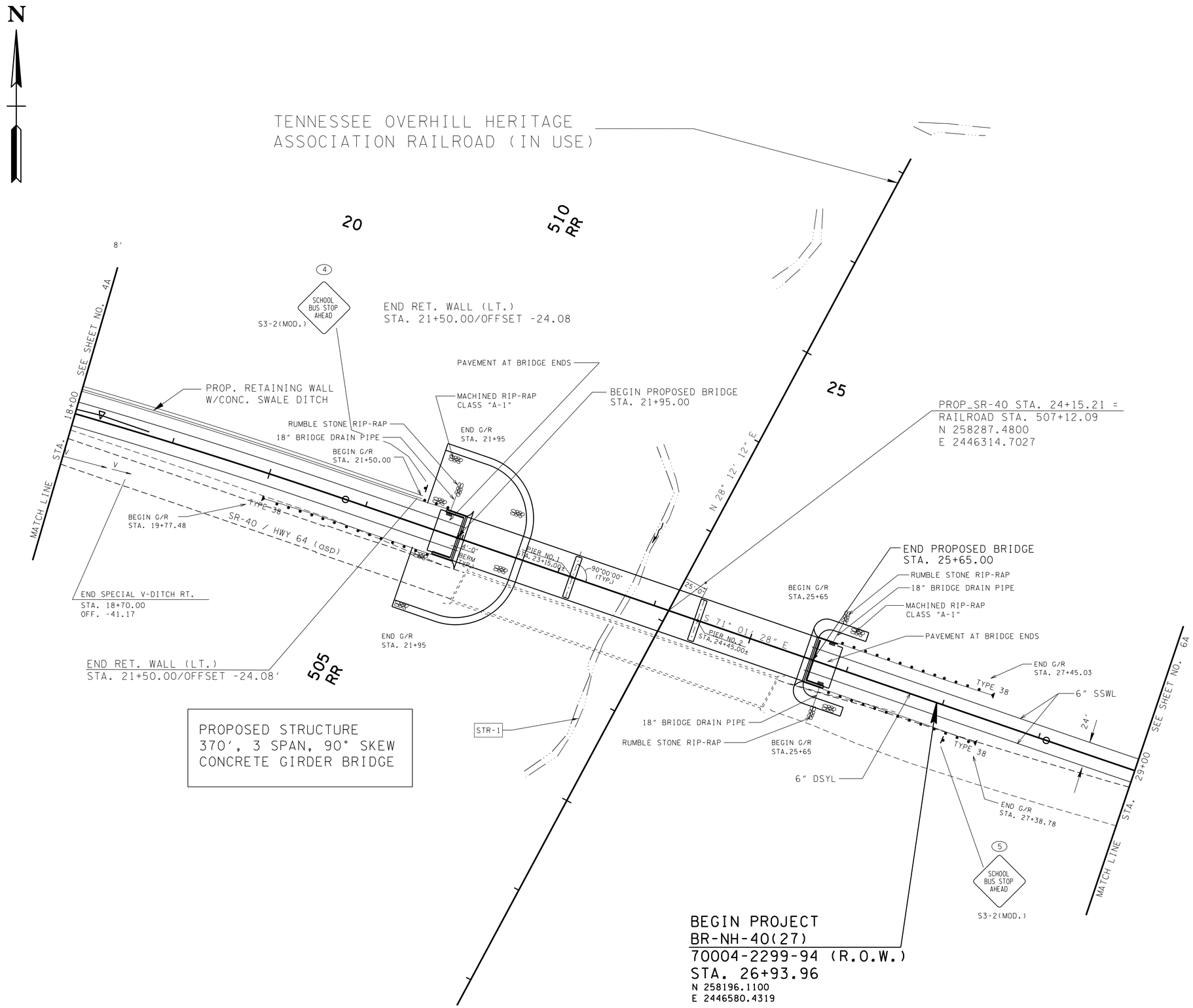
STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	5A
CONST.	2015	BR-NH-40(27)	5A

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	5B
CONST.	2015	BR-NH-40(27)	5B

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

VPI 18+00.00 EL. 1595.50
VPI 18+50.00 EL. 1595.42
STA.19+00.00 EL. 1598.07
STA.19+50.00 EL. 1599.
STA.20+00.00 EL. 1597.40
STA.20+50.00 EL. 1594.79
STA.21+00.00 EL. 1589.19
PROP. BRIDGE DRAIN (LT.)
TOP OF RETAINING WALL
BEGIN PROPOSED BRIDGE
STA. 21+95.00±
ELEV. 1572.99±
MATCH LINE ELEV. 1505 SEE BOTTOM OF SHEET
SR-40 STA 23+72.83 = CENTERLINE UNAMED BRANCH
HIGH WATER EL. 1497.62
NORMAL WATER(July 2012) EL. 1493.08
BOTTOM OF RETAINING WALL
-0.70%
SEE SHEET NO. 4B
VPI 20+12.00 EL. 1580.46
STA. 21+50.00 EL. 1575.42
VPT 22+62.00 EL. 1570.46
PIER NO. 1
STA. 23+15.00±
ELEV. 1568.34±
BEGIN EXISTING BRIDGE
STA. 22+10.92, 27.6' RT
ELEV. 1572.55
PIER NO. 2
STA. 24+45.00±
ELEV. 1563.14±
END PROPOSED BRIDGE
STA. 25+65.00±
ELEV. 1558.34±
EXISTING BRIDGE
END EXISTING BRIDGE
STA. 25+38.92- 27.5' RT
ELEV. 1562.41
PROP. BRIDGE DRAINS (LT. & RT.)
MATCH LINE STA. 18+00
STA.18+00.00 EL. 1579.75
STA.18+50.00 EL. 1579.20
STA.19+00.00 EL. 1578.45
STA.19+50.00 EL. 1577.60
STA.20+00.00 EL. 1576.50
STA.20+50.00 EL. 1575.14
STA.21+00.00 EL. 1573.55
STA.21+50.00 EL. 1571.80
ELEV. 1567.88
GPS = S2
STA 19+80.24 18.22 (RT)
N 258407.8749
E 2445899.6174
ELEV. 1574.80
70-40-86
END SPEC. DITCH STA. 18+70.00 EL. 1576.82
VC = 500.00'
K = 151
V = 60 MPH
ELEV. 1557.65
GPS = S3
STA.26+84.23 66.24' (RT)
N 258136.53
E 2447215.80
ELEV. 1554.42
70-40-87
CVPC 27+18.50 EL. 1552.20
SEE SHEET NO. 6B
CLASS "A-1" MACHINED RIP-RAP 2:1 SLOPE @ RT. ANGLES TO ABUTMENT (TYP.)
+0.029 -0.029 STA. 19+91.54 FS (2.9%)
-0.02 -0.02 STA. 21+66.54 NC (2.0%)
-0.02 -0.02 STA. 28+07.99 NC (2.0%)
FULL SUPER
TRANS.
NORMAL CROWN
TRANS.
SR-40 STA 23+72.83 = CENTERLINE UNAMED BRANCH
TOHA RAILROAD STA. 507+12.09 = SR-40 STA. 24+15.21
TBM #1
RR SPIKE IN 24" PINE
EL. 1512.10
STA 24+54.66
OFFSET 107.90' LT
MATCH LINE ELEV. 1505 SEE TOP OF SHEET
MATCH LINE ELEV. 1505 SEE TOP OF SHEET
MATCH LINE STA. 29+00 SEE SHEET NO. 6B
BEGIN PROJECT BR.NH-40(27)
70004-2299-94 (R.O.W.)
STA. 26+93.96
-4.00%
T (UG) F (UG)
4' W

1600 1595 1590 1585 1580 1575 1570 1565 1560 1555 1550 1545 1540 1535 1530 1525 1520 1515 1510 1505

17+00 18+00 1900 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00

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NO. 106423
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

STA. 18+00 TO STA. 29+00

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	6
CONST.	2015	BR-NH-40(27)	6

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. AND ADDED PERM. DRAINAGE EASEMENT FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

PERM. DRAINAGE ESMT.

N

CURVE SPIRALC3 SR40
PI 33+29.13
N 257,989.5748
E 2,447,181.0869
Δs 12° 57′ 07″ (LT)
θs 1° 18′ 45″
Δc 10° 19′ 38″ (LT)
Dc 1° 30′ 00″
Rc 3,820.00
Lc 688.52
Ts 521.15
Ls 175.00
SE 0.041 FT/FT
DESIGN SPEED 60 MPH
TRANS. LENGTH 175

(12) BRIAN & CHARLENE THOMAS

30

SC 29+82.99

PROPOSED ROW
30+21.48
121.95'
S 68° 59' 44" E
217.57'
EIP
1" REBAR
A
S 75° 54' 45" E
473.96'
CUT
EIP
1" REBAR
PRESENT R.O.W.
EIP
1" REBAR

SEE SHEET NO. 5
STA. 29+00
(C)
MATCH LINE
T (UG)
HAUL RD2
CUT
SR-40 / HWY 64 (asp)
PC 0+63.55
PT 1+77.91
INV-1536.17
INV-1536.85
CUT
CUT
FILL
R=50.00'
L=48.10'
15" CMP
INV-1529.08
INV-1529.08
CONCRETE DITCH
42" CMP
WWC-1
CONCRETE DITCH
CONCRETE DITCH
INV-1510.26
INV-1535.08
ASPHALT DR
24" CMP
CONCRETE DITCH
STEEL PED.
STEEL PED.
STEEL PED.
STEEL PED.
T (UG)
SSL
SSL
FILL
CUT
15"R
CMP
101.70'
ROT 4°00.00
S 83° 58' 35" E

35

N 74° 54' 45" W
40.00'
35+11.00
136.37'
N 9° 44' 37" E
20.00'
35+11.00
116.37'
35+52.25
132.44'
N 9° 9' 29" E
19.34'
35+93.91
110.35'
40.14'
41.46'
35+52.25
113.12'
EIP
1" OPEN TOP
N 9° 50' 54" E
457.37'
CS 36+71.51
ST 38+46.51
POT 38+97.07
N 17° 58' 54" E
1000.20'
S 81° 52' 6" E
291.07'
38+89.77
104.63'
PRESENT R.O.W.
N 81° 52' 6" W
73.01'
EXIST. G/R
TO BE REMOVED
CUT
FILL

~~(15) TROY W & BILLIE R SIMONDS~~

END PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 35+52.25
N 257971.6502
E 2447407.4452

PROP_SR-40 STA. 33+72.65 =
EASTWOOD STA. 00+00.00
N 258004.0991
E 2447230.8076

2" PVC
W
4" W
EIP
1" PINCH TOP
30+26.08
237.65'
PRESENT R.O.W.
N 89° 20' 28" W
300.00'
33+02.98
163.59'
EIP
1" PINCH TOP
S 45° 50' 45" W
113.65'
W.V.
S 49° 50' 28" E
32+44.79
259.31'
EIP
N 71° 15' 32" E
115.00'

~~(13) TERRY A & BRENDA H DICKEY~~

5 8TH RBR DISTURBED

EASTWOOD DR
R=466.00'
L=105.20'
S 58° 19' 32" W
69.40'

CURVE EASTWOOD-1
PI 1+21.31
N 257,888.1504
E 2,447,196.1240
Δ 19° 54' 06" (RT)
D 17° 24' 10"
R 329.24
L 114.36
T 57.76
SE 0.040 FT/FT
DESIGN SPEED 15 MPH
TRANS. LENGTH 81

33+98.63
142.68'
S 0° 10' 28" E
108.00'
PRESENT R.O.W.
34+19.36
248.47'
S 50° 10' 28" E
115.00'
QUAIL CREEK DR
R=275.00'
L=90.89'
S 71° 4' 53" E
109.91'
R=120.20'
L=77.70'
R=242.00'
L=161.00'
N 69° 25' 15" W
38.18'

~~(14) WILLIAM CARTER~~

S 88° 28' 29" E
276.90'
INV-1505.38
PRESENT R.O.W.
S 83° 46' 28" E
191.30'
36+64.60
103.37'
38+53.16
101.82'
S 83° 46' 28" E
115.00'
S 16° 23' 28" E
261.70'
S 52° 48' 28" E
290.00'

END PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.
STA. 38+24.41
N 257937.2082
E 2447677.3789

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REGISTERED ENGINEER
AGRICULTURE
NO. 106427
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

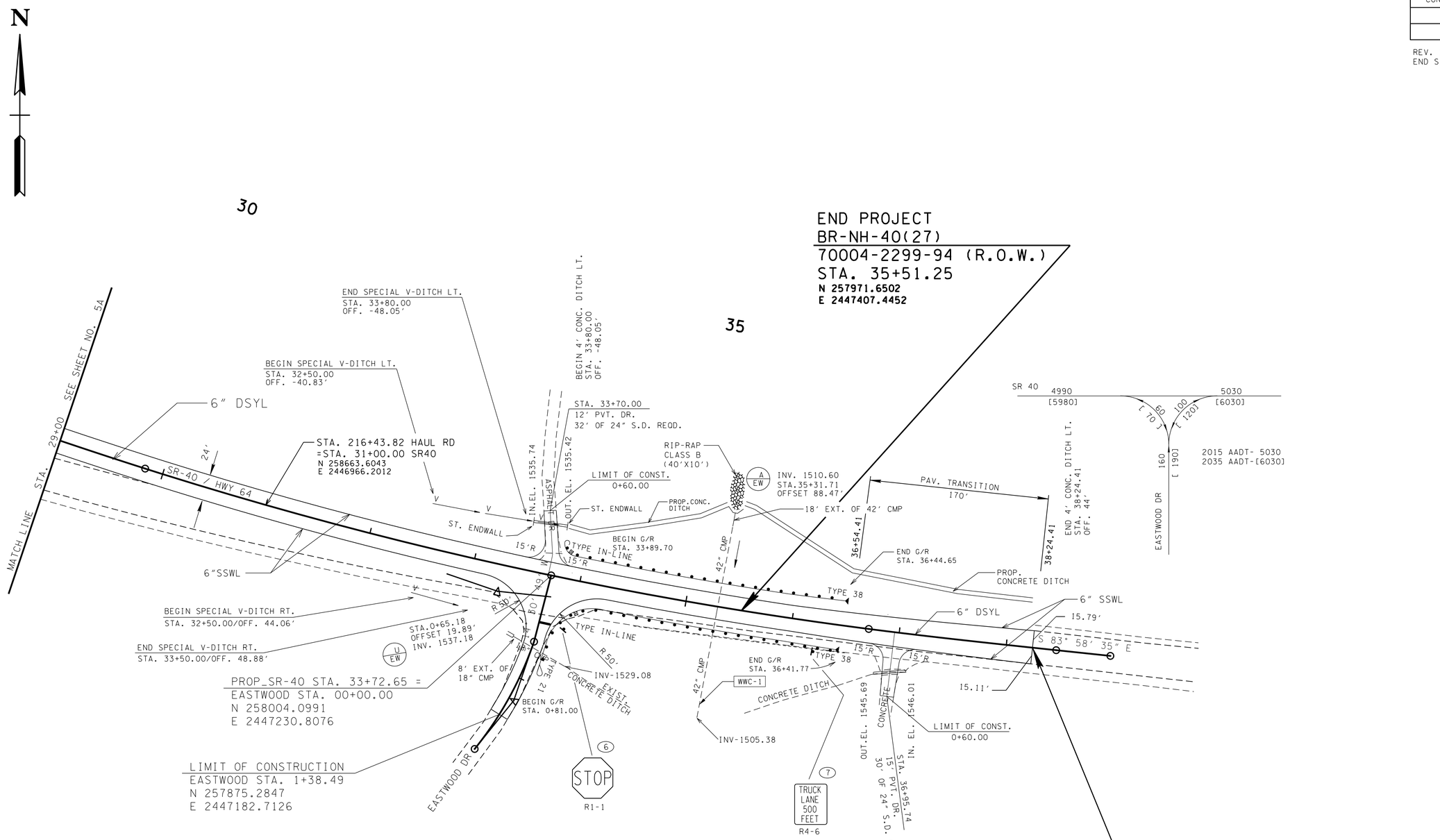
STA.29+00 TO STA.38+24.41

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	6A
CONST.	2015	BR-NH-40(27)	6A

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

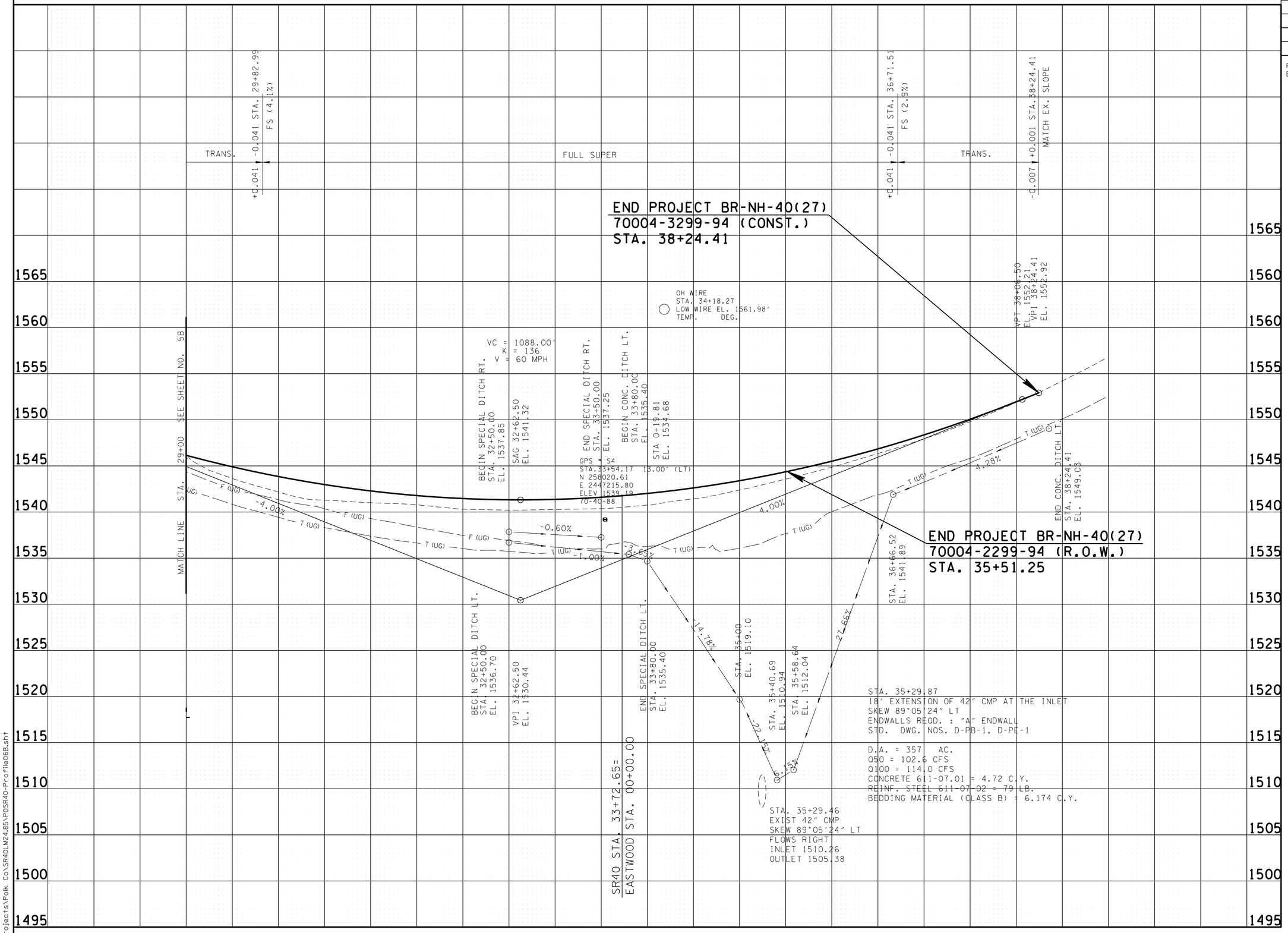
STA.29+00 TO STA.38+24.41

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	6B
CONST.	2015	BR-NH-40(27)	6B

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.



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XV
COMMERCE
NO. 106475
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

STA. 29+00 TO STA.38+24.41

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	7

STA. 200+00.00 HAUL RD1
=STA. 16+00.00 SR40
N 258532.7199
E 2445539.9404

PT 201+58.90

S 14° 36′ 26″ W

R 25′

R 20′

PC 200+44.76

POT 200+00.00

℄ OF SR40

24′-HAUL RD1

24′-HAUL RD1

POT 0+00.00
SR-40 / HWY 64 (QSD)

CURVE HAULRD1
PI 201+16.18
N 258,420.2974
E 2,445,510.6415
Δ 87° 11′ 48″ (LT)
D 76° 23′ 40″
R 75.00
L 114.14
T 71.42

205

505 RR

PT 1+11.71

S 72° 35′ 22″ E

LIMIT OF CONSTRUCTION
STA. 207+00 HAUL RD1
N 258237.0230
E 2446095.0964

STA. 0+44.67 HAUL RD3
=STA. 21+00.00 SR40
N 258389.2446
E 2446018.7492

CURVE HAULRD3
PI 0+88.88
N 258,431.0471
E 2,446,033.1230
Δ 90° 00′ 00″ (RT)
D 143° 14′ 22″
R 40.00
L 62.83
T 40.00

BEGIN PROPOSED BRIDGE
STA. 21+95.00

LIMIT OF CONSTRUCTION
STA. 2+65 HAUL RD3
N 258368.1961
E 2446215.9092

PC 0+48.88

18° 58′ 12″

24′

HAUL RD3

S 71° 01′ 28″ E

EXISTING 4 STEEL I-BEAM BRIDGE WITH CONCRETE DECK

STR-1

24′-HAUL RD2

210

LIMIT OF CONSTRUCTION
STA. 210+00 HAUL RD2
N 258147.2585
E 2446381.3521

PC 6+31.71

N 28° 12′ 12″ E

LIMIT OF CONSTRUCTION
STA. 4+70 HAUL RD4
N 258301.5374
E 2446409.7690

HAUL RD4

S 71° 01′ 28″ E

24′

PT 6+94.54

18° 58′ 12″

END PROPOSED BRIDGE
STA. 25+65.00

STA. 6+98.75 HAUL RD4
=STA. 27+00.00 SR40
N 258194.1460
E 2446586.1437

CURVE HAULRD4
PI 6+71.71
N 258,235.9485
E 2,446,600.5175
Δ 90° 00′ 00″ (RT)
D 143° 14′ 22″
R 40.00
L 62.83
T 40.00

PC 214+91.54

STA. 216+43.82 HAUL RD2
=STA. 31+00.00 SR40
N 258663.6043
E 2446966.2012

POT 216+43.82
PT 216+35.28

POT 7+39.72

N 15° 54′ 29″ E

SR-40 / HWY 64

R 35′

24′-HAUL RD2

215

CURVE HAULRD2
PI 215+83.94
N 257,972.5359
E 2,446,938.5358
Δ 91° 30′ 09″ (LT)
D 63° 39′ 43″
R 90.00
L 143.73
T 92.39

SR40 20

SR40 25

SR40 30

5

N

500 RR

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KATHERINE J. LLOYD
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ENGINEER
NO. 106423
STATE OF TENNESSEE

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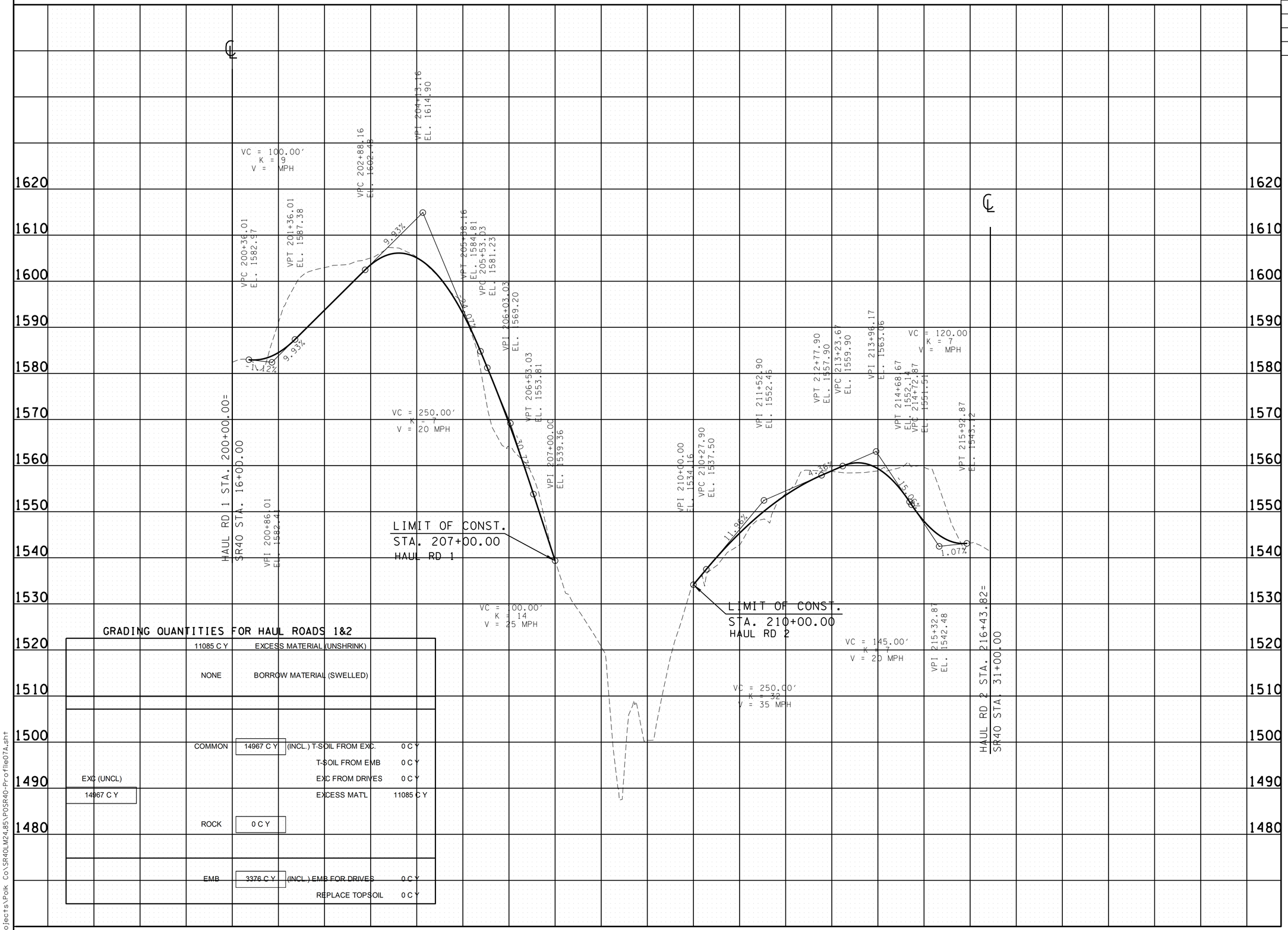
PROPOSED HAUL ROADS

STA. 200+00 TO STA. 216+43

SCALE: 1"= 50′

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	7A



GRADING QUANTITIES FOR HAUL ROADS 1&2

	11085 C Y	EXCESS MATERIAL (UNSHRINK)	
	NONE	BORROW MATERIAL (SWELLED)	
COMMON	14967 C Y	(INCL.) T-SOIL FROM EXC.	0 C Y
		T-SOIL FROM EMB	0 C Y
EXC (UNCL)		EXC FROM DRIVES	0 C Y
14967 C Y		EXCESS MATL	11085 C Y
ROCK	0 C Y		
EMB	3376 C Y	(INCL.) EMB FOR DRIVES	0 C Y
		REPLACE TOPSOIL	0 C Y

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY



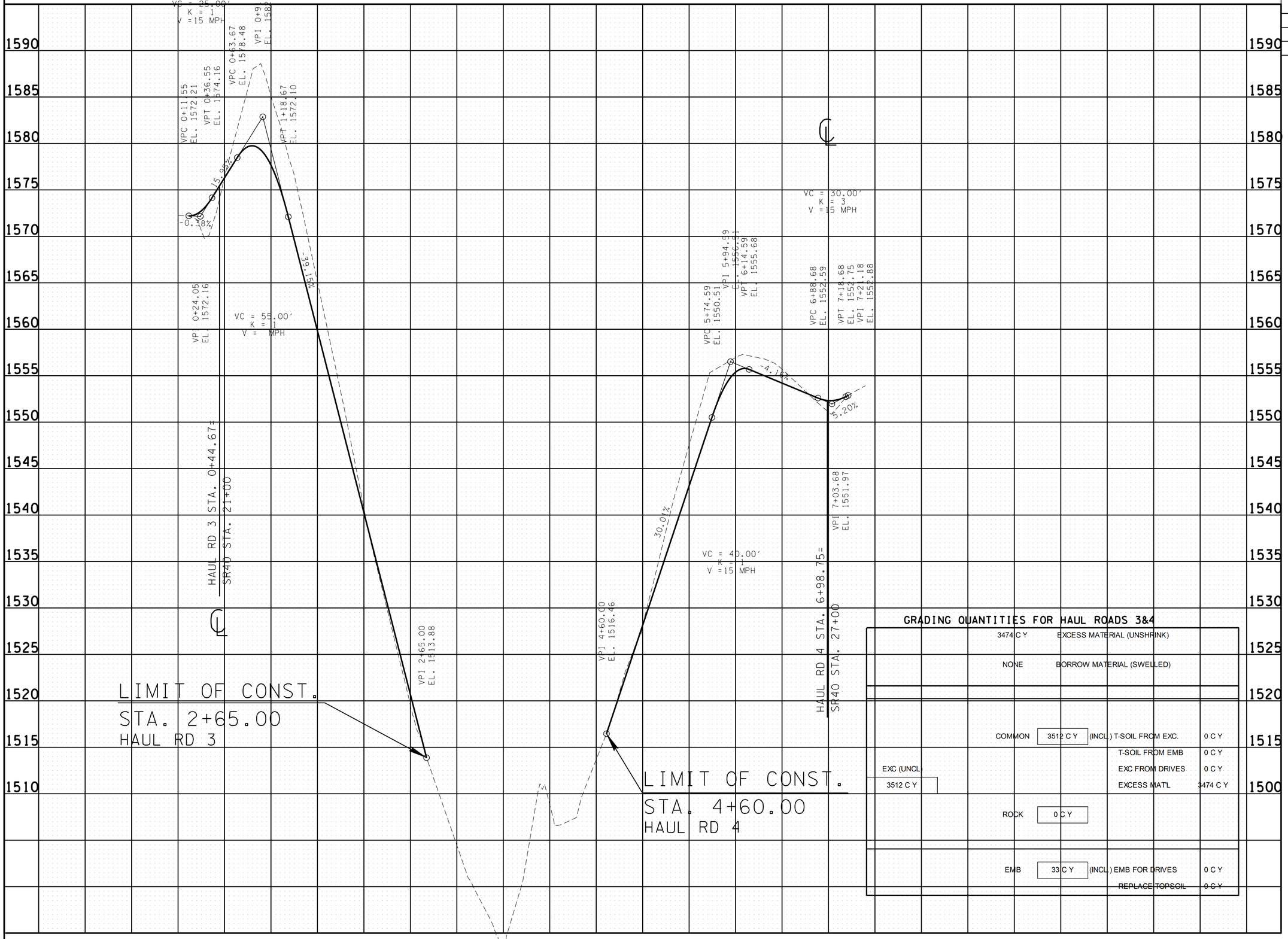
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILES OF HAUL ROADS 1 & 2

SCALE: 1"=100' HORIZ.
1"=10' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	7B



GRADING QUANTITIES FOR HAUL ROADS 3&4

3474 C Y	EXCESS MATERIAL (UNSHRINK)			
NONE	BORROW MATERIAL (SWELLED)			
COMMON	3512 C Y	(INCL.) T-SOIL FROM EXC.	0 C Y	
		T-SOIL FROM EMB	0 C Y	
		EXC FROM DRIVES	0 C Y	
EXC (UNCL.) 3512 C Y		EXCESS MAT'L	3474 C Y	
ROCK	0 C Y			
EMB	33 C Y	(INCL.) EMB FOR DRIVES	0 C Y	
		REPLACE TOPSOIL	0 C Y	

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
4
OMMERCE
NO. 106422
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILES OF HAUL ROADS 3 & 4

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	7
CONST.	2015	BR-NH-40(27)	8

261 C Y EXCESS MATERIAL (UNSHRINK)

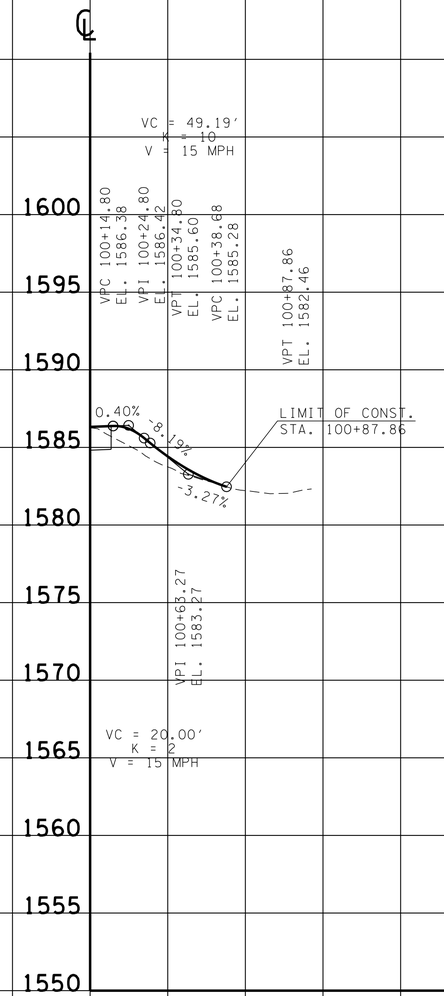
NONE BORROW MATERIAL (SWELLED)

COMMON 364 C Y (INCL.) T-SOIL FROM EXC. 55 C Y
T-SOIL FROM EMB 0 C Y
EXC FROM DRIVES 0 C Y
EXCESS MAT'L 261 C Y

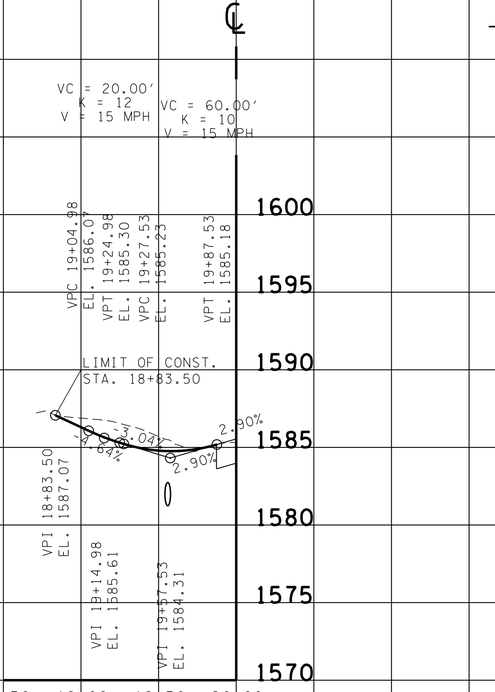
EXC (UNCL)
364 C Y

ROCK 0 C Y

EMB 42 C Y (INCL.) EMB FOR DRIVES 0 C Y
REPLACE TOPSOIL 0 C Y



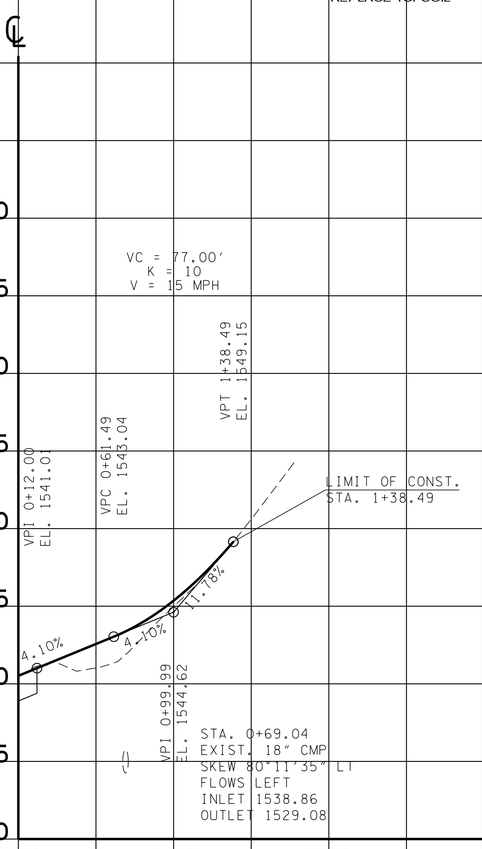
HICKORY TREE DR.
STA. 11+74.59 RT.



STA. 19+55.87
32' OF 18" PIPE CULVERT
SKEW 74°54'36" LT
ENDWALLS REQD. : U" ENDWALL
STD. DWG. NOS. D-PB-1, D-PE-18A, D-PE-18B

D.A. = 0.5 AC.
Q50 = 1.58 CFS
Q100 = 1.75 CFS
CONCRETE 611-07.01 = 0 C.Y.
REINF. STEEL 611-07-02 = 0 LB
BEDDING MATERIAL (CLASS B) = 4.74 C.Y.

PINECREST DR.
STA. 13+09.59 LT.



STA. 0+69.04
EXIST. 18" CMP
SKEW 80°11'35" LT
FLOWS LEFT
INLET 1538.86
OUTLET 1529.08

STA. 0+69.04
8' EXTENSION OF 18" CMP AT THE INLET
SKEW 80°11'35" LT.
ENDWALLS REQD. : "U" ENDWALL
STD. DWG. NOS. D-PB-1, D-PE-18A, D-PE-18B

D.A. = 4.2 AC.
Q50 = 15.12 CFS
Q100 = 16.80 CFS
CONCRETE 611-07.01 = 0 C.Y.
REINF. STEEL 611-07-02 = 0 LB.
BEDDING MATERIAL (CLASS B) = 1.464 C.Y

EASTWOOD DR.
STA. 33+72.65 RT.

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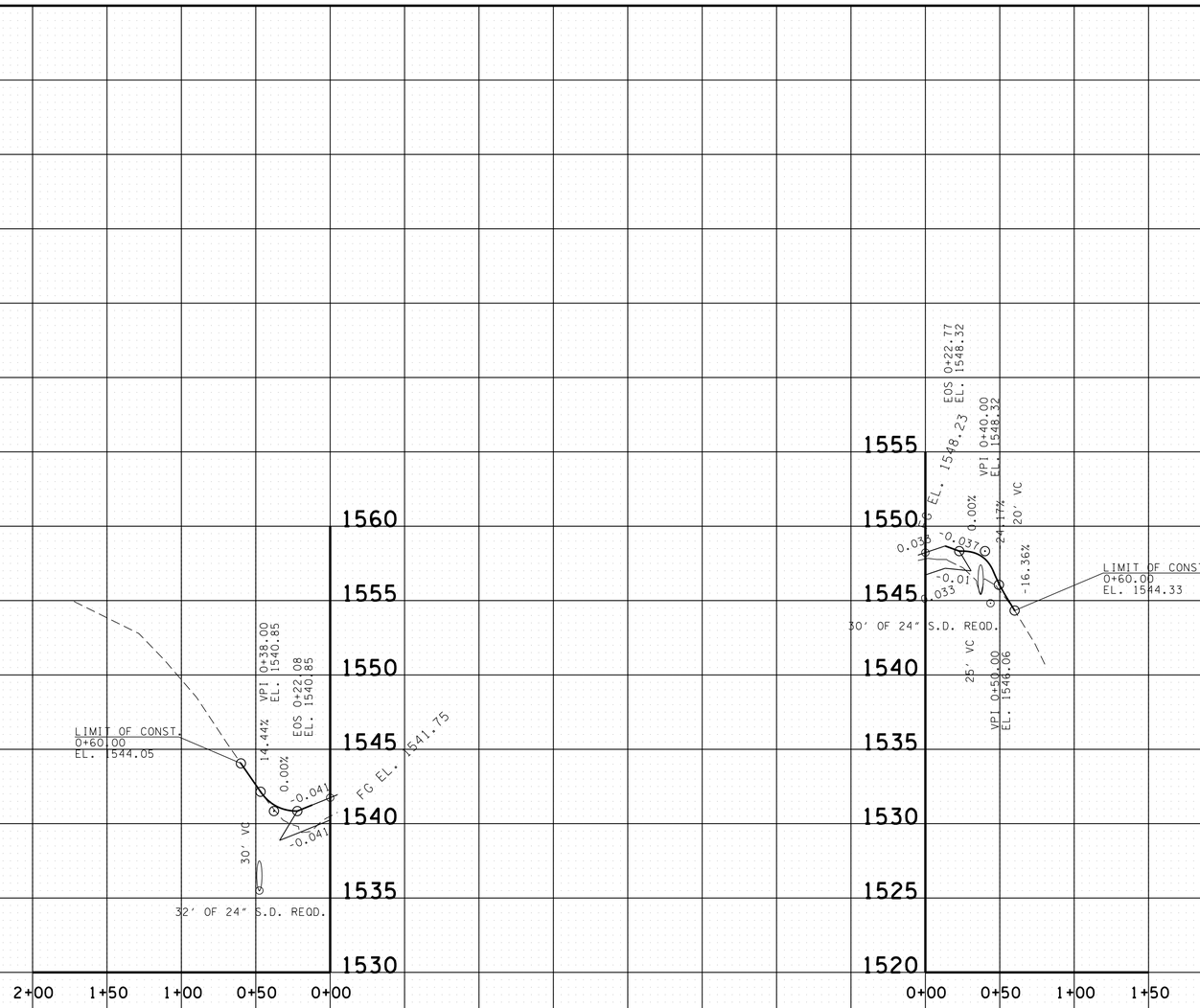
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE OF SIDE ROADS AND STREETS

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	8
CONST.	2015	BR-NH-40(27)	9



PVT. DR. LT. 33+70.00
TRACT NO. 12
(12' ASPHALT)

PVT. DR. RT. 36+95.74
TRACT NO. 14
(15' CONCRETE)

UNOFFICIAL SET

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SEALED BY



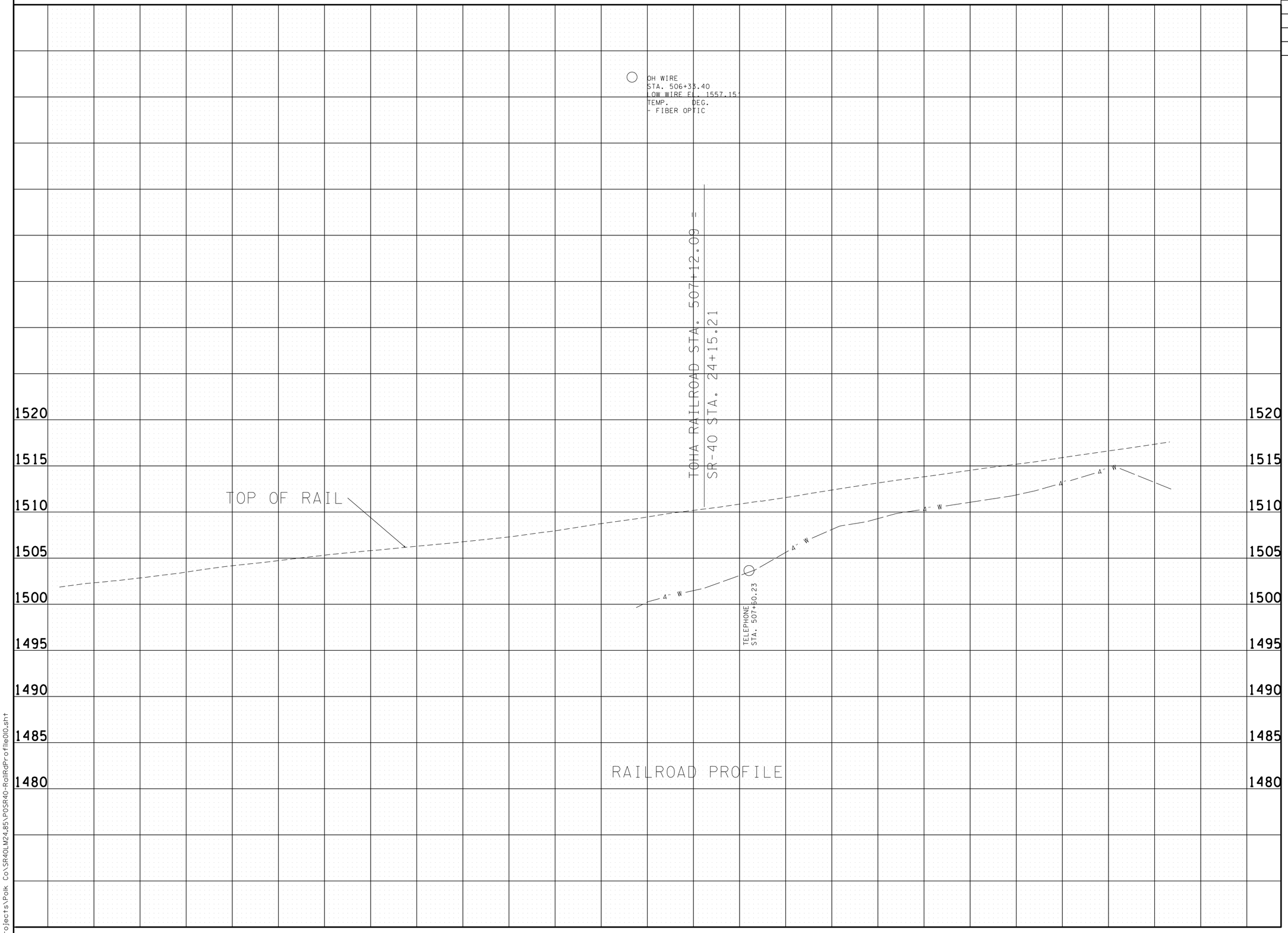
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE OF PRIVATE DRIVES

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	9
CONST.	2015	BR-NH-40(27)	10



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NO. 108423
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE OF RAILROAD

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

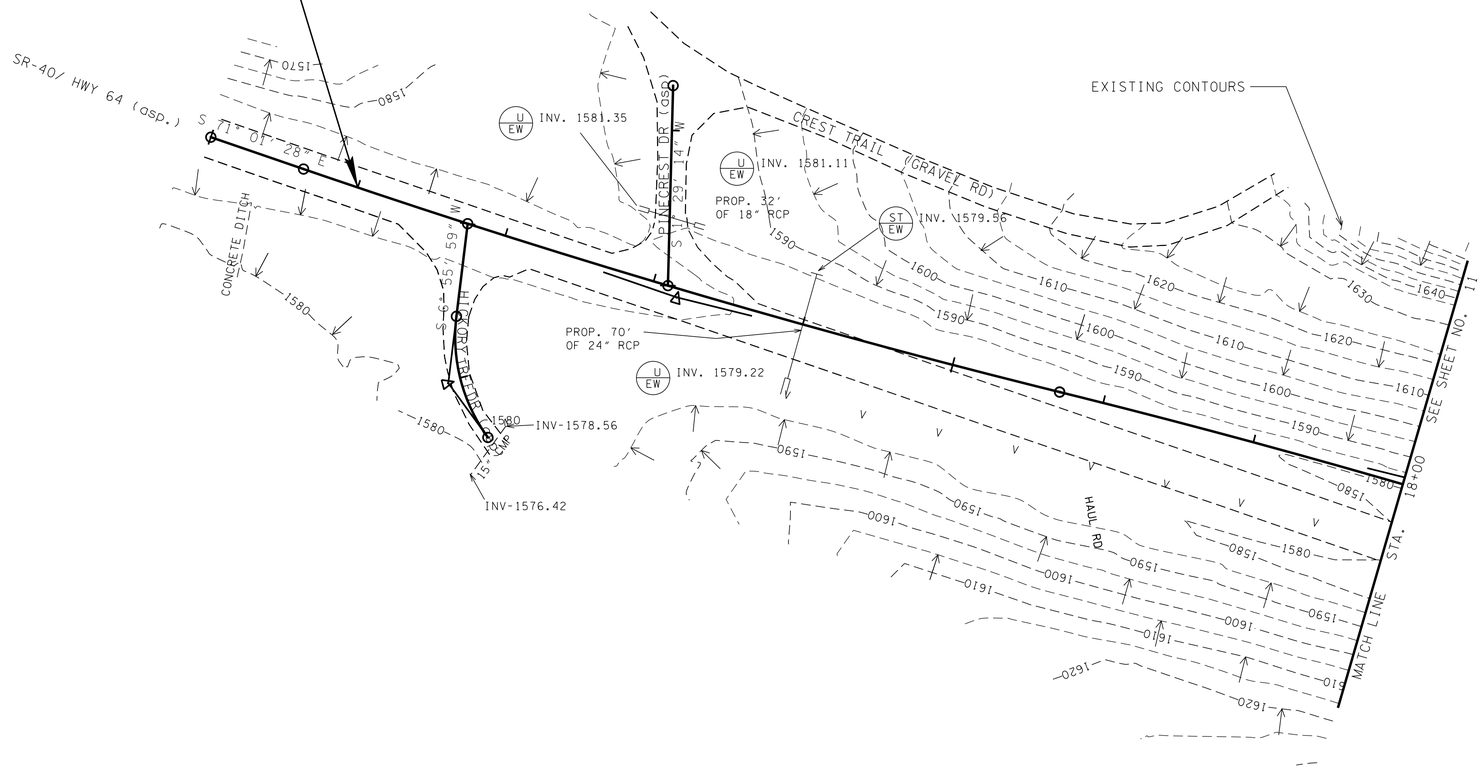
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	10
CONST	2015	BR-NH-40(27)	11

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

10

15



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COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

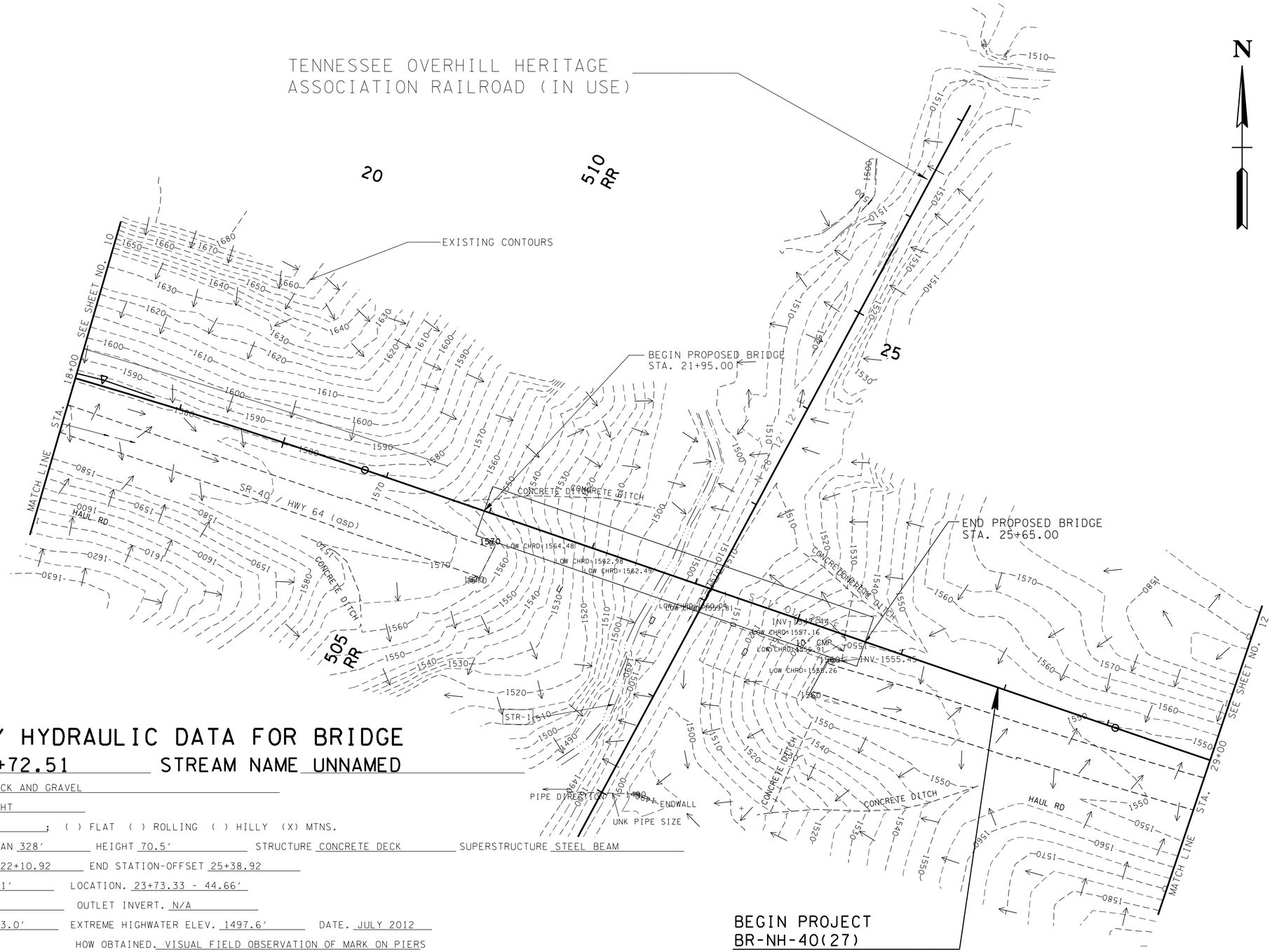
STA. 11+00 TO STA. 18+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	11
CONST.	2015	BR-NH-40(27)	12

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.



DRAINAGE/ HYDRAULIC DATA FOR BRIDGE

STATION 23+72.51 STREAM NAME UNNAMED

STREAM BED LINING: ROCK AND GRAVEL

DIRECTION OF FLOW RIGHT

DRAINAGE AREA 702 AC. ; ( ) FLAT ( ) ROLLING ( ) HILLY (X) MTNS.

PRESENT STRUCTURE: SPAN 328' HEIGHT 70.5' STRUCTURE CONCRETE DECK SUPERSTRUCTURE STEEL BEAM

BEGIN STATION-OFFSET 22+10.92 END STATION-OFFSET 25+38.92

LOW BEAM ELEV. 1562.91' LOCATION. 23+73.33 - 44.66'

INLET INVERT ELEV. N/A OUTLET INVERT. N/A

NORMAL WATER ELEV. 1493.0' EXTREME HIGHWATER ELEV. 1497.6' DATE. JULY 2012

HOW OBTAINED. VISUAL FIELD OBSERVATION OF MARK ON PIERS

BACKWATER FROM WHAT STREAM (IF APPLICABLE): N/A

EXISTING STRUCTURE CONDITION: POOR

SEE STREAM CROSS-SECTIONS FOR VEGETATIVE COVER, SEE PRESENT LAYOUT (LEVEL 40) FOR STREAM ALIGNMENT AND CROSS-SECTION LOCATIONS.

SEE CENTERLINE PROFILE OR FIELD BOOK FOR EXISTING BRIDGE OPENING SKETCHES.

REMARKS:

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No. 106475
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	12
CONST.	2015	BR-NH-40(27)	13

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

DRAINAGE DATA FOR PIPE

STATION 35+72.51

DIRECTION OF FLOW RIGHT

DRAINAGE AREA 357 AC ,( )FLAT;( )ROLLING;( )HILLY;(X)MTNS.

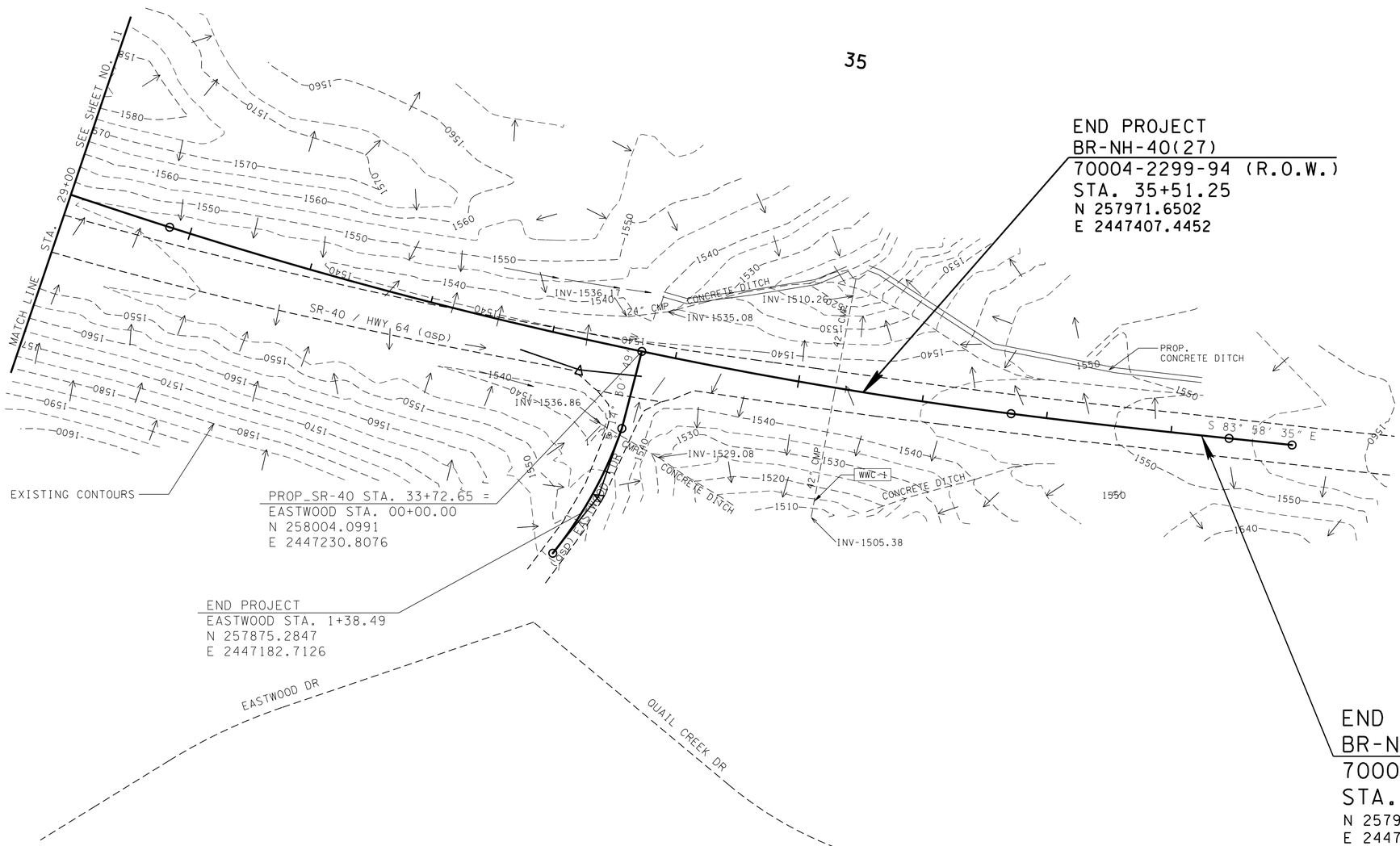
PRESENT STRUCTURE: 42" CMP

EXISTING STRUCTURE CONDITION: GOOD

REMARKS:

30

35



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NO. 106423
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA.29+00 TO STA.38+24.41

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	13
CONST.	2015	BR-NH-40(27)	14

STA. 0+69.04
8' EXT. OF 18" CMP AT THE INLET OF EASTWOOD DR.
SKEW 80°11'35" LT.
ENDWALLS REQD. : "U" ENDWALL
STD. DWG. NOS. D-PB-1, D-PE-18A, D-PE-18B

D.A. = 4.2 AC.
Q50 = 15.12 CFS
Q100 = 16.80 CFS
CONCRETE = 0 C.Y.
REINF. STEEL = 0 LB.
BEDDING MATERIAL (CLASS B) = 1.192 C.Y

OFFSET -18.17
EL. 1540.81
OFFSET -12.59
EL. 1542.64
FG EL. 1543.38
EL. 1541.78
OFFSET 12.96
TIE TO PROP. SR40 DITCH
STA. 33+00.00
EL. 1537.55
3.1:1
0.045
-0.039
0.044
0.045
-0.039
-0.038
3.1:1
0.80%
14.7%
EXISTING CONC. DITCH
EXISTING 18" CMP
PROP. INLET
EL. 1537.13
OFF. 19.91
PROPOSED 8' of 18" CMP @ 14.7% GRADE
(4'± OF EXISTING PIPE TO BE REMOVED)
INVERT
EL. 1536.28
OFF 12.76
OUTLET
EL. 1529.08
OFF -35.17

EASTWOOD DR.
0+69.04

PRES. R.O.W.
OFFSET 121.99

PRES. R.O.W.
OFFSET -104.45

STA. 35+29.87
18' EXT. OF 42" CMP AT THE INLET OF SR40
SKEW 89°05'24" LT
ENDWALLS REQD. : "A" ENDWALL
STD. DWG. NOS. D-PB-1, D-PE-1

D.A. = 20.5 AC.
Q50 = 73.8 CFS
Q100 = 82.0 CFS
CONCRETE 611-07.01 = 4.72 C.Y.
REINF. STEEL 611-07-02 = 79 LB.
BEDDING MATERIAL (CLASS B) = 6.174 C.Y.

OFFSET -126.56
EL. 1528.10
OFFSET -35.84
EL. 1541.00
FG EL. 1543.95
EL. 1542.74
OFFSET 32.09
EL. 1536.46
OFFSET 44.65
6:1
2:1
-0.041
-0.041
0.041
-0.029
6:1
0.04
-0.041
-0.041
0.041
-0.01
2:1
CUT TO DRAIN
RIP-RAP
CLASS B
ITEM NO 709-05.08
PROP. INLET
EL. 1510.60
OFF -88.47
INVERT
EL. 1510.15
OFF -71.79
PROPOSED 18' of 42" CMP @ 2.7% GRADE
(4'± OF EXISTING PIPE TO BE REMOVED)
2.7%
EXISTING 42" CMP
OUTLET
EL. 1505.38
OFF 104.75

SR40
35+29.87

STA. 19+55.87
32' OF 18" RCP
SKEW 74° 54' 36"
ENDWALLS REQD. : 2-"U" ENDWALLS
STD. DWG. NOS. D-PB-1, D-PE-18A, D-PE-18B

D.A. = 0.5 AC.
Q50 = 1.58 CFS
Q100 = 1.75 CFS
CONCRETE = 0 C.Y.
REINF. STEEL = 0 LB
BEDDING MATERIAL (CLASS B) = 4.47 C.Y.

EL. 1580.88
STA. 13+50.00
TIE TO PROPOSED SR-40 DITCH
0.90%
FG EL. 1584.76
3.1:1
-0.00
-0.01
-0.00
0.001
-0.0
3.1:1
0.8%
0.80%
PROP. OUTET
EL. 1581.11
OFF. -16.76
PROP. INLET
EL. 1581.35
OFF. 14.07
TIE TO PROPOSED SR-40 DITCH
STA. 12+50.00
EL. 1581.60

PINECREST DR.
19+55.87

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STATE OF TENNESSEE
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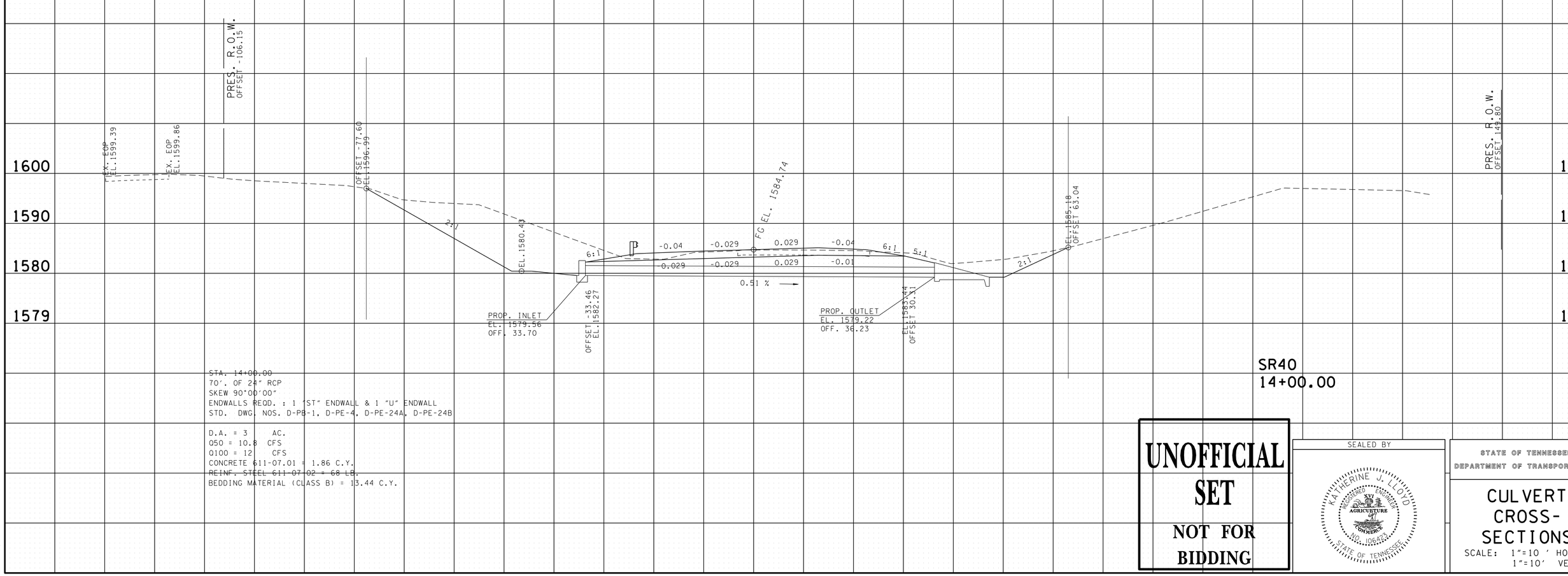
CULVERT CROSS-SECTIONS

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

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1550 1540 1530 1520 1510 1500 1590 1580
120 100 80 60 40 20 0 20 40 60 80 100 120

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	14A



SR40
14+00.00

STA. 14+00.00
70'. OF 24" RCP
SKEW 90°00'00"
ENDWALLS REQD. : 1 "ST" ENDWALL & 1 "U" ENDWALL
STD. DWG. NOS. D-PB-1, D-PE-4, D-PE-24A, D-PE-24B

D.A. = 3 AC.
Q50 = 10.8 CFS
Q100 = 12 CFS
CONCRETE 611-07.01 = 1.86 C.Y.
REINF. STEEL 611-07.02 = 68 LB.
BEDDING MATERIAL (CLASS B) = 13.44 C.Y.

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DEPARTMENT OF TRANSPORTATION

CULVERT CROSS-SECTIONS

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14
CONST.	2015	BR-NH-40(27)	15

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

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.

(2) A 30 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM 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 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. 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 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 14 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 14 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-RUN WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE.

(7) STEEP SLOPES (A NATURAL OR CREATED SLOPE OF 35% GRADE (2.8H:1V) OR GREATER REGARDLESS OF HEIGHT) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED.

(8) FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SUPPORT ACTIVITIES; TDOT PROJECTS ARE COVERED UNDER THE "WASTE AND BORROW" MANUAL PER THE SSWMP.

(9) 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

(10) RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND MAINTAINED.

(11) 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

(12) 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).

(13) 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.

(14) 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.

(15) 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.

(16) 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.

(17) 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.

(18) THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS (AS APPROVED BY THE TDOT PROJECT ENGINEER).

(19) 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.

(20) THE CONTRACTOR SHALL MAINTAIN A COMPLETE AND COMPREHENSIVE EROSION PREVENTION AND SEDIMENT CONTROL PLAN TO PREVENT ROADWAY AND/OR CONSTRUCTION SEDIMENT OR DEBRIS AND ANY PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, PAINTS OR COATINGS ETC. FROM FALLING ONTO THE RAILROAD'S RIGHTS-OF-WAY AND/OR FROM ENTERING THE DRAINAGE DITCHES OR DRAINAGE STRUCTURES OF THE RAILROAD, AND ANY SEDIMENT OR DEBRIS OR PETROLEUM BASED PRODUCTS OR CHLORINATED SOLVENTS, ETC. THAT DO ENTER SUCH DRAINAGE AREAS OF THE RAILROAD'S RIGHTS-OF-WAY ARE TO BE REMOVED IN ACCORDANCE WITH RULES SET FORTH BY GERALD HODGE 423.263.7232 / 877.510.5765 AND AT THE CONTRACTOR'S EXPENSE.

UNOFFICIAL SET

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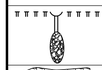
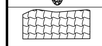
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

12-OCT-2015 09:39
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	15AA

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.
* HVF * HVF	HIGH VISIBILITY FENCE	S-F-1
	SEDIMENT FILTER BAG	EC-STR-2
* SF * SF * SF *	SILT FENCE	EC-STR-3B
* SFB * SFB * SFB *	SILT FENCE WITH WIRE BACKING	EC-STR-3C
	ROCK CHECK DAM (V-DITCH)	EC-STR-6
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
** SOCK ** SOCK **	FILTER SOCK	EC-STR-8
	CULVERT PROTECTION (TYPE 1)	EC-STR-11
* 	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	TEMPORARY SLOPE DRAIN WITH TEMPORARY BERM	EC-STR-27
	EROSION CONTROL BLANKET	EC-STR-34
** TUBE ** TUBE **	SEDIMENT TUBE	EC-STR-37

* TO BE FIELD LOCATED BY PROJECT ENGINEER.

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1.)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	168
8,9)	209-02.04	10" TEMPORARY SLOPE DRAIN	L.F.	107
8,9)	209-03.21	FILTER SOCK (12 INCH)	L.F.	4490
9.)	209-05	SEDIMENT REMOVAL	C.Y.	282
2,8,9)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	2142
8,9)	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	500
8,9)	209-08.08	ROCK CHECK DAM PER	EACH	43
8,9)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	8
8,9)	209-09.03	SEDIMENT FILTER BAG (15' X 15')	EACH	2
3.)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	29
9.)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	1800
4.)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	50
5.)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	140
6,9)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	289
9.)	740-11.02	TEMPORARY SEDIMENT TUBE 12IN (EROSION CONTROL)	L.F.	100
8,9)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	71
	801-02.01	CROWN VETCH MIXTURE (WITHOUT MULCH)	UNIT	58
8,9)	801-02.08	TEMPORARY SEEDING (WITHOUT MULCH)	UNIT	68
7.)	801-03	WATER (SEEDING & SODDING)	M.G.	16
	803-01	SODDING (NEW SOD)	S.Y.	7000
9.)	805-12.01	EROSION CONTROL BLANKET (TYPE I)	S.Y.	1000
9.)	805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	6893

1.) 160 C.Y. TO BE USED WITH TEMPORARY BERM, 8 C.Y. FOR TEMPORARY CONSTRUCTION ENTRANCE/EXIT.
2.) INCLUDES 98 FT. TO BE USED WITH SEDIMENT FILTER BAG.
3.) 20 TONS TO BE USED WITH SEDIMENT FILTER BAG, 9 TONS FOR CULVERTS PROTECTION TYPE 1.
4.) TO BE USED WITH TEMPORARY CONSTRUCTION ENTRANCE/EXIT.
5.) 60 TONS TO BE USED WITH TEMPORARY SLOPE DRAINS, 46 TONS FOR CULVERTS PROTECTION TYPE 1, AND 34 TONS TO BE USED AT OUTFALLS 3&4.
6.) 95 S.Y. TO BE USED WITH SEDIMENT FILTER BAG, 86 S.Y. FOR TEMPORARY CONSTRUCTION ENTRANCE/EXIT, 108 S.Y. TO BE USED FOR CULVERTS PROTECTION TYPE 1.
7.) INCLUDES 4 M.G. FOR EROSION PREVENTION AND SEDIMENT CONTROL.
8.) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
9.) ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

25-NOV-2015 14:44
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14A
CONST.	2015	BR-NH-40(27)	15A

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

10

15

N

PRESENT R.O.W.

SR-40/ HWY 64 (asp.) S 71° 01' 28" E

** SOCK ** SOCK ** SOCK ** SOCK **

* SFB * SFB * SFB

CONCRETE DITCH

18" PINE

24" PINE

S 57° 59' W

SOUTH CREST DR (GRAVEL RD)

PINECREST DR (GRAVEL RD)

S 1° 29' 14" W

CREST TRAIL (GRAVEL RD)

1570 1580 1590 1600 1610 1620 1630 1640

200

SEE SHEET NO. 15B

18+00 STA. MATCH LINE

HAUL RD

EXISTING CONTOURS

PRESENT R.O.W.

NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: EXISTING CONTOURS SHOWN (CLEARING & GRUBBING)

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
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NO. 108425
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

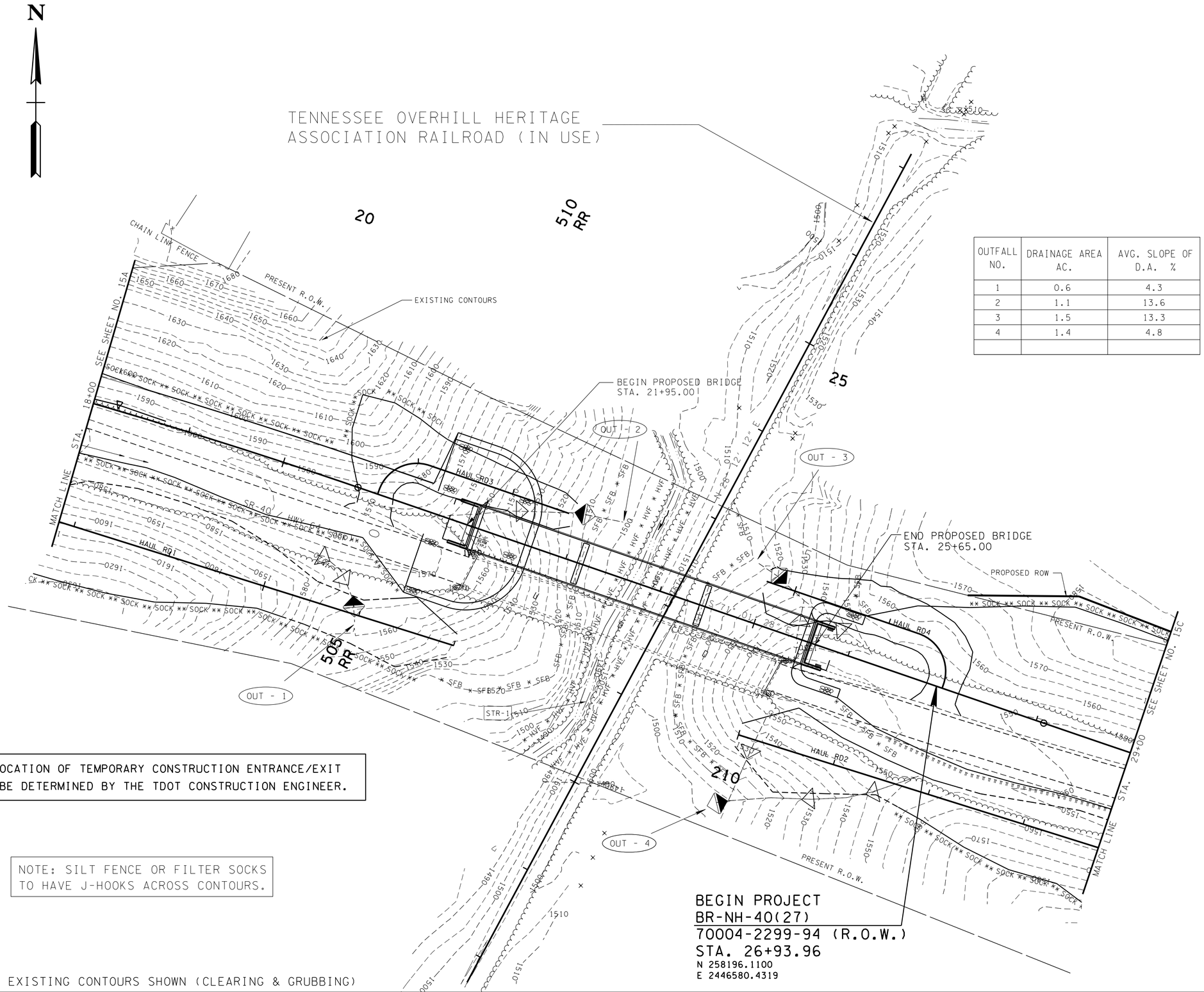
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14B
CONST.	2015	BR-NH-40(27)	15B

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.



OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
1	0.6	4.3
2	1.1	13.6
3	1.5	13.3
4	1.4	4.8

-THE LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT IS TO BE DETERMINED BY THE TDOT CONSTRUCTION ENGINEER.

NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: EXISTING CONTOURS SHOWN (CLEARING & GRUBBING)

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE I

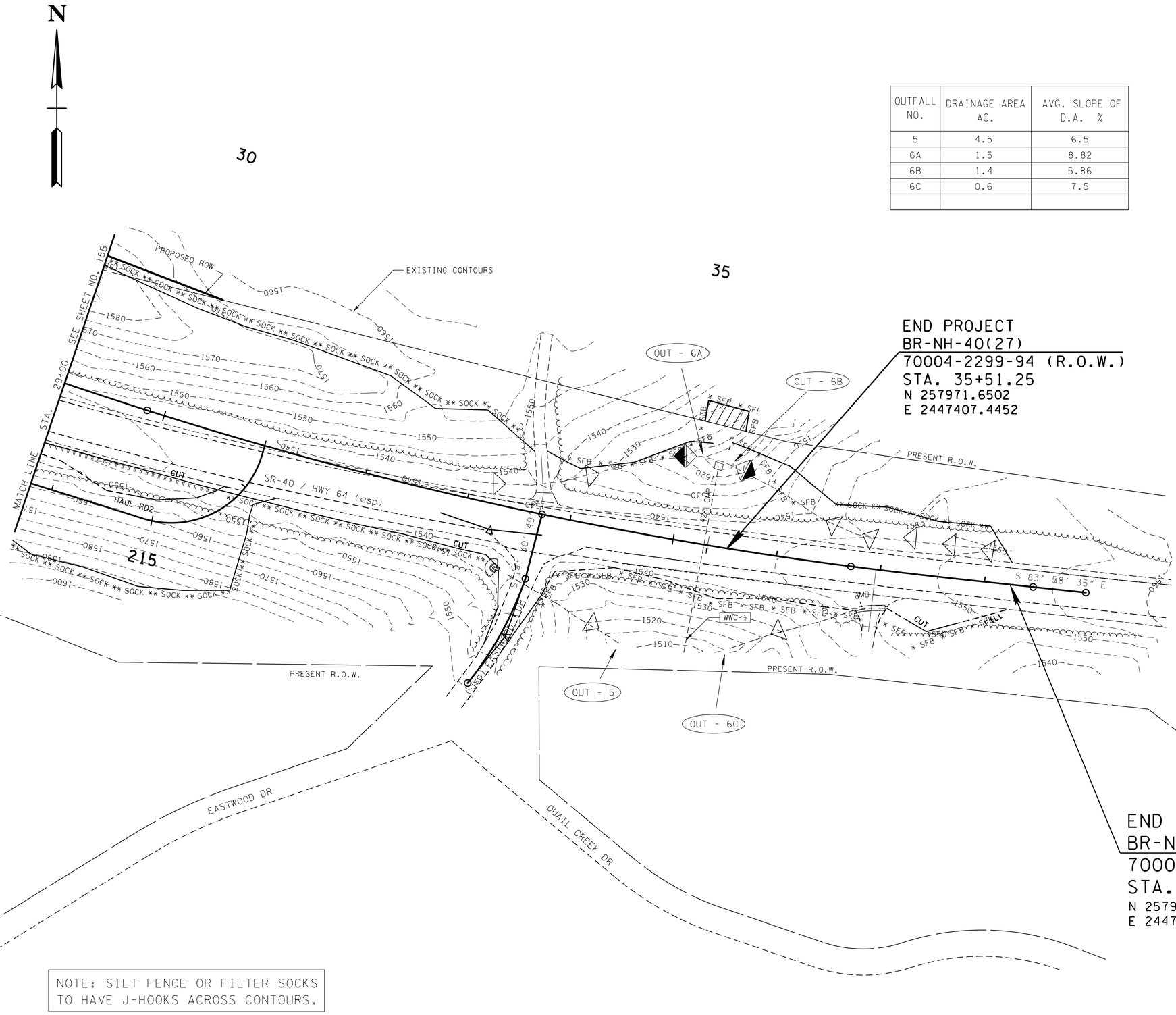
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14C
CONST.	2015	BR-NH-40(27)	15C

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. AND ADDED PERM. DRAINAGE EASEMENT FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
5	4.5	6.5
6A	1.5	8.82
6B	1.4	5.86
6C	0.6	7.5



NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: EXISTING CONTOURS SHOWN (CLEARING & GRUBBING)

UNOFFICIAL SET

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE I

SCALE: 1"= 50'

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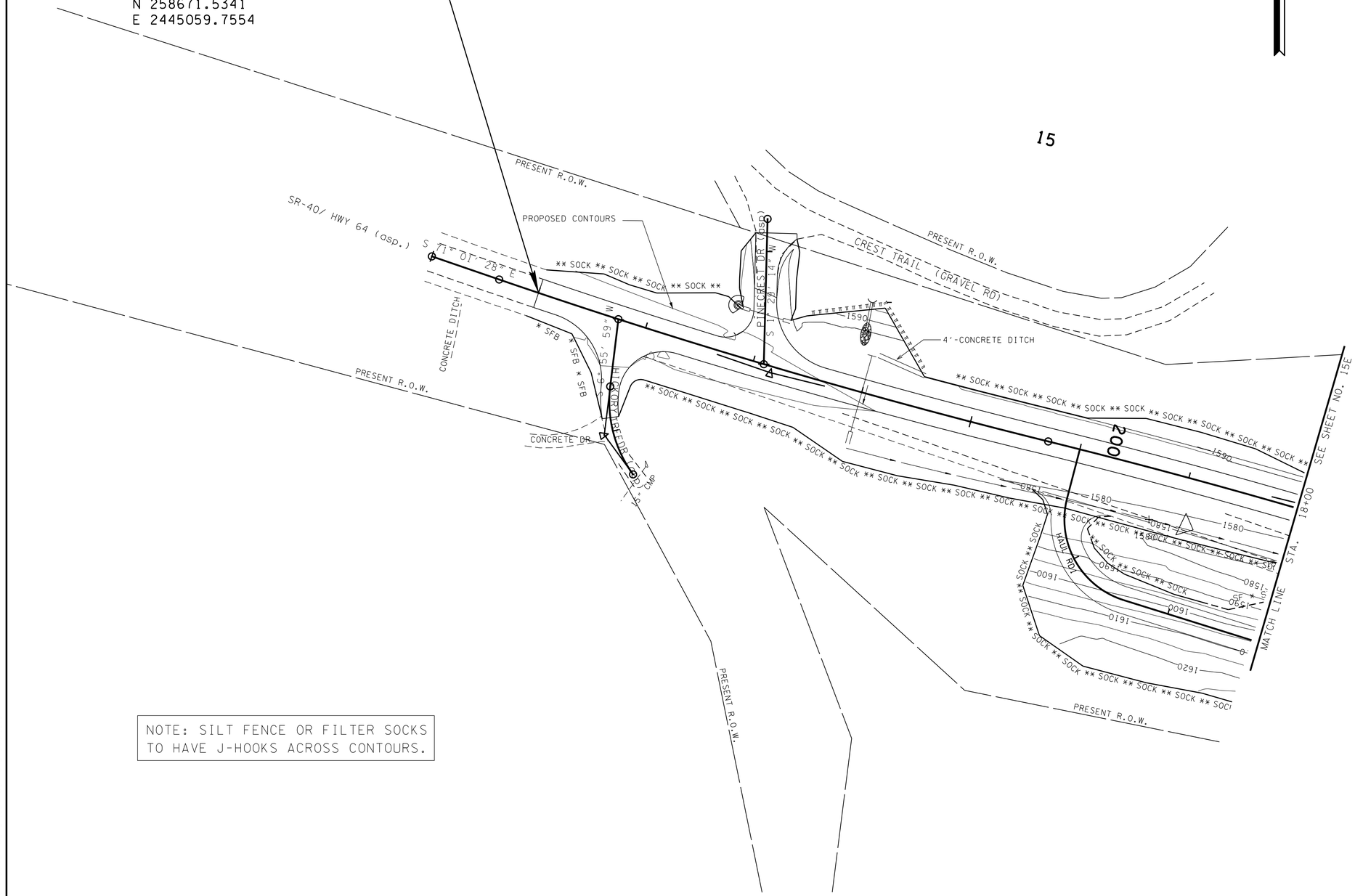
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14D
CONST.	2015	BR-NH-40(27)	15D

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554

10

15

N



NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: PROPOSED CONTOURS SHOWN

UNOFFICIAL SET

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

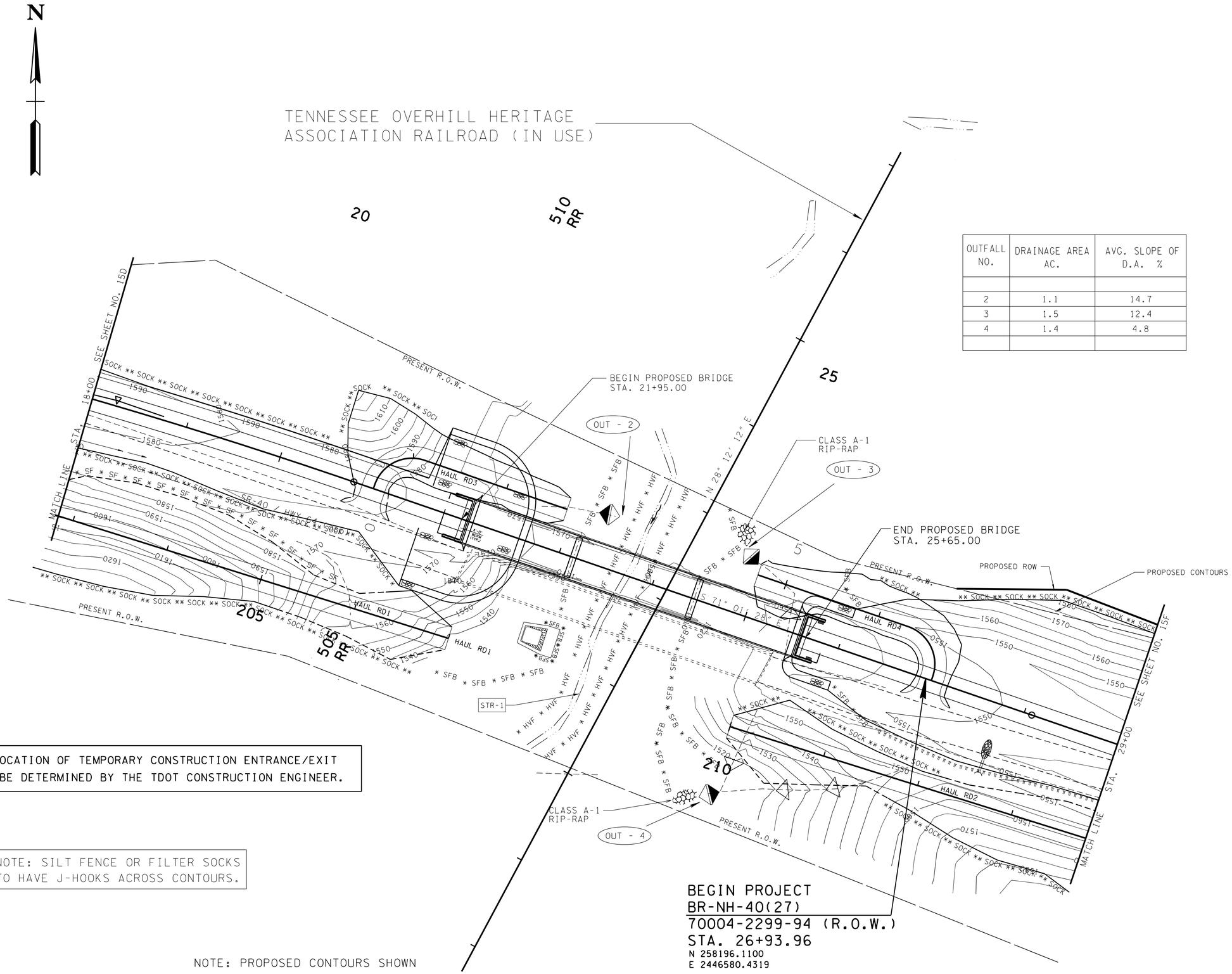
EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE II
SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14E
CONST.	2015	BR-NH-40(27)	15E

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.



OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
2	1.1	14.7
3	1.5	12.4
4	1.4	4.8

-THE LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT IS TO BE DETERMINED BY THE TDOT CONSTRUCTION ENGINEER.

NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: PROPOSED CONTOURS SHOWN

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE II

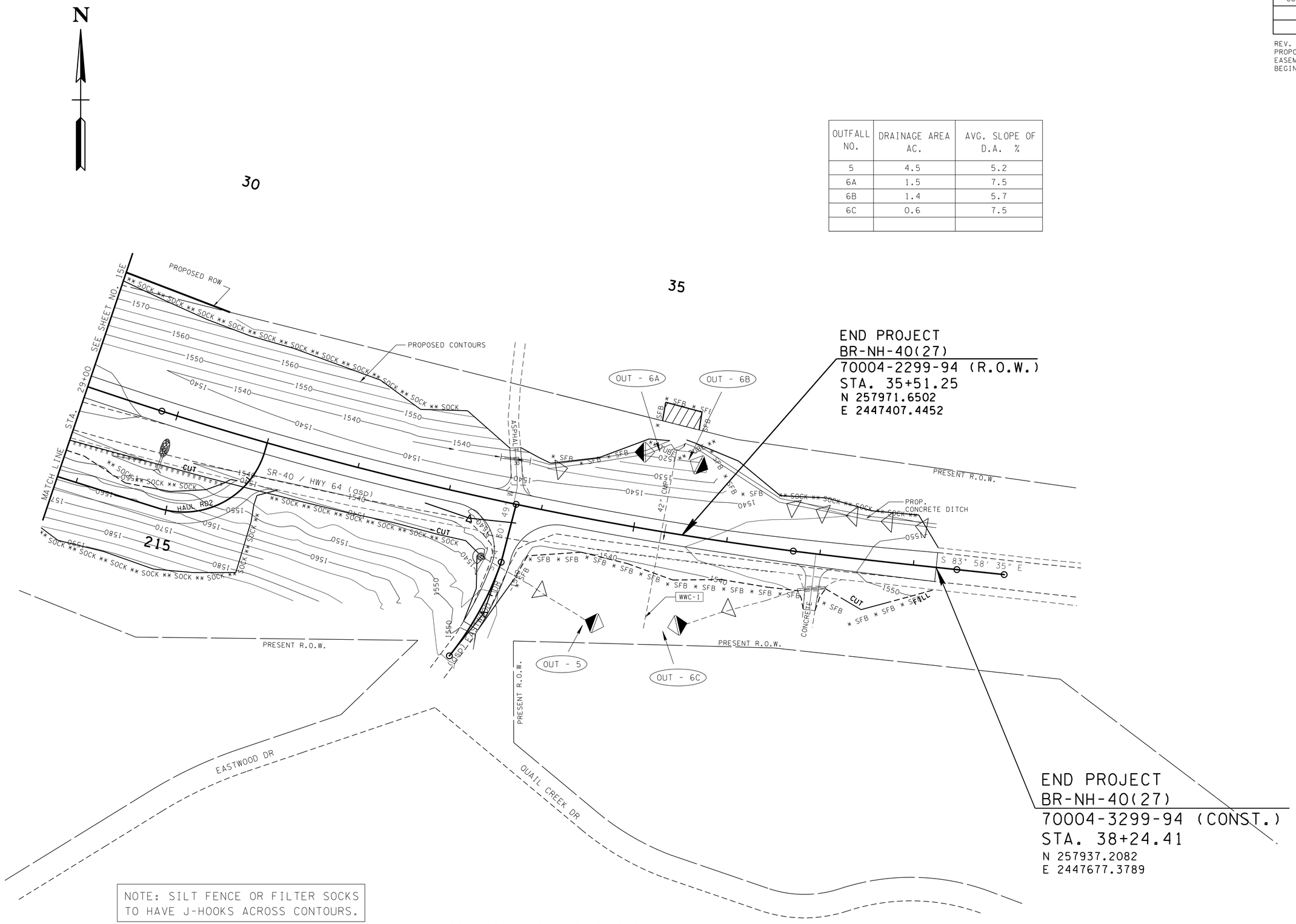
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14F
CONST.	2015	BR-NH-40(27)	15F

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. AND ADDED PERM. DRAINAGE EASEMENT FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
5	4.5	5.2
6A	1.5	7.5
6B	1.4	5.7
6C	0.6	7.5



NOTE: SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.

NOTE: PROPOSED CONTOURS SHOWN

UNOFFICIAL SET

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KATHERINE J. LLOYD
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NO. 109423
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

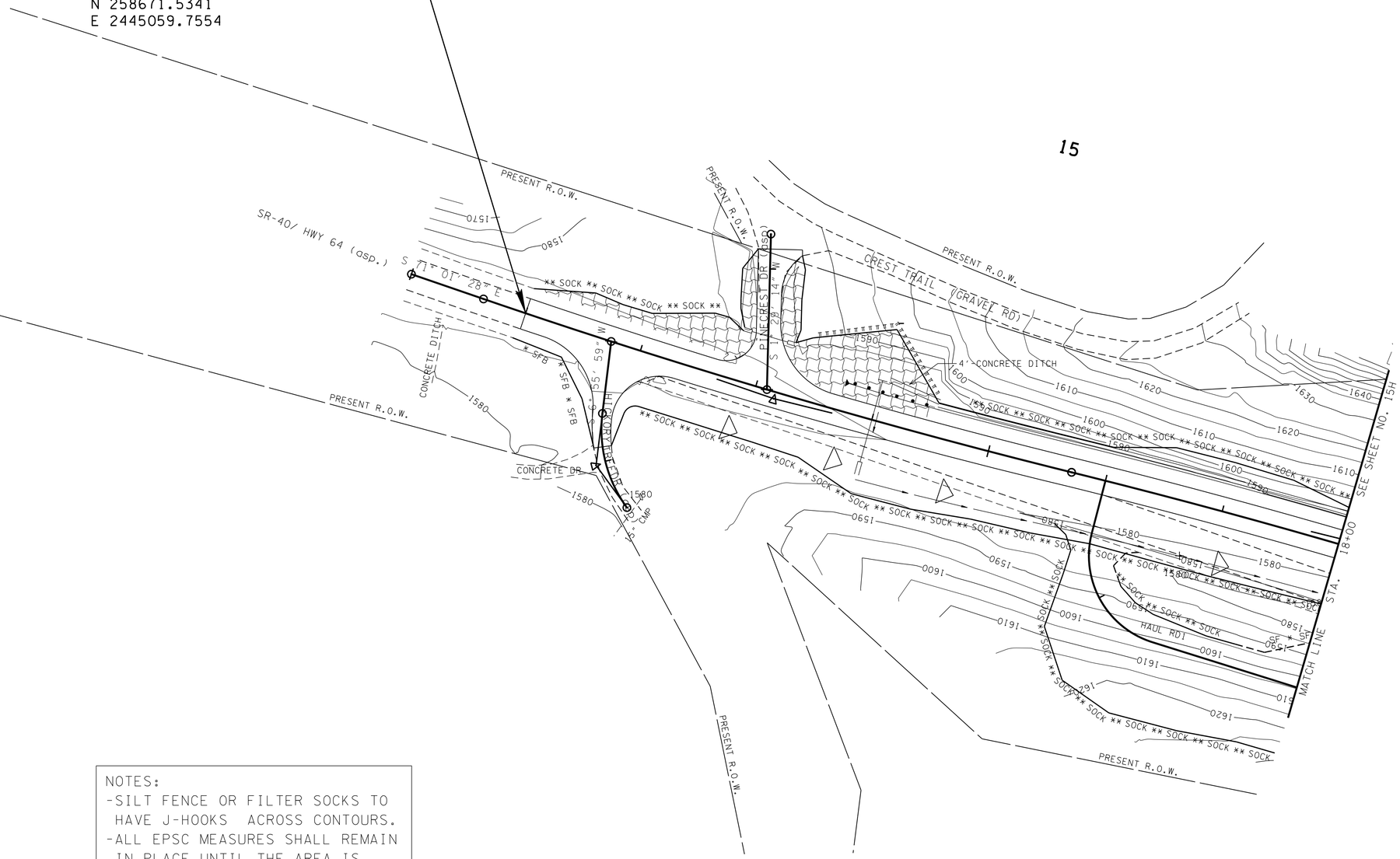
PHASE II

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14G
CONST.	2015	BR-NH-40(27)	15G

BEGIN PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 11+00.00
N 258671.5341
E 2445059.7554



NOTES:
-SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.
-ALL EPSC MEASURES SHALL REMAIN IN PLACE UNTIL THE AREA IS PERMANENTLY STABILIZED.

NOTE: MERGED CONTOURS SHOWN (FINAL STABILIZATION)

UNOFFICIAL SET

NOT FOR BIDDING

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE III

SCALE: 1"= 50'

12-OCT-2015 09:40
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14H
CONST.	2015	BR-NH-40(27)	15H

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

N

TENNESSEE OVERHILL HERITAGE ASSOCIATION RAILROAD (IN USE)

20

510 RR

505 RR

25

OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
2	1.1	14.7
3	1.5	12.4
4	1.4	4.8

RETAINING WALL

BEGIN PROPOSED BRIDGE STA. 21+95.00

END PROPOSED BRIDGE STA. 25+65.00

CLASS A-1 RIP-RAP

CLASS A-1 RIP-RAP

OUT - 2

OUT - 3

OUT - 4

HAUL RD1

HAUL RD2

HAUL RD3

HAUL RD4

STR-1

SEE SHEET NO. 15G

SEE SHEET NO. 15J

MATCH LINE STA. 18+00

MATCH LINE STA. 29+00

PRESENT R.O.W.

PROPOSED ROW

S 71° 01' 28" E

S 71° 12' 12" E

SB-40 HWY 64

-THE LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT IS TO BE DETERMINED BY THE TDOT CONSTRUCTION ENGINEER.

NOTES:
-SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.
-ALL EPSC MEASURES SHALL REMAIN IN PLACE UNTIL THE AREA IS PERMANENTLY STABILIZED.

NOTE: MERGED CONTOURS SHOWN (FINAL STABILIZATION)

BEGIN PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 26+93.96
N 258196.1100
E 2446580.4319

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF COMMERCE
NO. 109423
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE III

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	14J
CONST.	2015	BR-NH-40(27)	15J

REV. 11-19-2014: ADJUSTED PRESENT & PROPOSED R.O.W. AND ADDED PERM. DRAINAGE EASEMENT FOR TRACT NO.12. REVISED R.O.W. BEGIN & END STATIONS.

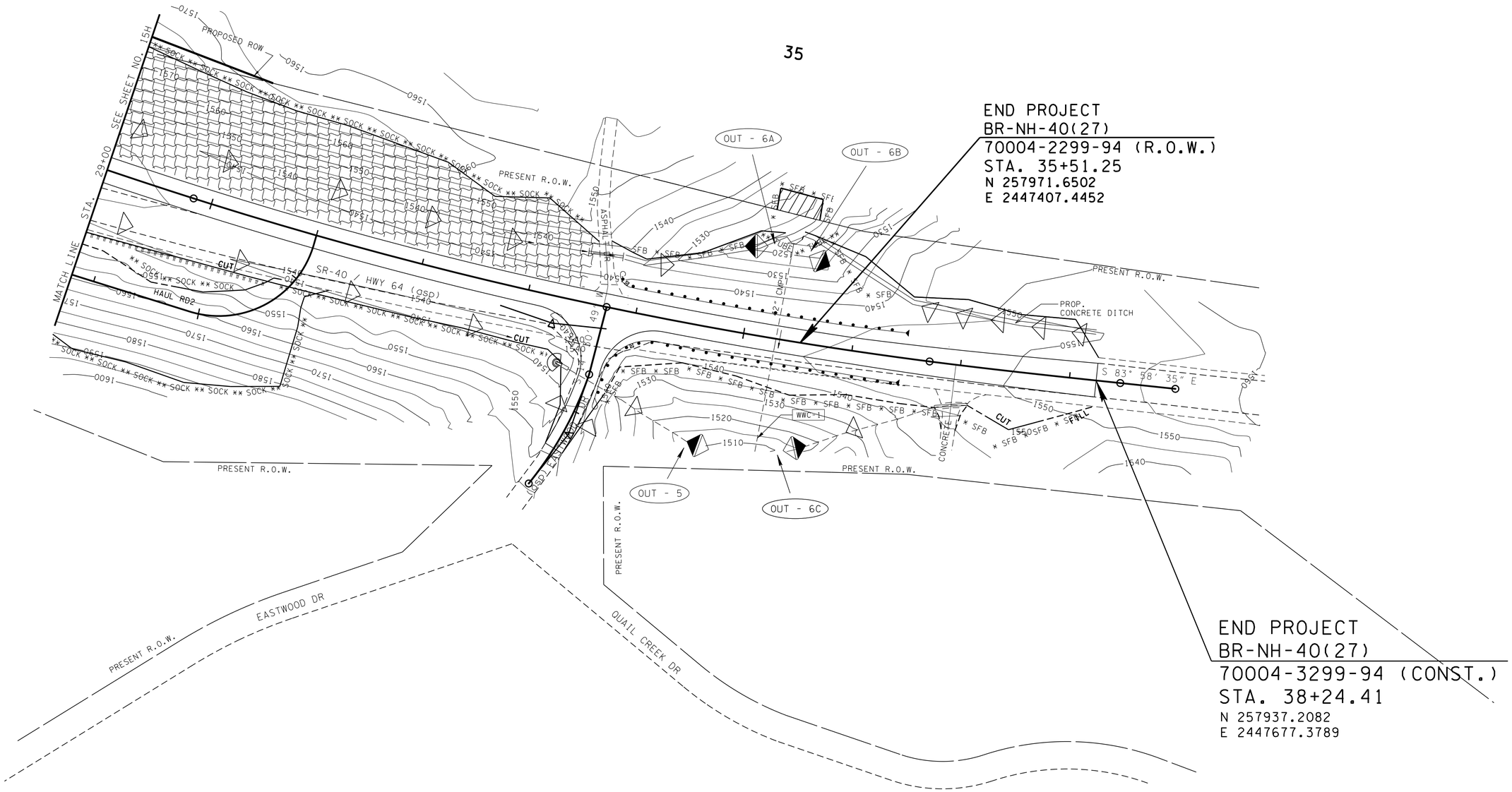
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NOTES:
-SILT FENCE OR FILTER SOCKS TO HAVE J-HOOKS ACROSS CONTOURS.
-ALL EPSC MEASURES SHALL REMAIN IN PLACE UNTIL THE AREA IS PERMANENTLY STABILIZED.

OUTFALL NO.	DRAINAGE AREA AC.	AVG. SLOPE OF D.A. %
5	4.5	5.2
6A	1.5	7.5
6B	1.4	5.7
6C	0.6	7.5

30

35



END PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 35+51.25
N 257971.6502
E 2447407.4452

END PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 38+24.41
N 257937.2082
E 2447677.3789

NOTE: MERGED CONTOURS SHOWN (FINAL STABILIZATION)

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COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF L00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

PHASE III

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15
CONST.	2015	BR-NH-40(27)	16

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

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

1. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 0.75 INCH AND NOT EXCEEDING 2 INCHES:

   a. WARNING SIGNS, UNEVEN PAVEMENT (W8-11) AND/OR SHOULDER DROP-OFF (W8-9A), 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 PAVEMENT AND/OR LOW SHOULDER) 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 PAVEMENT AND/OR LOW SHOULDER) 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 (W8-9A). 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 ONE 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 PAVEMENT AND/OR LOW SHOULDER) SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

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

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

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

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

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

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

      (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

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

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

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

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

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

1. WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

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

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

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DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

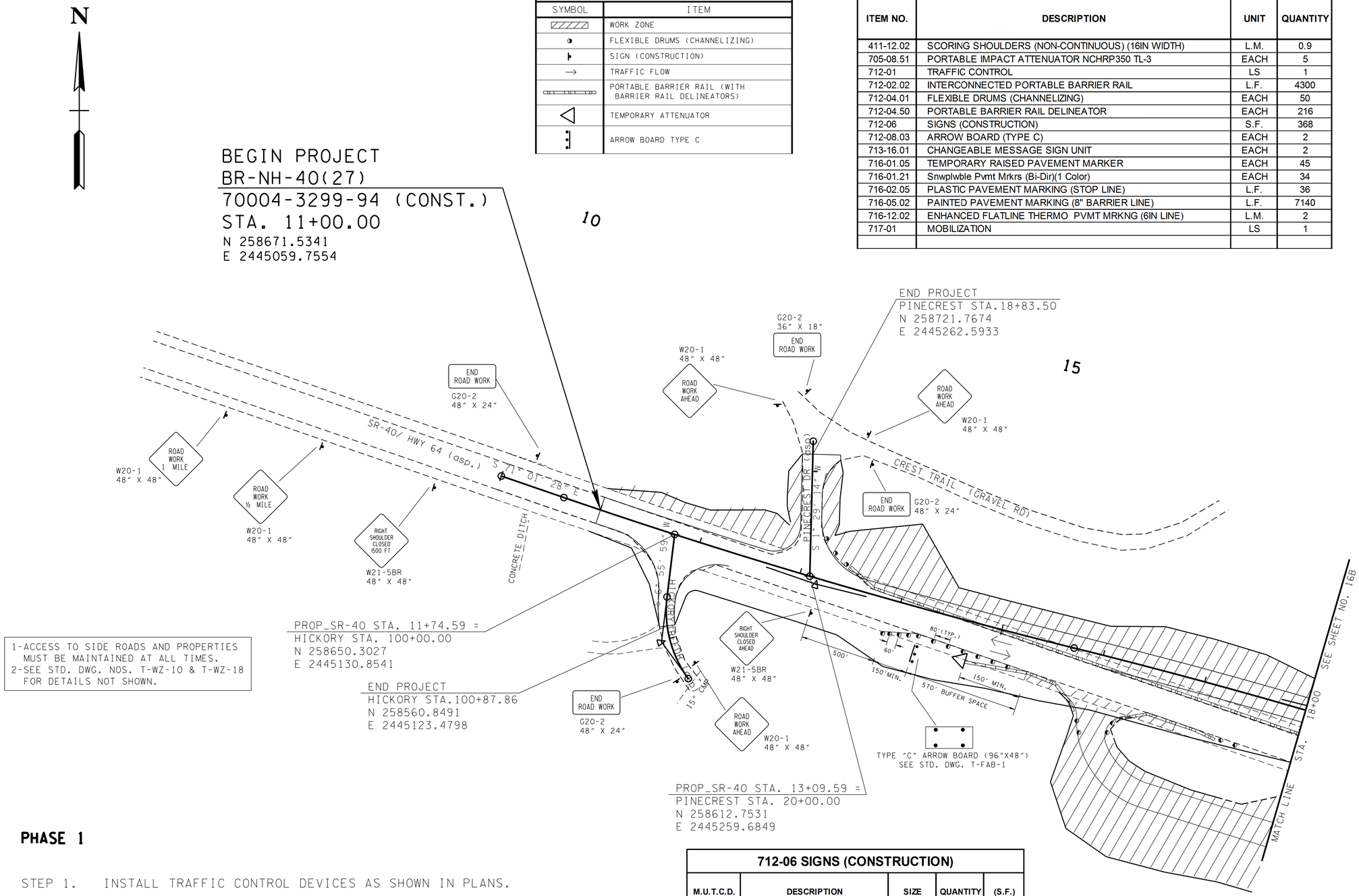
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15A
CONST.	2015	BR-NH-40(27)	16A

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

TRAFFIC CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
411-12.02	SCORING SHOULDERS (NON-CONTINUOUS) (16IN WIDTH)	L.M.	0.9
705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	5
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	4300
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	50
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	216
712-06	SIGNS (CONSTRUCTION)	S.F.	368
712-08.03	ARROW BOARD (TYPE C)	EACH	2
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-01.05	TEMPORARY RAISED PAVEMENT MARKER	EACH	45
716-01.21	Snwplwble Pvmt Mrkrs (Bi-Dir)(1 Color)	EACH	34
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	36
716-05.02	PAINTED PAVEMENT MARKING (8" BARRIER LINE)	L.F.	7140
716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	2
717-01	MOBILIZATION	LS	1



1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

PHASE 1

STEP 1. INSTALL TRAFFIC CONTROL DEVICES AS SHOWN IN PLANS.

STEP 2. CONSTRUCT HAUL ROADS AS SHOWN IN PLANS.

STEP 3. CONSTRUCT PROPOSED BRIDGE AND NEW LANES AS SHOWN IN PLANS.

STEP 4. KEEP TRAFFIC ON EXISTING LANES.

712-06 SIGNS (CONSTRUCTION)

M.U.T.C.D. NO.	DESCRIPTION	SIZE	QUANTITY	(S.F.)
G20-2	END ROAD WORK	48" X 24"	6	48
W20-1	ROAD WORK AHEAD	48" X 48"	6	96
W20-1	ROAD WORK 1/2 MILE	48" X 48"	2	32
W20-1	ROAD WORK 1 MILE	48" X 48"	2	32
W20-7	FLAGGER - SYMBOL	48" X 48"	6	96
W21-5BR	RIGHT SHOULDER CLOSED 1500 FT	48" X 48"	2	32
W21-5BR	RIGHT SHOULDER CLOSED AHEAD	48" X 48"	2	32
TOTAL 712-06 SIGNS (CONSTRUCTION) S.F.				368

1.) TO BE USED WHERE DIRECTED BY PROJECT ENGINEER IN PHASES 3 & 4.

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KATHERINE J. LLOYD
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NO. 108423
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 1

STA. 11+00 TO STA. 18+00

SCALE: 1"= 50'

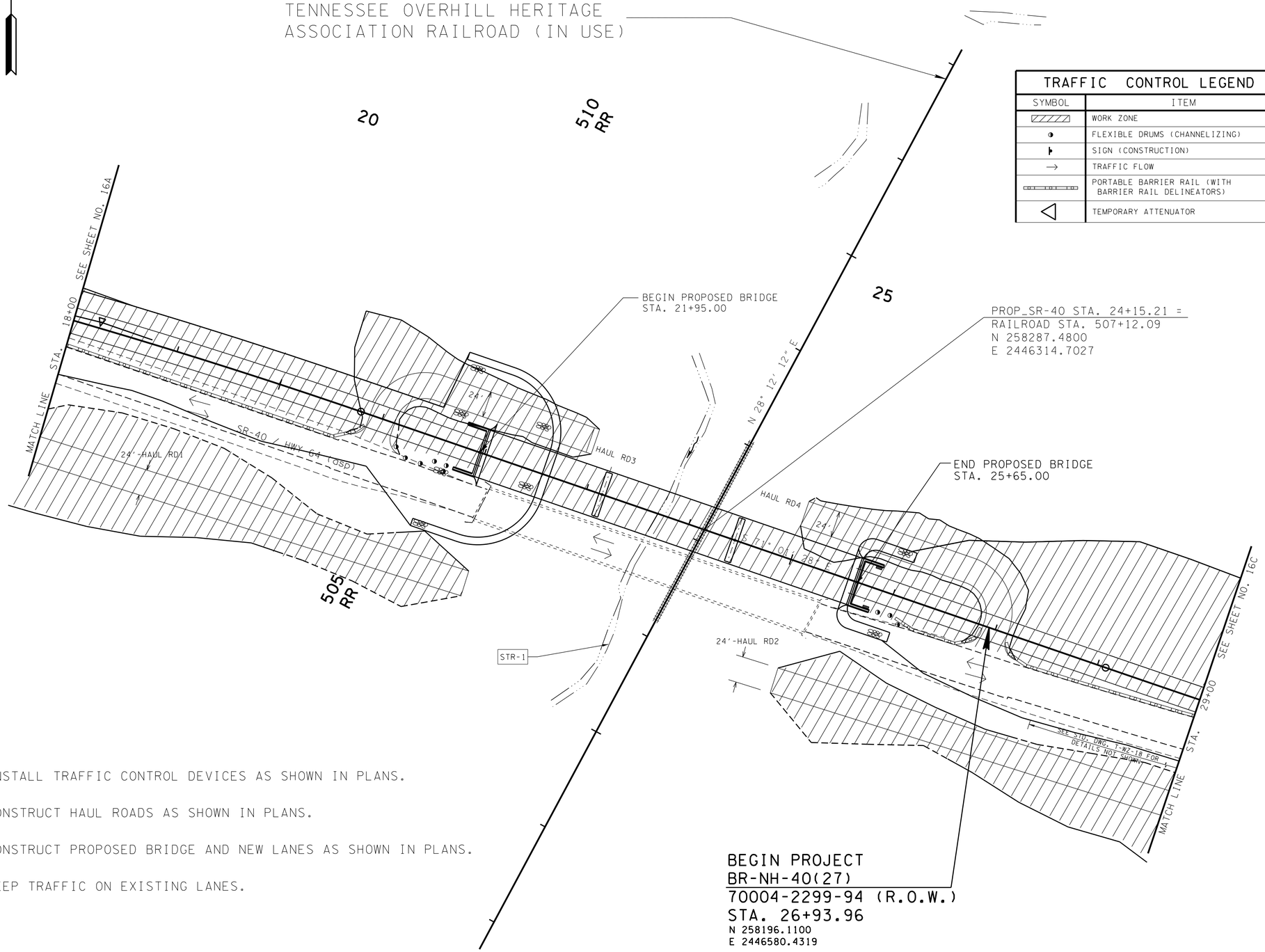
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15B
CONST.	2015	BR-NH-40(27)	16B

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.





TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
	TEMPORARY ATTENUATOR

PHASE 1

STEP 1. INSTALL TRAFFIC CONTROL DEVICES AS SHOWN IN PLANS.

STEP 2. CONSTRUCT HAUL ROADS AS SHOWN IN PLANS.

STEP 3. CONSTRUCT PROPOSED BRIDGE AND NEW LANES AS SHOWN IN PLANS.

STEP 4. KEEP TRAFFIC ON EXISTING LANES.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 1

STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15C
CONST.	2015	BR-NH-40(27)	16C

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

PHASE 1

STEP 1. INSTALL TRAFFIC CONTROL DEVICES AS SHOWN IN PLANS.

STEP 2. CONSTRUCT HAUL ROADS AS SHOWN IN PLANS.

STEP 3. CONSTRUCT PROPOSED BRIDGE AND NEW LANES AS SHOWN IN PLANS.

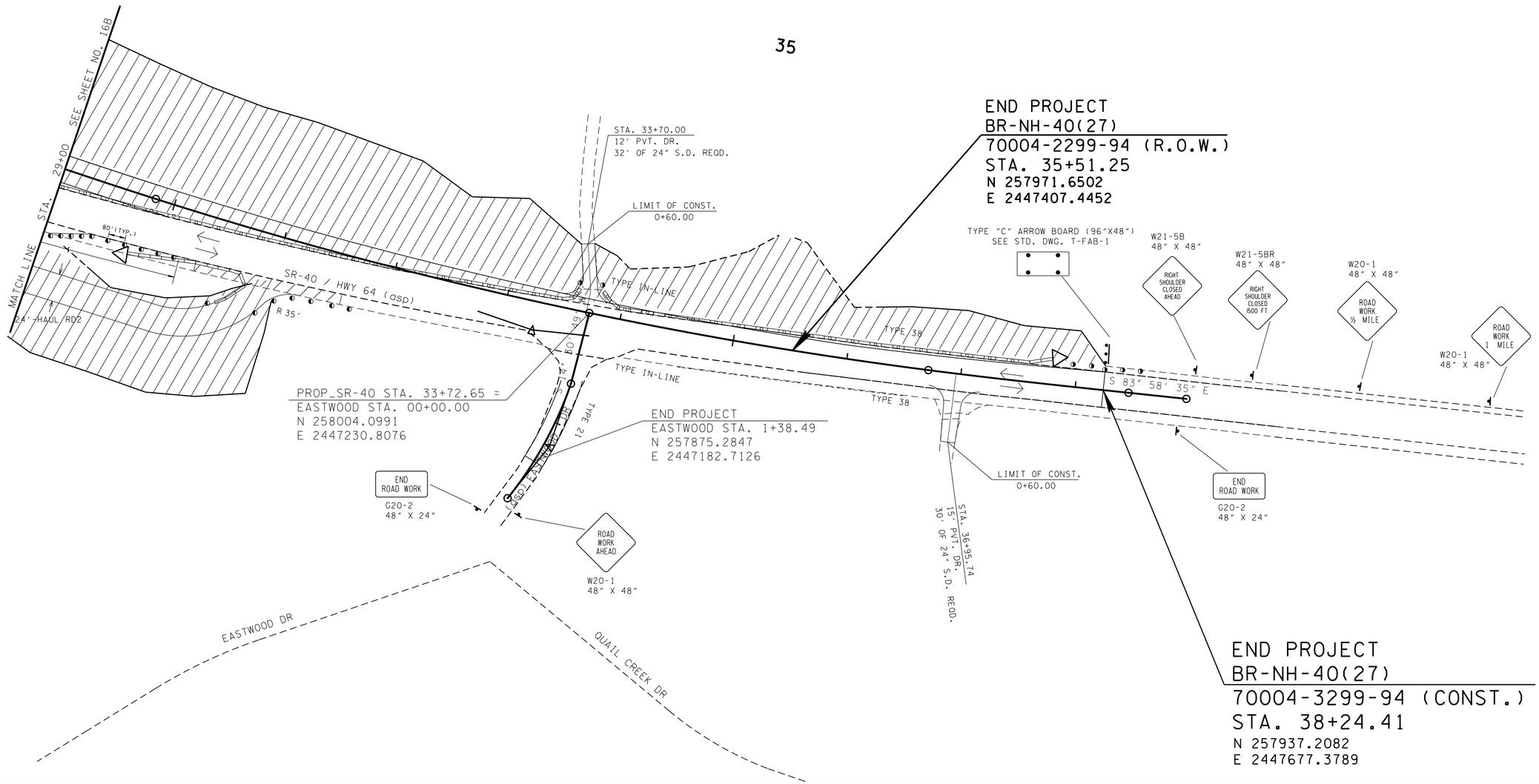
STEP 4. KEEP TRAFFIC ON EXISTING LANES.

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

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

30

35



N

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SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 1

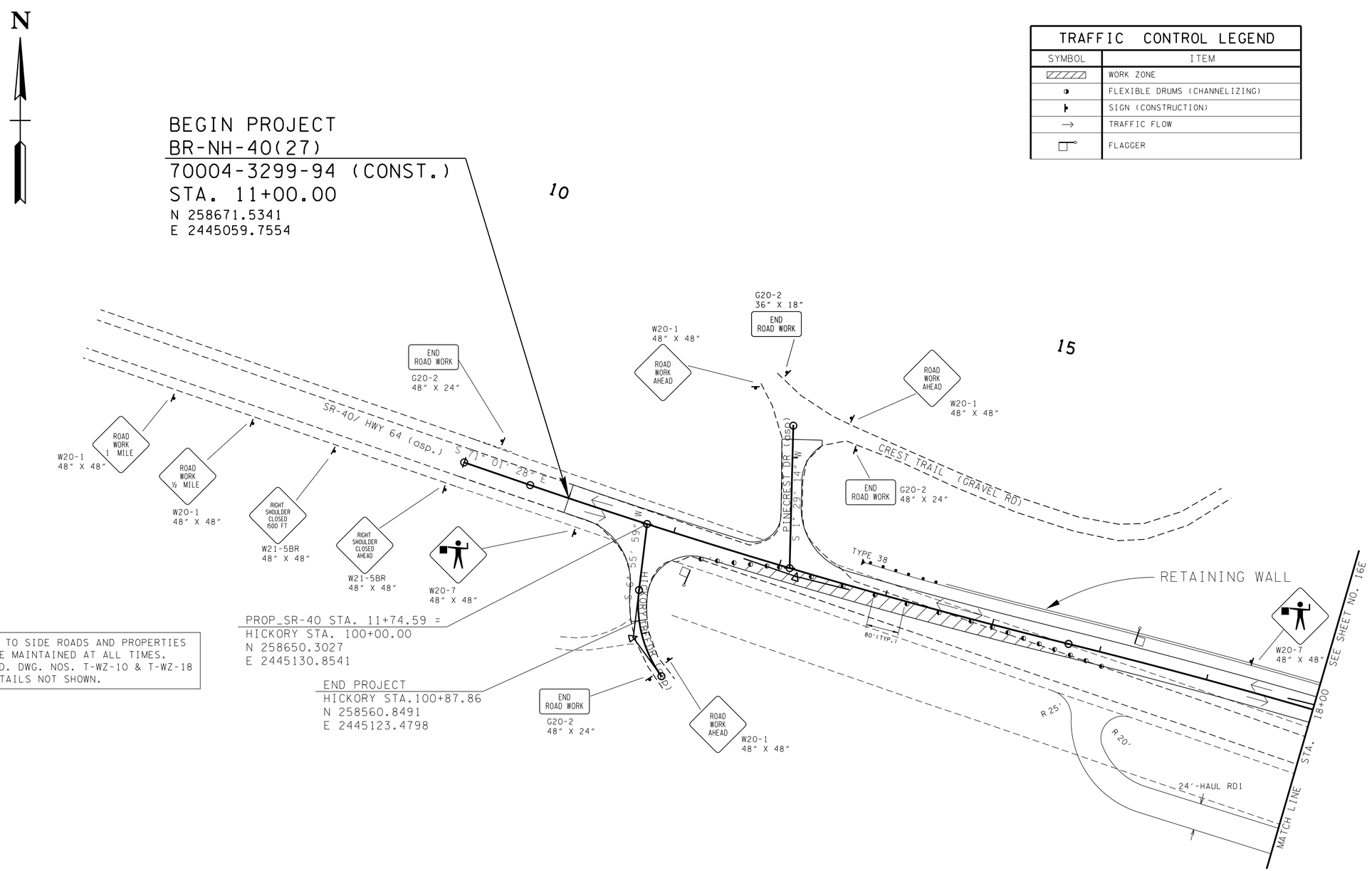
STA.29+00 TO STA.38+24.41

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	16D

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
→	TRAFFIC FLOW
	FLAGGER



1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

PHASE 2

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. ROUTE TRAFFIC TO THE NEWLY CONSTRUCTED LANE AS SHOWN IN PLANS.

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

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No. 106423
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 2

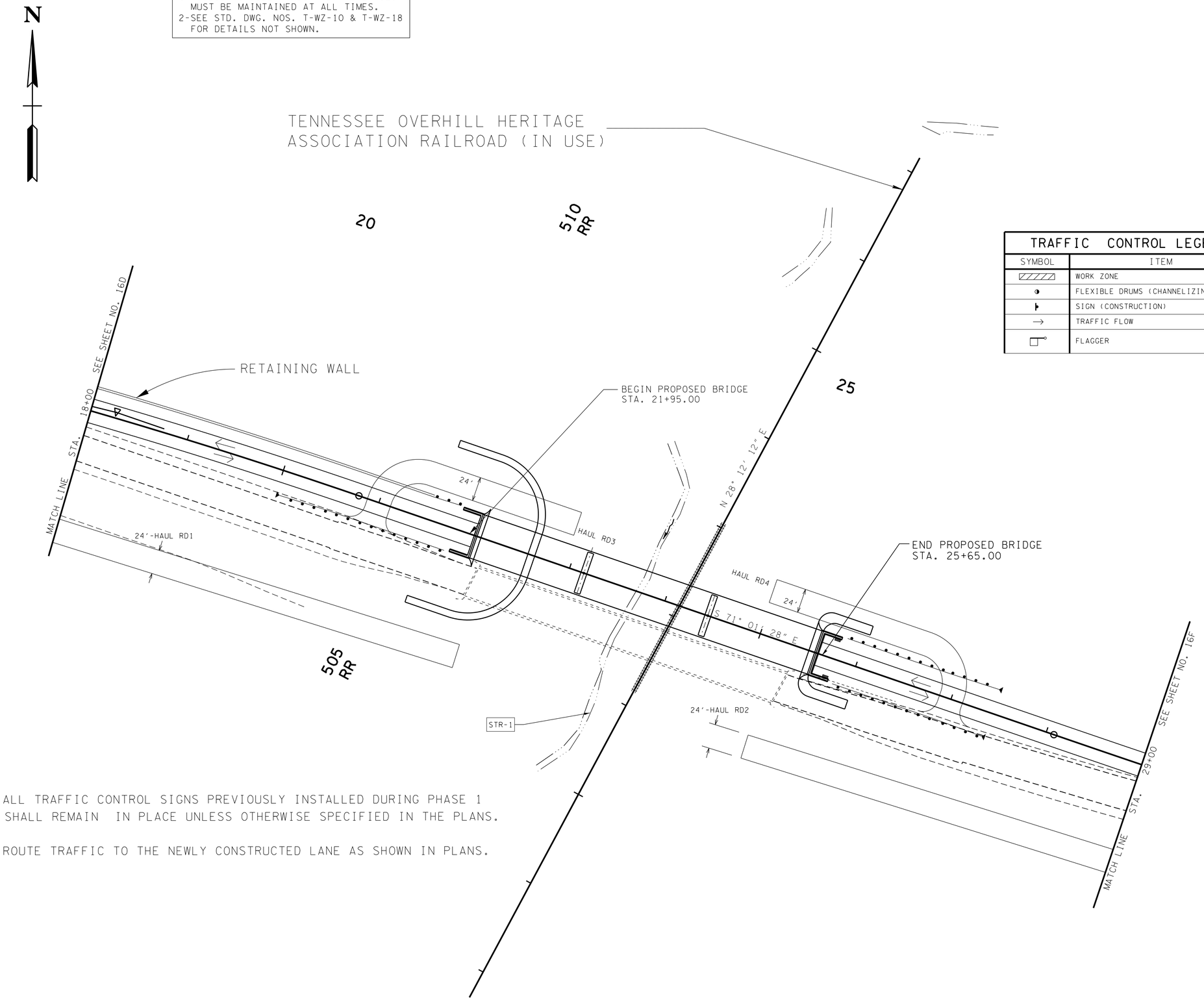
STA. 11+00 TO STA. 18+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	16E

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
→	TRAFFIC FLOW
	FLAGGER

PHASE 2

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. ROUTE TRAFFIC TO THE NEWLY CONSTRUCTED LANE AS SHOWN IN PLANS.

UNOFFICIAL SET

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 2

STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	BR-NH-40(27)	16F

PHASE 2

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. ROUTE TRAFFIC TO THE NEWLY CONSTRUCTED LANE AS SHOWN IN PLANS.

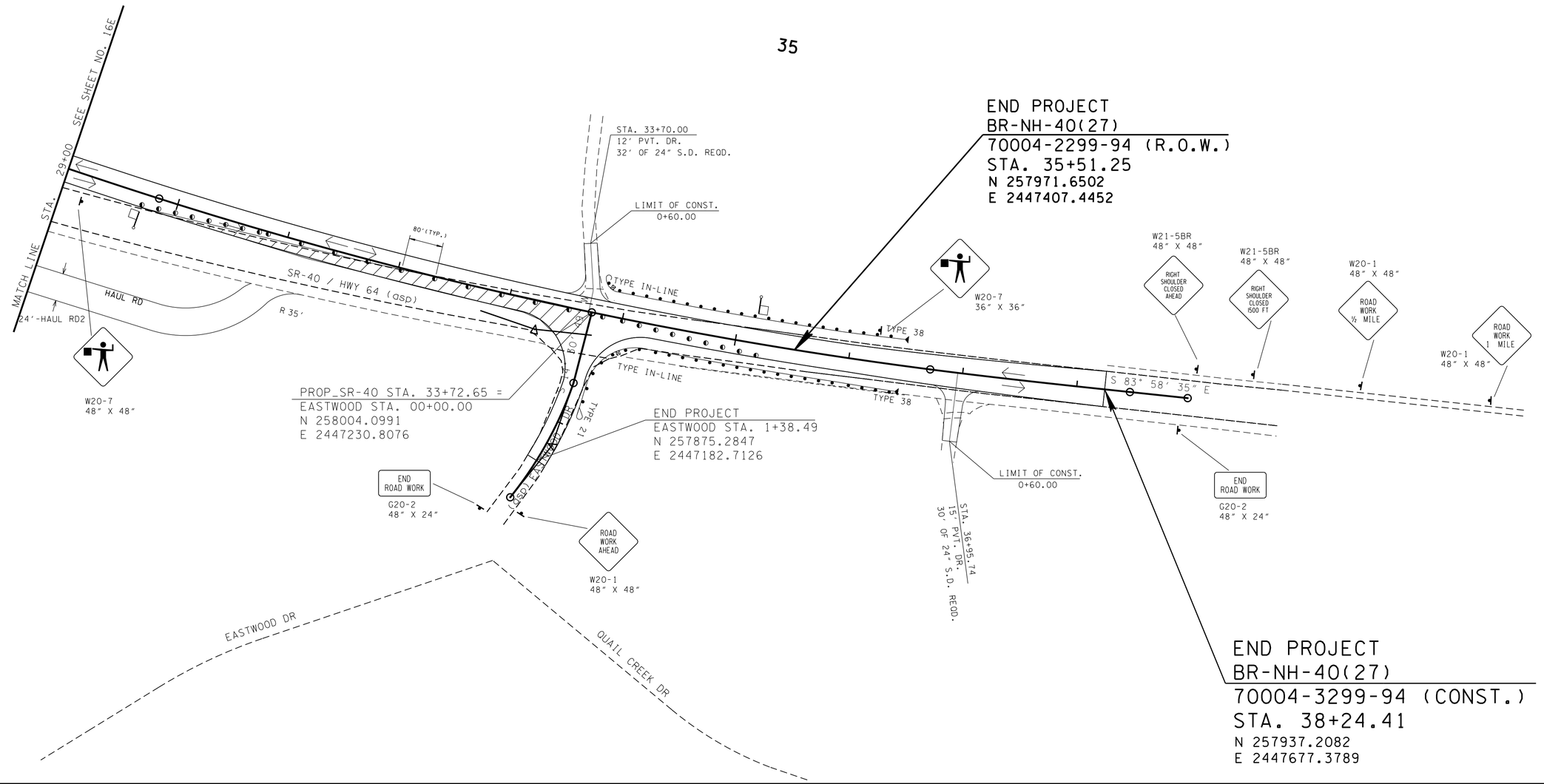
TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
→	TRAFFIC FLOW
	FLAGGER

N

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

30

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TRAFFIC CONTROL PLAN PHASE 2

STA.29+00 TO STA.38+24.41

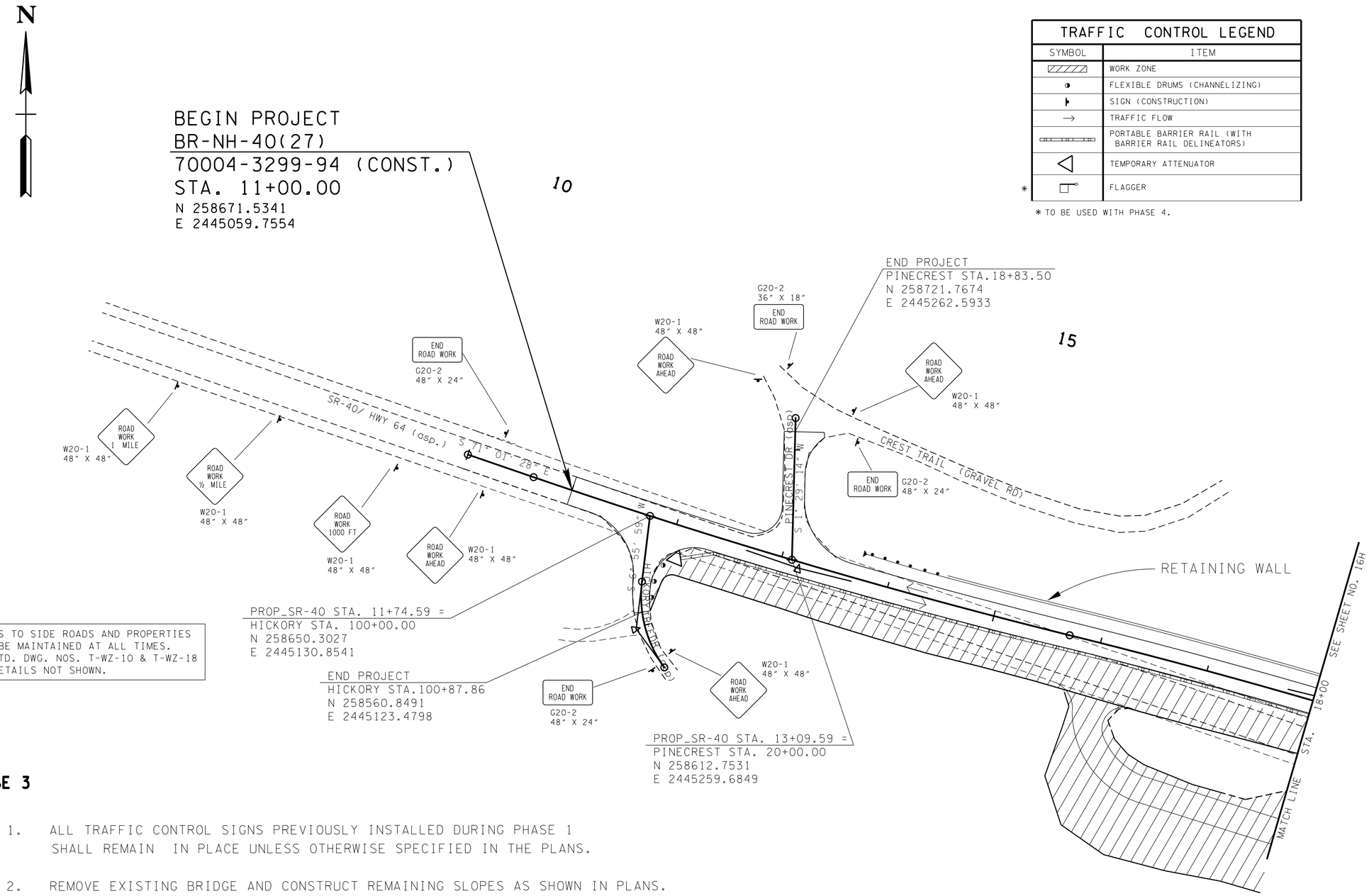
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15D
CONST.	2015	BR-NH-40(27)	16G

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
→	TRAFFIC FLOW
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
	TEMPORARY ATTENUATOR
*	FLAGGER

* TO BE USED WITH PHASE 4.



1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

PHASE 3

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. REMOVE EXISTING BRIDGE AND CONSTRUCT REMAINING SLOPES AS SHOWN IN PLANS.

STEP 3. REMOVE HAUL ROADS AS SHOWN IN PLANS.

PHASE 4

STEP 1. CONSTRUCT REMAINING PARTS OF THE BEGINNING AND ENDING PROJECT WITH ALL SIDE ROADS BY USE OF FLEXIBLE DRUMS TO DELINEATE AND FLAGGERS TO DIRECT TRAFFIC.

STEP 2. ADD FINAL PAVING AND STRIPING.

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY



COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 3

STA. 11+00 TO STA. 18+00

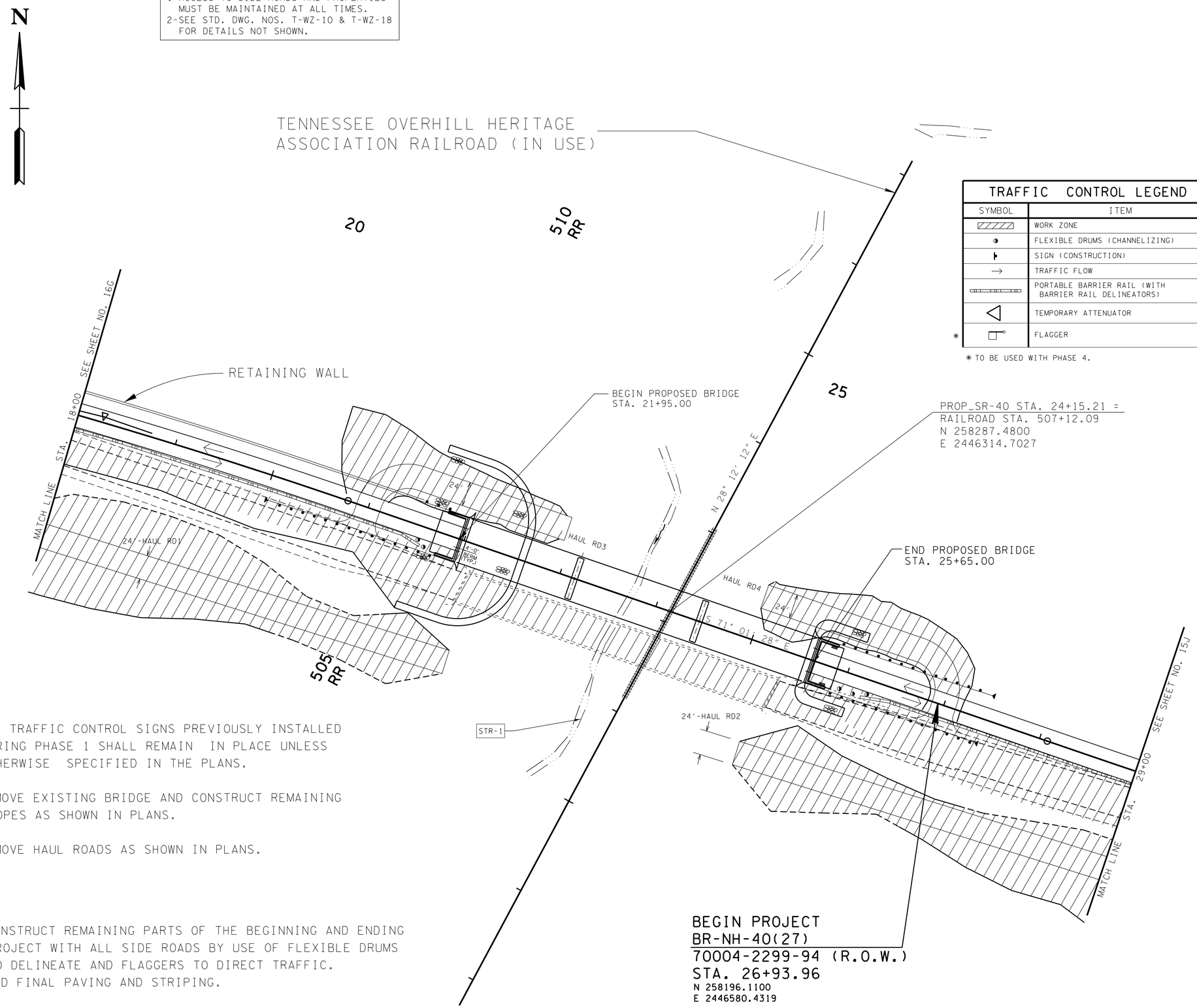
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15E
CONST.	2015	BR-NH-40(27)	16H

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
	TEMPORARY ATTENUATOR
*	FLAGGER

* TO BE USED WITH PHASE 4.

PHASE 3

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. REMOVE EXISTING BRIDGE AND CONSTRUCT REMAINING SLOPES AS SHOWN IN PLANS.

STEP 3. REMOVE HAUL ROADS AS SHOWN IN PLANS.

PHASE 4

STEP 1. CONSTRUCT REMAINING PARTS OF THE BEGINNING AND ENDING PROJECT WITH ALL SIDE ROADS BY USE OF FLEXIBLE DRUMS TO DELINEATE AND FLAGGERS TO DIRECT TRAFFIC.

STEP 2. ADD FINAL PAVING AND STRIPING.

UNOFFICIAL SET

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KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
COMMERCE
NO. 106473
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 3

STA. 18+00 TO STA. 29+00

SCALE: 1"= 50'

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PHASE 3

STEP 1. ALL TRAFFIC CONTROL SIGNS PREVIOUSLY INSTALLED DURING PHASE 1 SHALL REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

STEP 2. REMOVE EXISTING BRIDGE AND CONSTRUCT REMAINING SLOPES AS SHOWN IN PLANS.

STEP 3. REMOVE HAUL ROADS AS SHOWN IN PLANS.

PHASE 4

STEP 1. CONSTRUCT REMAINING PARTS OF THE BEGINNING AND ENDING PROJECT WITH ALL SIDE ROADS BY USE OF FLEXIBLE DRUMS TO DELINEATE AND FLAGGERS TO DIRECT TRAFFIC.

STEP 2. ADD FINAL PAVING AND STRIPING.

30

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	15F
CONST.	2015	BR-NH-40(27)	16J

REV. 11-19-2014: REVISED R.O.W. BEGIN & END STATIONS.

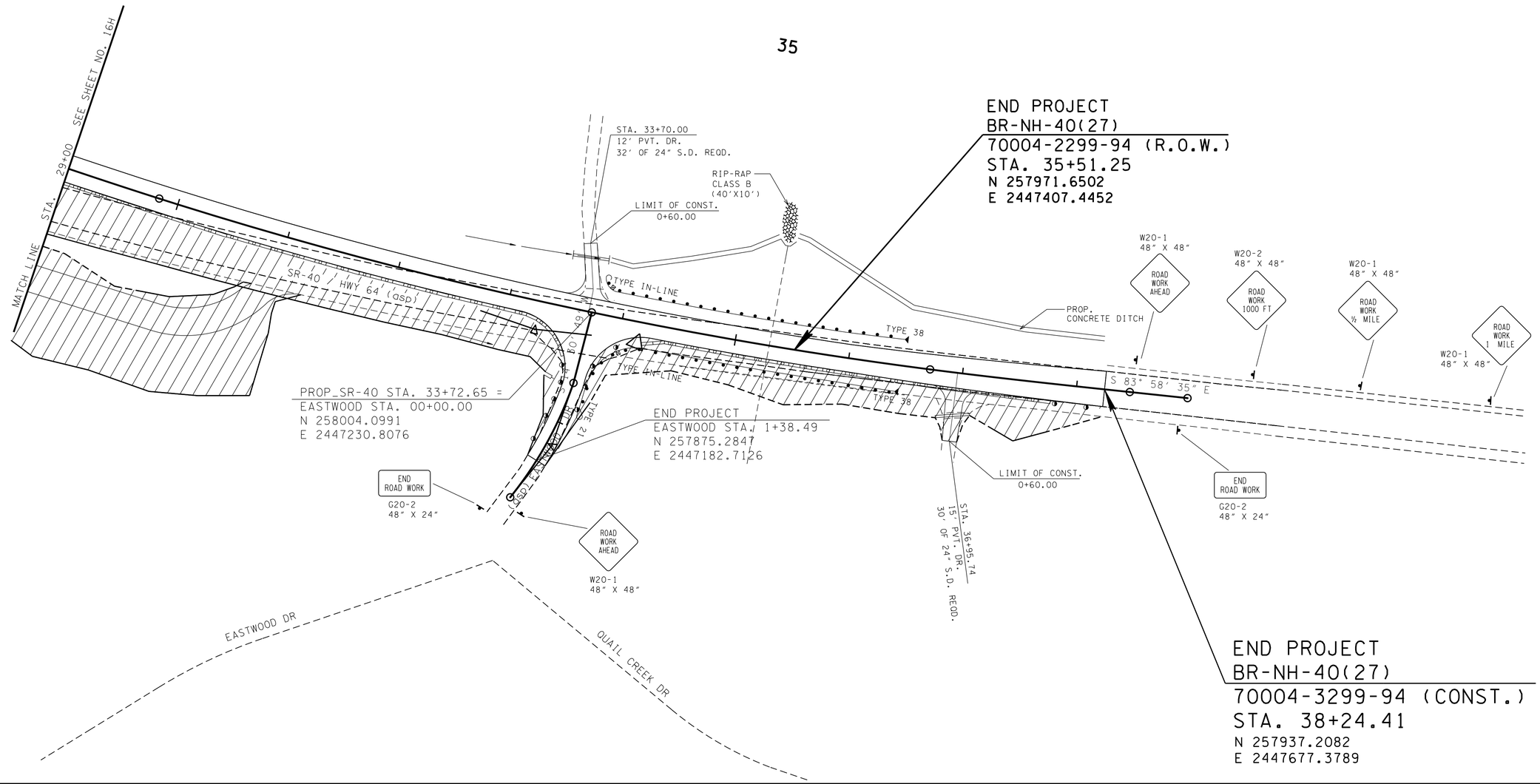
TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
→	TRAFFIC FLOW
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
	TEMPORARY ATTENUATOR
*	FLAGGER

* TO BE USED WITH PHASE 4.

N

1-ACCESS TO SIDE ROADS AND PROPERTIES MUST BE MAINTAINED AT ALL TIMES.
2-SEE STD. DWG. NOS. T-WZ-10 & T-WZ-18 FOR DETAILS NOT SHOWN.

35



END PROJECT
BR-NH-40(27)
70004-2299-94 (R.O.W.)
STA. 35+51.25
N 257971.6502
E 2447407.4452

END PROJECT
BR-NH-40(27)
70004-3299-94 (CONST.)
STA. 38+24.41
N 257937.2082
E 2447677.3789

UNOFFICIAL SET

NOT FOR BIDDING

SEALED BY

KATHERINE J. LLOYD
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COMMERCE
NO. 108423
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00002537 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE 3

STA.29+00 TO STA.38+24.41

SCALE: 1"= 50'

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

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

SIGN NO	LEGEND	SHEET NO	SIZE				COPY				SHIELD	ARROW	SIGN FACE			STEEL DESIGN (BREAK-AWAY)					MINIMUM VERTICAL CLEARANCE	REMARKS
			LENGTH	HEIGHT	RADIUS	BORDER WIDTH	CAPITAL	LOWER CASE	NUMERAL	SERIES			COPY	BACKGROUND	MATERIAL	SUPPORT TYPE	SUPPORT LENGTH	FOOTING	CONC. CU. YD.	REIN STEEL LBS.		
1 2 6	STOP R1-1		36"	36"									WHITE (REF.)	RED (REF.)	0.080" SHEET ALUMINUM	P8	h =12'-6" h =12'-6" h =12'-6"				5'-0"	
4 5	SCHOOL BUS STOP AHEAD S3-2 (MOD.)		36"	36"									BLACK	YELLOW/ GREEN (REF.)	0.100" SHEET ALUMINUM	P8	h =13'-6" h =13'-6"				5'-0"	
7	TRUCK LANE 500 FEET R4-6		36"	48"									BLACK	WHITE (REF.)	0.100" SHEET ALUMINUM	P8	h =13'-6"				5'-0"	
3	CHEROKEE HILLS UNINCORPORATED TN-4		66"	18"									WHITE (REF.)	GREEN (REF.)	0.100" SHEET ALUMINUM	U3	h_1=11'-6" h_2=12'-0"				7'-0"	

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	BR-NH-40(27)	17

UNOFFICIAL SET

NOT FOR BIDDING

U-POST SUBSTITUTION TABLE

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

* PAID AT A RATE OF 2.5#/FT.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGN SCHEDULE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18

GEOTECHNICAL NOTES

1. REFERENCES TO THE GEOTECHNICAL REPORT ARE FOR: "APPROACH REPORT, REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR-40 (US 64), LM 24.85 CITY OF DUCKTOWN, POLK COUNTY, TENNESSEE."
2. TDOT SPECIFIED THAT A RETAINING WALL SHALL BE USED FROM STA 14+50 TO STA 21+50 TO STABILIZE THE CUT. ALL OTHER PERMANENT SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL (2:1).
3. PROOFROLL EXPOSED SUBGRADE AFTER CUTS ARE MADE TO GRADE AND PRIOR TO FILL PLACEMENT. STABILIZE UNSTABLE AREAS OBSERVED DURING PROOFROLLING BY USING GEOTEXTILE FABRIC IN COMBINATION WITH GRADED SOLID ROCK (GSR) FILL. TYPE IV GEO FABRIC SHALL BE PLACED OVER THE UNSTABLE AREA AND COVERED WITH A MINIMUM 60-INCH THICK INTERVAL OF GSR. IN AREAS WHERE LESS THAN 5 FEET OF FILL IS REQUIRED, UNDERCUTTING TO A DEPTH THAT ALLOWS FOR PLACEMENT OF A 60-INCH THICK LAYER OF GSR FILL. WHERE SUBGRADE STABILITY IS REQUIRED, EXTEND THE GEOTEXTILE AND GSR TREATMENT AT LEAST FIVE FEET BEYOND THE LIMITS OF THE UNSTABLE SOIL. OVERLAP THE GEOTEXTILE IN ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS OR A MINIMUM OF 24 INCHES IN THE DIRECTION OF FILL PLACEMENT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE EXCAVATION IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE STATE AND LOCAL REGULATIONS REGARDING CONSTRUCTION SLOPES AND TRENCHES. IN ADDITION TO FOLLOWING APPLICABLE REGULATORY REQUIREMENTS, AS A MINIMUM REQUIREMENT, ALL TEMPORARY CONSTRUCTION SLOPES SHALL BE PLACED AT A MAXIMUM OF A 1:1 SLOPE IN SOIL AND SHALL NOT BE LEFT OPEN WITHOUT SHORING FOR ANY LONGER THAN NECESSARY. THE CONTRACTOR BUILDING THE WALL SHALL ENSURE THAT THESE TEMPORARY BACK SLOPES ARE NOT UNSTABLE AND DO NOT BECOME UNSTABLE. IF SLOPE IS UNSTABLE, BECOMES UNSTABLE, CUT STEEPER THAN A 1:1 SLOPE OR IS UNACCEPTABLE FOR ANOTHER REASON, THEN TEMPORARY SHORING SHALL BE USED. REPORT ANY UNUSUAL SOIL CONDITIONS, OTHER THAN THOSE ASSUMED, TO THE PROJECT ENGINEER.

SOIL DESCRIPTIONS

(A) — SOIL MATERIAL

SOIL MATERIAL IS PREDOMINANTLY MADE UP OF NATURALLY OCCURRING MINERAL PARTICLES WHICH ARE FAIRLY READILY SEPARATED INTO RELATIVELY SMALL PIECES, AND IN WHICH THE MASS MAY CONTAIN AIR, OR ORGANIC MATERIALS. THIS MATERIAL MAY CONTAIN ROCK PIECES IN THE FORM OF DISCONNECTED SLABS, LENSES, OR BOULDERS OF LESS THAN APPROXIMATELY 0.5 CUBIC YARDS. THE MAIN SOIL GROUPS CONSIST OF CLAY, SILT, SAND, GRAVEL, COBBLES, BOULDERS (LESS THAN 0.5 CUBIC YARD VOLUME) OR A COMBINATION OF ANY OF THE CONSTITUENTS. FOR CONSTRUCTION PURPOSES, THIS MATERIAL WOULD TYPICALLY BE CONSIDERED TO BE EXCAVATABLE BY CONVENTIONAL EXCAVATION MACHINERY SUCH AS PANS, TRACK HOES, OR FRONT END EXCAVATORS/LOADERS. THIS MATERIAL WOULD HAVE A SHRINK FACTOR AS GIVEN IN THE SHRINK FACTORS SHOWN IN SECTION 2-145.10 OF THE DESIGN GUIDELINES OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEERING SECTION OF THE MATERIALS AND TEST DIVISION.

(B) — SOLID ROCK MATERIAL

SOLID ROCK MATERIAL IS NATURALLY OCCURRING MATERIAL COMPOSED OF MINERAL PARTICLES SO FIRMLY BONDED TOGETHER THAT RELATIVELY GREAT EFFORT IS REQUIRED TO SEPARATE THE PARTICLES (I.E. BLASTING OR HEAVY CRUSHING FORCES). FOR CONSTRUCTION PURPOSES, THIS MATERIAL WOULD TYPICALLY HAVE TO BE BLASTED TO SEPARATE INTO PIECES SMALL ENOUGH TO LOAD AND TRANSPORT ON EARTH MOVING TRUCKS AND WHICH WHEN SUBJECTED TO PROPER PRE-SPLIT AND PRODUCTION BLASTING WOULD RESULT IN A UNIFORM STABLE ROCKCUT FACE. NOTE THAT THIS MATERIAL WOULD NOT BY DEFINITION NECESSARILY BE A PROVEN SOURCE OF ANY ROCK TYPE AGGREGATE SUCH AS SOLID ROCK, GRADED SOLID ROCK, RIP RAP, OR OTHER ROCK AGGREGATE CONSTRUCTION PRODUCTS. THIS MATERIAL WOULD HAVE A SIGNIFICANT SWELL FACTOR AS GIVEN IN SWELL FACTORS SHOWN IN SECTION 2-145.10 OF THE DESIGN GUIDELINES OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEERING SECTION OF THE MATERIALS AND TEST DIVISION.

(C) — SOFT ROCK OR DEGRADABLE ROCK

THIS MATERIAL IS NATURALLY OCCURRING MATERIAL COMPOSED OF MINERAL PARTICLES THAT ARE SO FIRMLY BONDED SUCH THAT THEY ARE NOT FAIRLY READILY SEPARATED INTO SMALL PIECES YET HAS SUCH RELATIVELY LOW BONDING STRENGTH THAT WOULD ALLOW FOR SEPARATING INTO SMALL PIECES THROUGH MODERATE TO HEAVY CRUSHING FORCES. FOR CONSTRUCTION PUPOSES, THIS MATERIAL WOULD HAVE TO BE SUBJECTED TO RIPPING TYPE EQUIPMENT, HOE RAMS, OR RUGGED USE OF A LARGE BULLDOZER IN ORDER TO SEPARATE THE MATERIAL SUCH THAT IT CAN BE READILY LOADED INTO EARTH MOVING TRUCKS. THESE MATERIALS WOULD TYPICALLY BE SHALES, CLAYSTONES, SILTSTONES, WEATHERED SANDSTONES, WEATHERED SCHIST AND WEATHERED GNEISS. THIS MATERIAL WOULD HAVE A RELATIVELY SMALL SHRINK OR SWELL FACTOR DEPENDING ON THE TYPE OF MATERIAL AND THE DEGREE OF WEATHERING, DISINTEGRATION, OR DEGRADATION.

(D) — TRANSITIONAL MATERIAL

THIS MATERIAL IS COMPRISED OF A COMBINATION OF SOIL AND ROCK (MATERIAL A, B, AND C AS DEFINED IN SECTION 4-230.02 OF THE TDOT ROADWAY DESIGN GUIDELINES) OCCURRING IN EITHER NON-UNIFORM INTERBEDDED LAYERS OF THE ABOVE MATERIALS (I.E. SHALE MATERIAL WITH REALTIVELY THIN LAYERS OF SOLID ROCK SUCH AS HARD LIMESTONE) OR ERRATIC LOCALIZED CHANGES OF MATERIAL TYPES BOTH LATERALLY AND WITH DEPTH (SUCH AS A GEOLOGIC FORMATION RESULTING IN PINNACLED ROCK COLUMNS, FLOATING BOULDERS OR LENSES INTERCALATED WITH CLAY SOIL, A COMMON OCCURRENCE IN CERTAIN REGIONS OF TENNESSEE). FOR CONSTRUCTION PURPOSES, THIS MATERIAL MAY HAVE TO BE EXCAVATED USING A COMBINATION OF EXCAVATION METHODS SUCH AS BLASTING OF ROCK PINNACLES, LAYERS OF BOULDERS ALONG WITH RIPPING OF WEATHERED ROCK AND EXCAVATING OF SOIL WITH TRACK HOES OR LOADERS ALL WITHIN A LOCALIZED AREA. THIS MATERIAL WOULD NOT BE SUITABLE FOR THE USE OF EXCAVATING PAN TYPE EQUIPMENT.

GEOTECHNICAL DRAWING LEGEND

PLAN SYMBOLS

- B-84 (0.7) — BORING LOCATION AND NUMBER WITH DRILL DEPTH (NO REFUSAL)
- B-84 (0.7) — BORING LOCATION AND NUMBER WITH DRILL DEPTH (REFUSED)
- B-84 (0.7 / 10.0) — BORING LOCATION AND NUMBER WITH DEPTH TO REFUSAL (ABOVE LINE) AND BOTTOM OF HOLE DEPTH (BELOW LINE)

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL
- APR — ACID PRODUCING ROCK
- NON — NON-ACID PRODUCING ROCK
- P-APR — POTENTIAL ACID PRODUCING ROCK

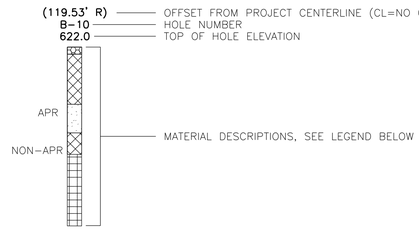
MATERIAL DESCRIPTION PATTERNS

- TOPSOIL
- CLAYEY SOIL
- SILTY SOIL
- SANDY SOIL
- SHOT ROCK
- WEATHERED ROCK (SANDSTONE)
- INTERBEDDED SANDSTONE/SHALE/LIMESTONE
- WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- WEATHERED ROCK (SHALE)
- INTERBEDDED SANDSTONE/SHALE/LIMESTONE/QUARTZITE
- SANDSTONE CONGLOMERATE WITH SHALE/LIMESTONE
- INTERBEDDED SANDSTONE/LIMESTONE
- SOIL FILLED CAVITY
- WEATHERED ROCK INTERBEDDED SANDSTONE/LIMESTONE
- INTERBEDDED SANDSTONE/SHALE
- SANDSTONE, MICACEOUS

PROFILE LINES

- PROPOSED GROUND LINE AT PROJECT CENTERLINE
- EXISTING GROUND LINE AT PROJECT CENTERLINE
- ESTIMATED TOP OF SOUND BEDROCK
- UNKNOWN TOP OF SOUND ROCK
- ESTIMATED TOP OF ROCK
- UNKNOWN TOP OF ROCK

BORING PROFILES



GENERAL NOTES (GEOTECHNICAL):

1. ROADWAY ALIGNMENT BASED ON DATA PROVIDED BY TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) ON JUNE 7, 2013.
2. GROUNDLINE PROFILES BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
3. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
4. APPROACH AND BRIDGE REPORTS OF GEOTECHNICAL ENGINEERING STUDY FOR PROPOSED REALIGNMENT AND AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
5. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
6. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.



UNOFFICIAL SET

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

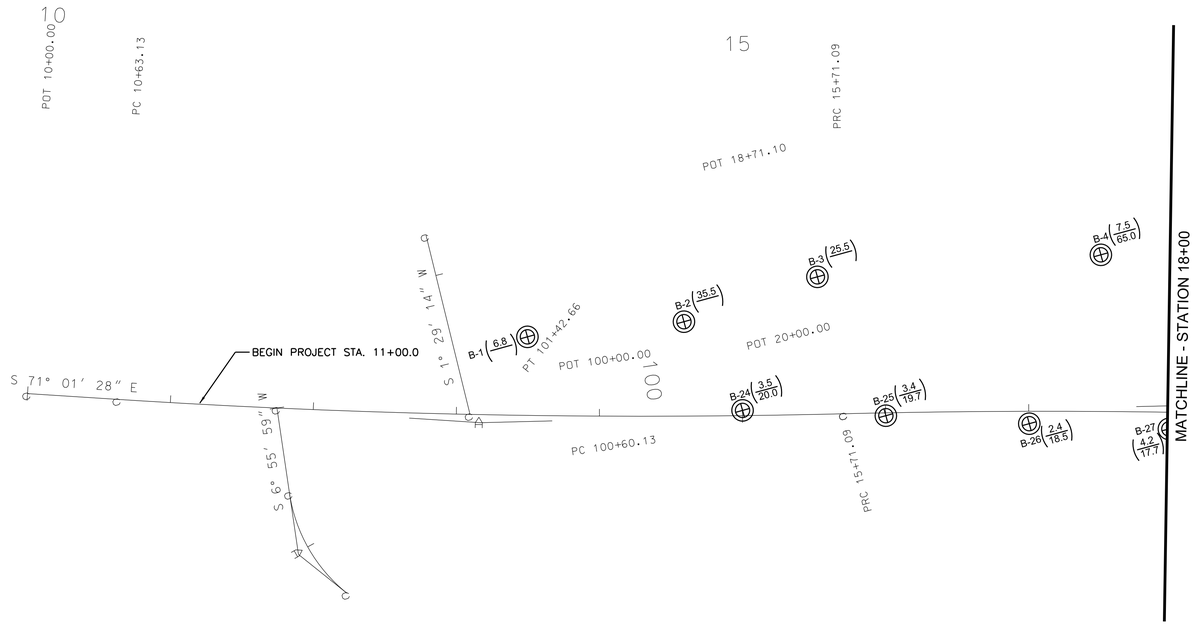
SR 40
BRIDGE OVER BRANCH AND RAILROAD

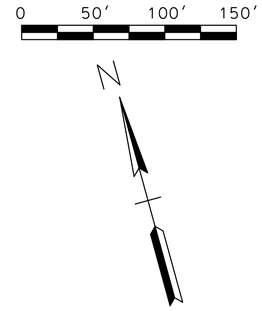
GEOTECHNICAL NOTES

GEOTECHNICAL STUDY

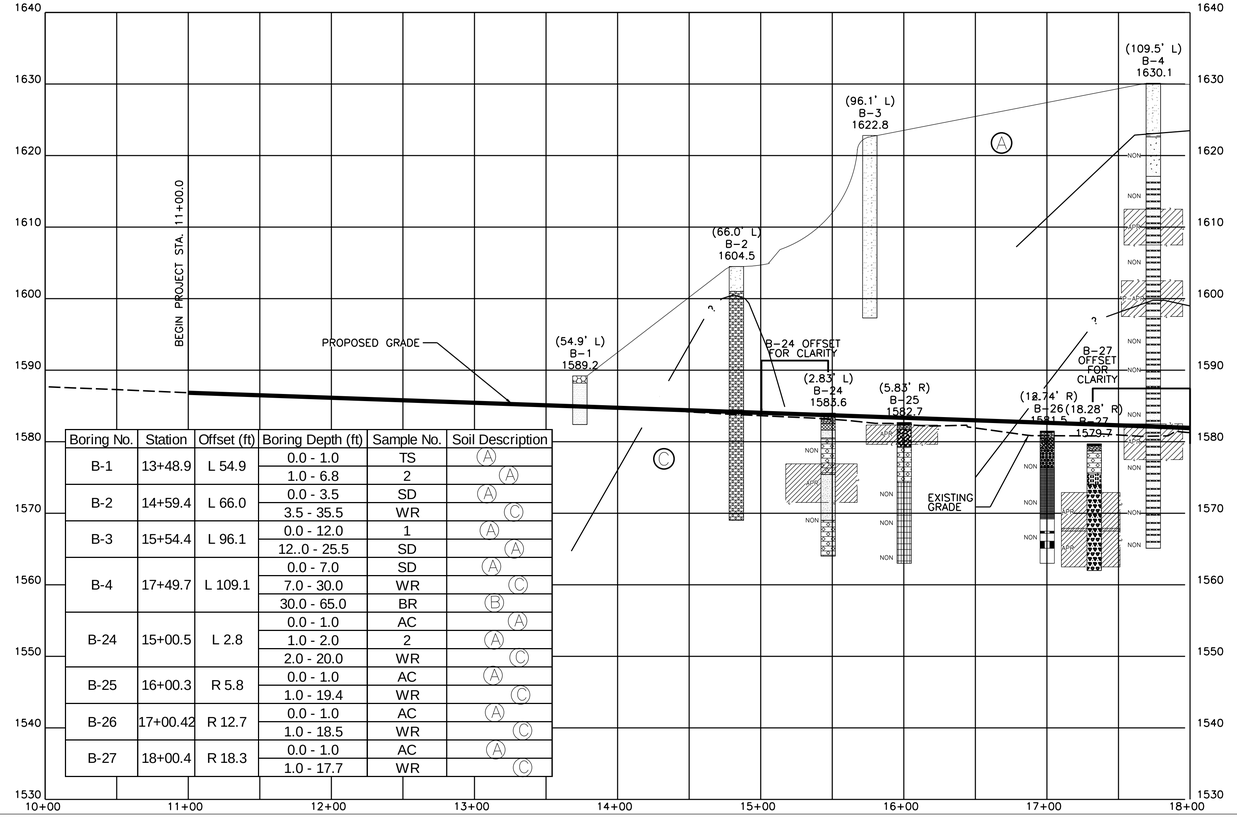
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18A





Sample No.	Sample Location	Sample Description	Sample Natural Moisture Content (%)	Proctor				Atterberg Limits			Classification	
				Maximum Dry Density	Optimum Moisture	Moisture Range	CBR Value	LL	PL	PI	AASHTO	USCS
1	B-3	Silt, sandy, light brown	13.9	116.1	14.0	12.0 to 16.0	4.3	30	24	6	A-4(2)	ML
2	B-22	Silt, sandy, reddish-brown	27.8	103	21.0	19.0 yo 23.0	4.9	43	31	12	A-7-5(9)	ML
AC	AC	Asphalt & Base (Fill)	-	-	-	-	-	-	-	-	-	-



Boring No.	Station	Offset (ft)	Boring Depth (ft)	Sample No.	Soil Description
B-1	13+48.9	L 54.9	0.0 - 1.0	TS	A
			1.0 - 6.8	2	A
B-2	14+59.4	L 66.0	0.0 - 3.5	SD	A
			3.5 - 35.5	WR	C
B-3	15+54.4	L 96.1	0.0 - 12.0	1	A
			12..0 - 25.5	SD	A
B-4	17+49.7	L 109.1	0.0 - 7.0	SD	A
			7.0 - 30.0	WR	C
			30.0 - 65.0	BR	B
B-24	15+00.5	L 2.8	0.0 - 1.0	AC	A
			1.0 - 2.0	2	A
			2.0 - 20.0	WR	C
B-25	16+00.3	R 5.8	0.0 - 1.0	AC	A
			1.0 - 19.4	WR	C
B-26	17+00.42	R 12.7	0.0 - 1.0	AC	A
			1.0 - 18.5	WR	C
B-27	18+00.4	R 18.3	0.0 - 1.0	AC	A
			1.0 - 17.7	WR	C

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL
- APR — ACID PRODUCING ROCK
- NON — NON-ACID PRODUCING ROCK
- P-APR — POTENTIAL ACID PRODUCING ROCK
- APR AND P-APR ZONES
- ——·——? — TOP OF ROCK
- ——?——?— TOP OF SOUND ROCK

MATERIAL DESCRIPTION PATTERNS

- TOPSOIL
- SILTY SOIL
- SANDY SOIL
- WEATHERED ROCK (SANDSTONE)
- INTERBEDDED SANDSTONE/SHALE/ LIMESTONE
- WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- WEATHERED ROCK (SHALE)
- INTERBEDDED SANDSTONE/SHALE/ LIMESTONE/QUARTZITE

UNOFFICIAL SET

NOT FOR BIDDING

GENERAL NOTES (GEOTECHNICAL):

1. ROADWAY ALIGNMENT BASED ON DATA PROVIDED BY TTDOT ON AND JUNE 7, 2013.
2. GROUNDLINE PROFILES BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
3. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
4. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
5. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
6. SEE SHEET 18 FOR GEOTECH LEGEND.

PROFILE

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



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

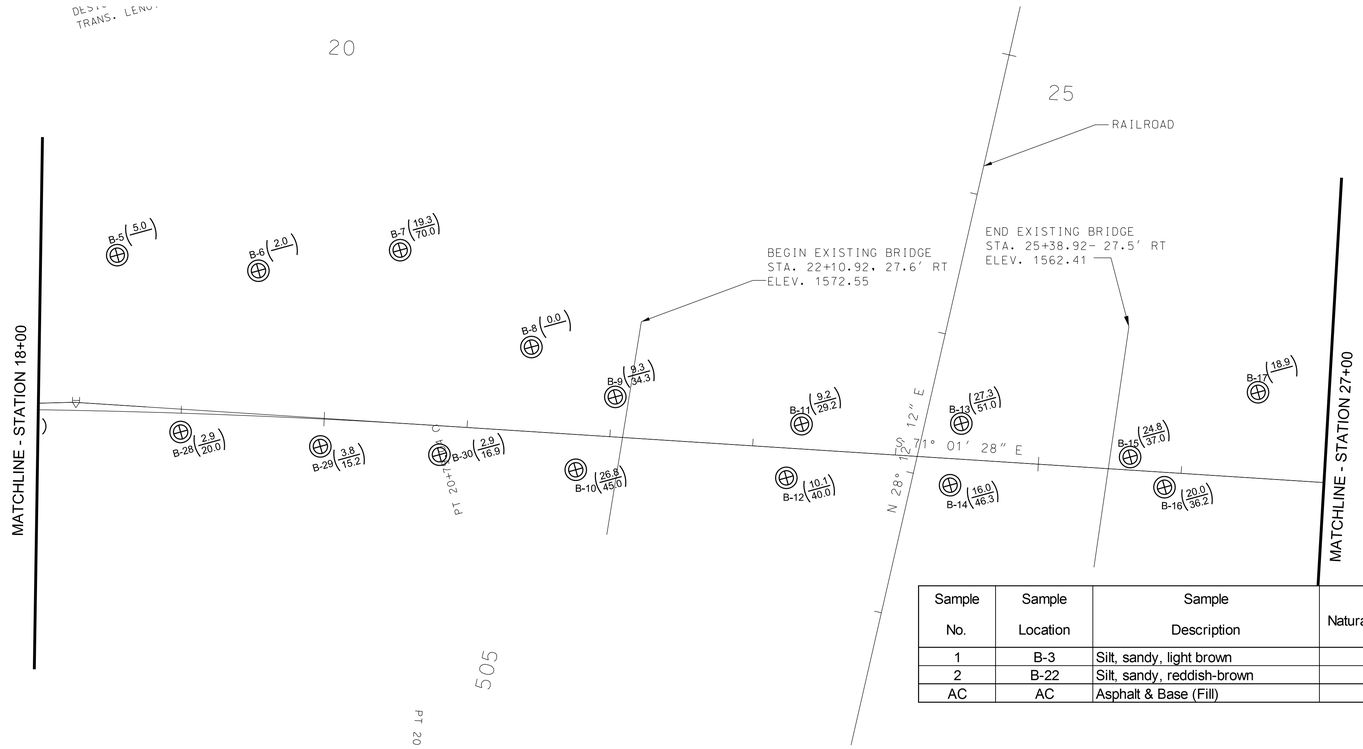
SR 40
BRIDGE OVER BRANCH AND RAILROAD

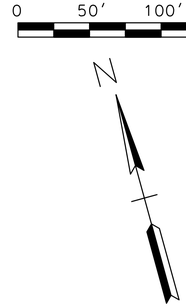
PLAN AND PROFILE

STA. 10+00 TO STA. 18+00

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18B



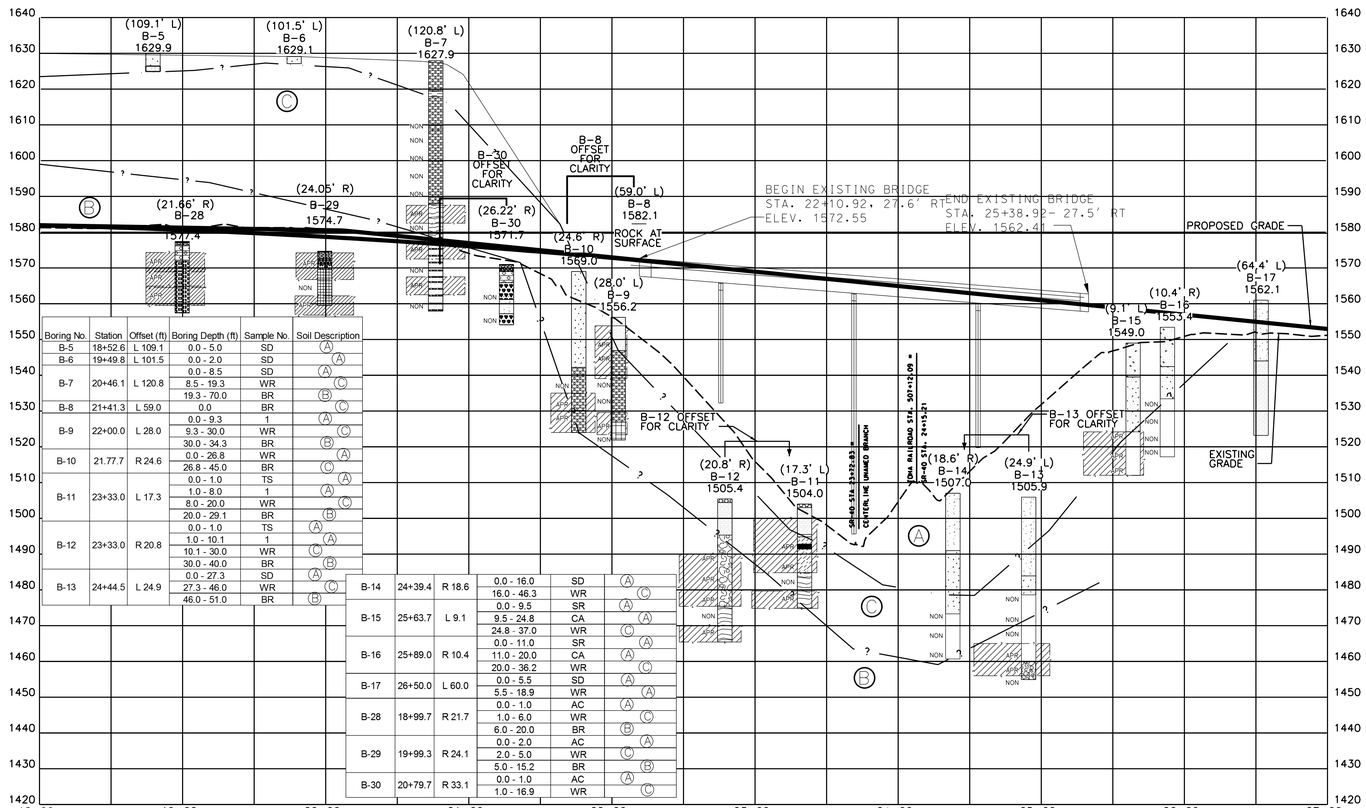


0 50' 100' 150'

UNOFFICIAL SET

NOT FOR BIDDING

Sample No.	Sample Location	Sample Description	Sample Natural Moisture Content (%)	Proctor				Atterberg Limits			Classification	
				Maximum Dry Density	Optimum Moisture	Moisture Range	CBR Value	LL	PL	PI	AASHTO	USCS
1	B-3	Silt, sandy, light brown	13.9	116.1	14.0	12.0 to 16.0	4.3	30	24	6	A-4(2)	ML
2	B-22	Silt, sandy, reddish-brown	27.8	103	21.0	19.0 yo 23.0	4.9	43	31	12	A-7-5(9)	ML
AC	AC	Asphalt & Base (Fill)	-	-	-	-	-	-	-	-	-	-



Boring No.	Station	Offset (ft)	Boring Depth (ft)	Sample No.	Soil Description
B-5	18+52.6	L 109.1	0.0 - 5.0	SD	(A)
B-6	19+49.8	L 101.5	0.0 - 2.0	SD	(A)
B-7	20+46.1	L 120.8	0.0 - 8.5	SD	(A)
			8.5 - 19.3	WR	(C)
			19.3 - 70.0	BR	(B) (C)
B-8	21+41.3	L 59.0	0.0	BR	(A)
B-9	22+00.0	L 28.0	0.0 - 9.3	1	(A)
			9.3 - 30.0	WR	(C)
			30.0 - 34.3	BR	(B)
B-10	21.77.7	R 24.6	0.0 - 26.8	WR	(A) (C)
			26.8 - 45.0	BR	
B-11	23+33.0	L 17.3	0.0 - 1.0	TS	(A)
			1.0 - 8.0	1	(A) (C)
			8.0 - 20.0	WR	
			20.0 - 29.1	BR	(B)
B-12	23+33.0	R 20.8	0.0 - 1.0	TS	(A)
			1.0 - 10.1	1	(A)
			10.1 - 30.0	WR	(C)
			30.0 - 40.0	BR	(B)
B-13	24+44.5	L 24.9	0.0 - 27.3	SD	(A) (C)
			27.3 - 46.0	WR	
			46.0 - 51.0	BR	(B)
B-14	24+39.4	R 18.6	0.0 - 16.0	SD	(A)
			16.0 - 46.3	WR	(C)
B-15	25+63.7	L 9.1	0.0 - 9.5	SR	(A)
			9.5 - 24.8	CA	(A)
			24.8 - 37.0	WR	(C)
B-16	25+89.0	R 10.4	0.0 - 11.0	SR	(A)
			11.0 - 20.0	CA	(A)
			20.0 - 36.2	WR	(C)
B-17	26+50.0	L 60.0	0.0 - 5.5	SD	(A)
			5.5 - 18.9	WR	(A)
B-28	18+99.7	R 21.7	0.0 - 1.0	AC	(A)
			1.0 - 6.0	WR	(C)
			6.0 - 20.0	BR	(B)
B-29	19+99.3	R 24.1	0.0 - 2.0	AC	(A)
			2.0 - 5.0	WR	(C)
			5.0 - 15.2	BR	(B)
B-30	20+79.7	R 33.1	0.0 - 1.0	AC	(A)
			1.0 - 16.9	WR	(C)

GENERAL NOTES (GEOTECHNICAL):

1. ROADWAY ALIGNMENT BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
2. GROUNDLINE PROFILES BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
3. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
4. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
5. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
6. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

— · · — ? — TOP OF ROCK

— ? — ? — TOP OF SOUND ROCK

MATERIAL DESCRIPTION PATTERNS

- TOPSOIL
- SILTY SOIL
- SANDY SOIL
- SHOT ROCK
- WEATHERED ROCK (SANDSTONE)
- WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- SANDSTONE CONGLOMERATE WITH SHALE/LIMESTONE
- INTERBEDDED SANDSTONE/LIMESTONE
- SOIL FILLED CAVITY
- WEATHERED ROCK INTERBEDDED SANDSTONE/LIMESTONE
- INTERBEDDED SANDSTONE/SHALE
- SANDSTONE, MICACEOUS

DAVID A. LATE — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — NO. 99324 — STATE OF TENNESSEE

12/3/2015

PROFILE

SCALE: 1"=50' HORIZ.
1"=25' VERT.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

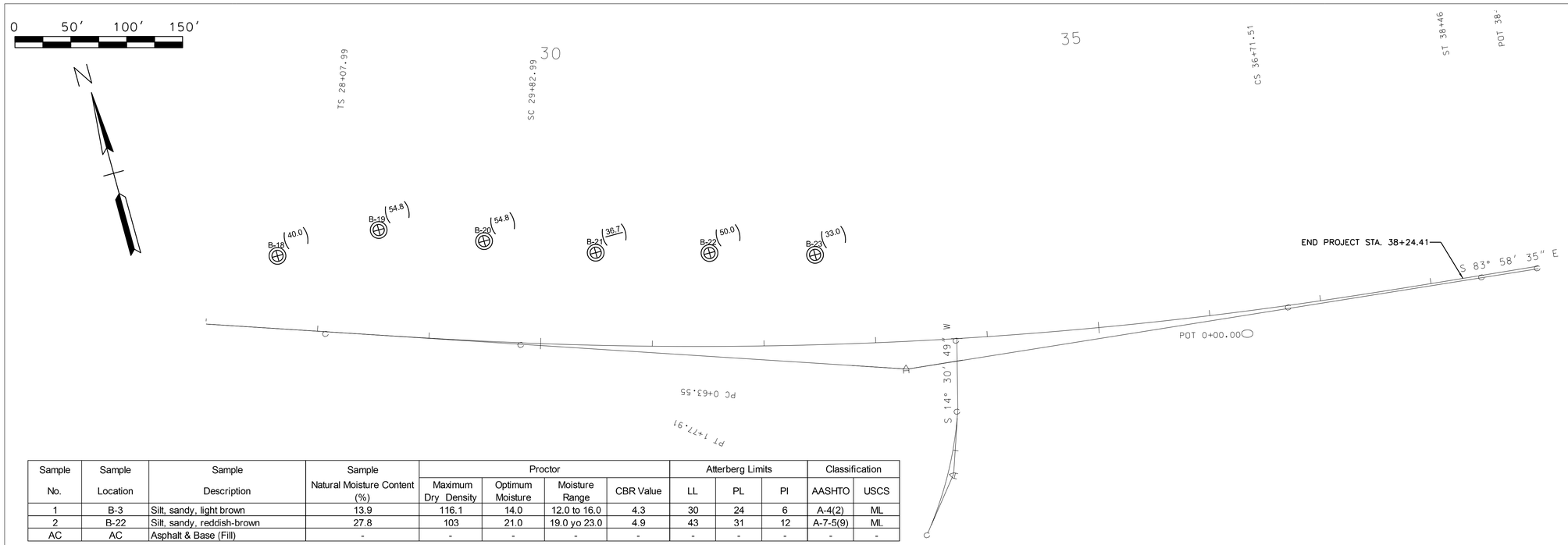
SR 40
BRIDGE OVER BRANCH AND RAILROAD

PLAN AND PROFILE

STA. 18+00 TO STA. 27+00

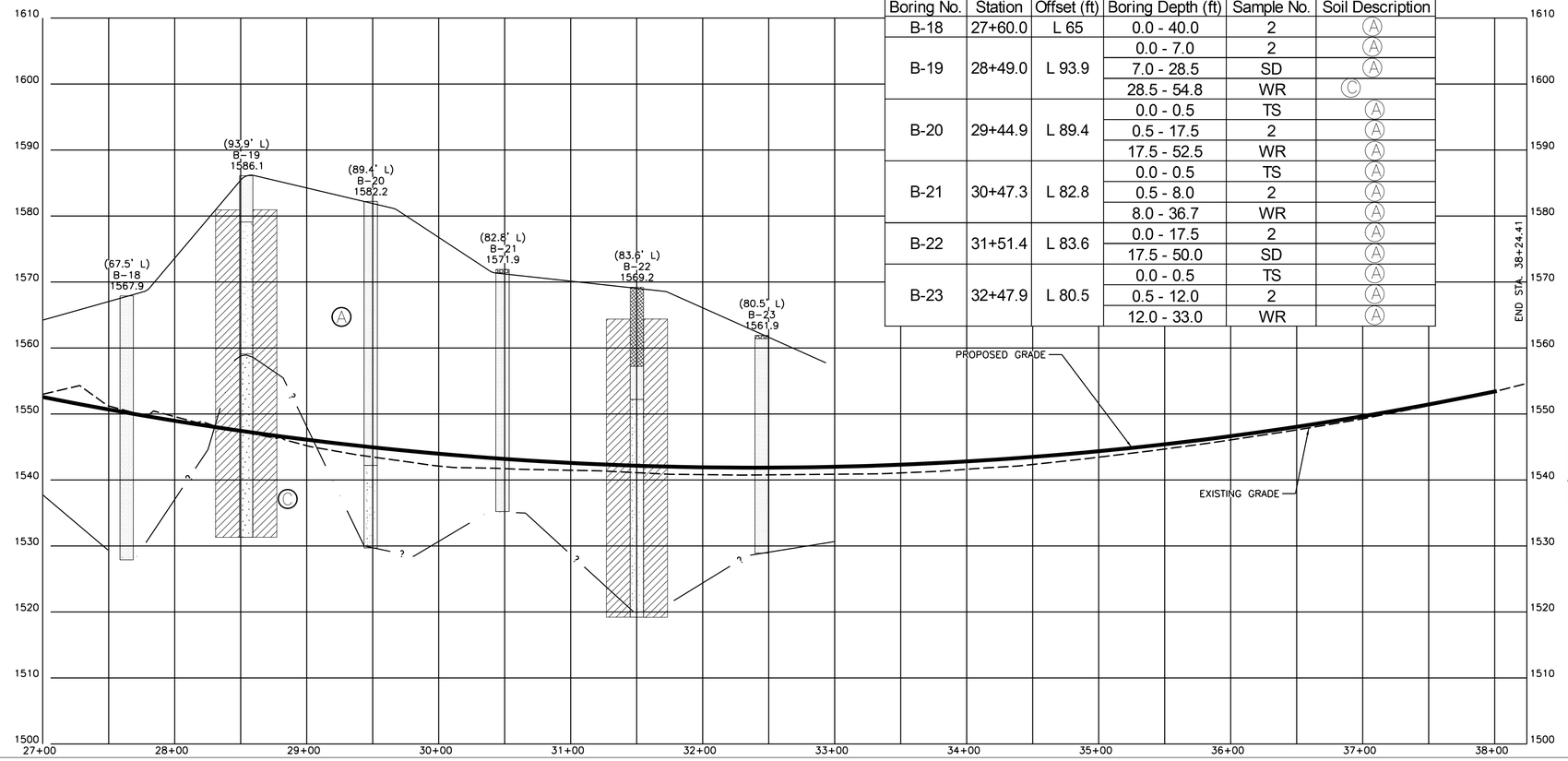
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18C



Sample No.	Sample Location	Sample Description	Sample Natural Moisture Content (%)	Proctor				Atterberg Limits			Classification	
				Maximum Dry Density	Optimum Moisture	Moisture Range	CBR Value	LL	PL	PI	AASHTO	USCS
1	B-3	Silt, sandy, light brown	13.9	116.1	14.0	12.0 to 16.0	4.3	30	24	6	A-4(2)	ML
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AC	AC	Asphalt & Base (Fill)	-	-	-	-	-	-	-	-	-	-

Boring No.	Station	Offset (ft)	Boring Depth (ft)	Sample No.	Soil Description
B-18	27+60.0	L 65	0.0 - 40.0	2	A
B-19	28+49.0	L 93.9	0.0 - 7.0	2	A
			7.0 - 28.5	SD	A
			28.5 - 54.8	WR	C
B-20	29+44.9	L 89.4	0.0 - 0.5	TS	A
			0.5 - 17.5	2	A
			17.5 - 52.5	WR	A
B-21	30+47.3	L 82.8	0.0 - 0.5	TS	A
			0.5 - 8.0	2	A
			8.0 - 36.7	WR	A
B-22	31+51.4	L 83.6	0.0 - 17.5	2	A
			17.5 - 50.0	SD	A
B-23	32+47.9	L 80.5	0.0 - 0.5	TS	A
			0.5 - 12.0	2	A
			12.0 - 33.0	WR	A



UNOFFICIAL SET

NOT FOR BIDDING

GENERAL NOTES (GEOTECHNICAL):

1. ROADWAY ALIGNMENT BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
2. GROUNDLINE PROFILES BASED ON DATA PROVIDED BY TDOT ON JUNE 7, 2013.
3. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
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5. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
6. SEE SHEET 18 FOR GEOTECH LEGEND.



SOIL DESCRIPTIONS

- A — SOIL MATERIAL
- B — SOLID ROCK MATERIAL
- C — SOFT ROCK OR DEGRADABLE ROCK
- D —
- —·—·— ? — TOP OF ROCK
- APR — ACID PRODUCING ROCK
- NON — NON-ACID PRODUCING ROCK
- P-APR — POTENTIAL ACID PRODUCING ROCK
- APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- TOPSOIL
- CLAYEY SOIL
- SILTY SOIL
- SANDY SOIL
- WEATHERED ROCK (SANDSTONE)

PROFILE

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

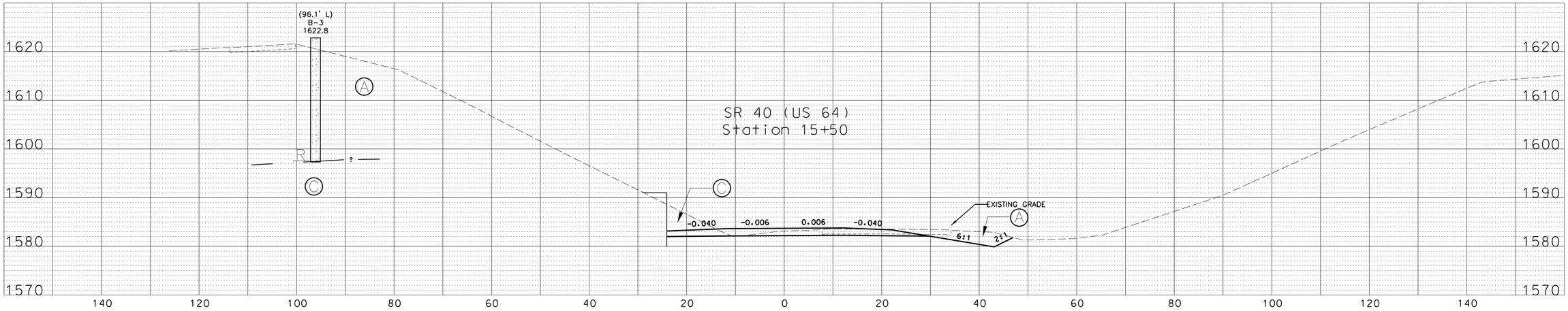
SR 40
BRIDGE OVER BRANCH AND RAILROAD

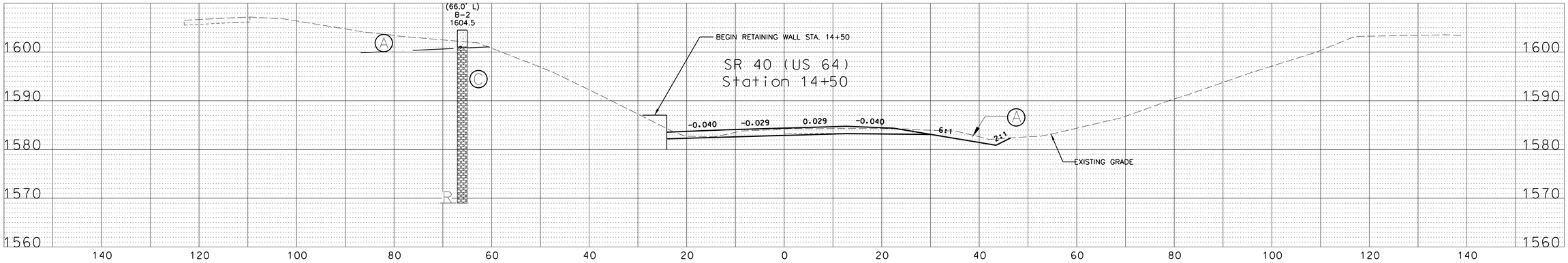
PLAN AND PROFILE

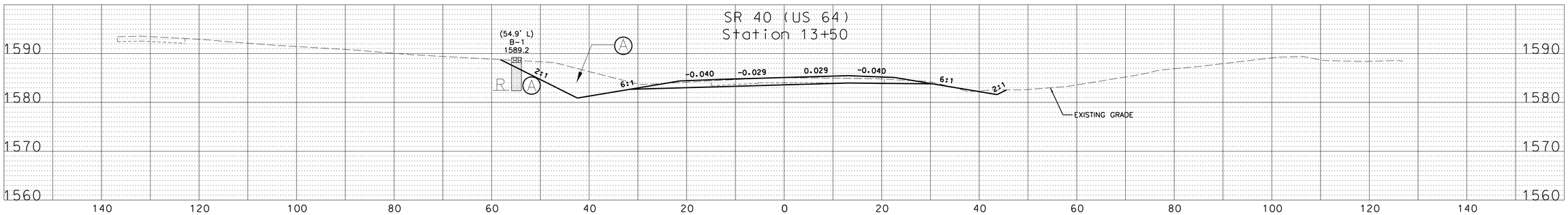
STA. 27+00 TO STA. 38+24.41

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18D







GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

MATERIAL DESCRIPTION PATTERNS

- — TOPSOIL
- — SILTY SOIL
- — SANDY SOIL
- — WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE

? — TOP OF ROCK

R — REFUSAL

UNOFFICIAL SET

NOT FOR BIDDING

DOUGLAS E. LATE
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 20324
STATE OF TENNESSEE
12/9/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

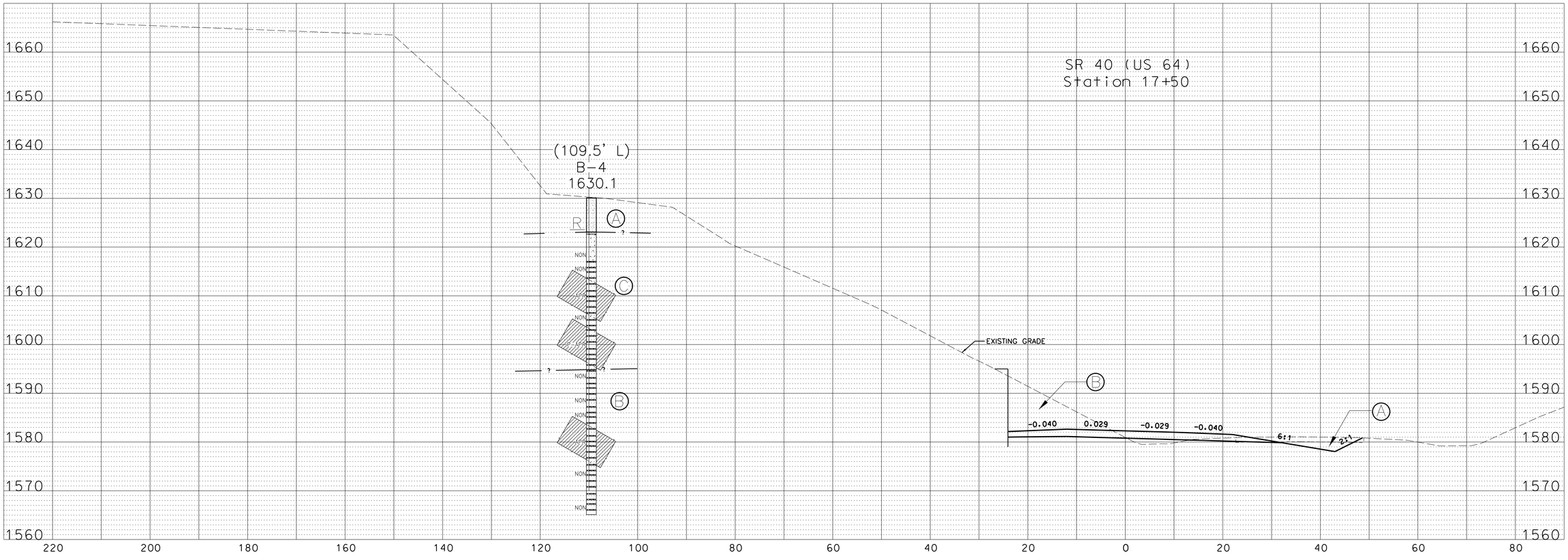
TYPICAL CROSS SECTIONS

STA. 13+50 – STA. 15+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	**18E**



UNOFFICIAL SET

NOT FOR BIDDING

GENERAL NOTES (GEOTECHNICAL):

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3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — SANDY SOIL
- — WEATHERED ROCK (SANDSTONE)
- — INTERBEDDED SANDSTONE/SHALE/ LIMESTONE
- — WEATHERED ROCK (SHALE)

R — REFUSAL

— ? — TOP OF ROCK

— ? — ? — TOP OF SOUND ROCK

DONALD G. KEE — STATE OF TENNESSEE — REGISTERED ENGINEER — AGRICULTURE — No. 26324 — 12/31/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

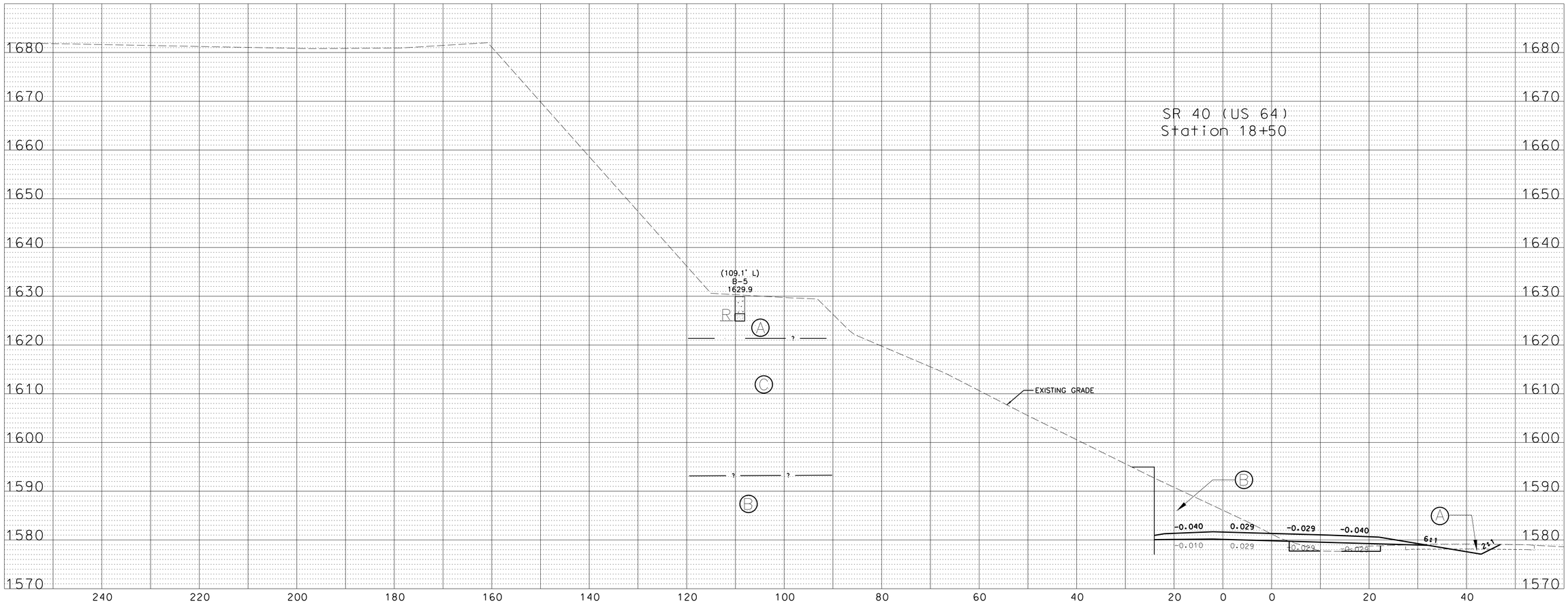
TYPICAL CROSS SECTIONS

STA. 17+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18F



GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
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3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

MATERIAL DESCRIPTION PATTERNS

- — SANDY SOIL
- — WEATHERED ROCK (SANDSTONE)
- R — REFUSAL
- ——— ? ——— — TOP OF ROCK
- ——— ? ——— ? ——— — TOP OF SOUND ROCK

UNOFFICIAL SET

NOT FOR BIDDING

DONALD S. [illegible]
REGISTERED ENGINEER
AGRICULTURE
ADMIN
NO. 20251
STATE OF TENNESSEE
12/3/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

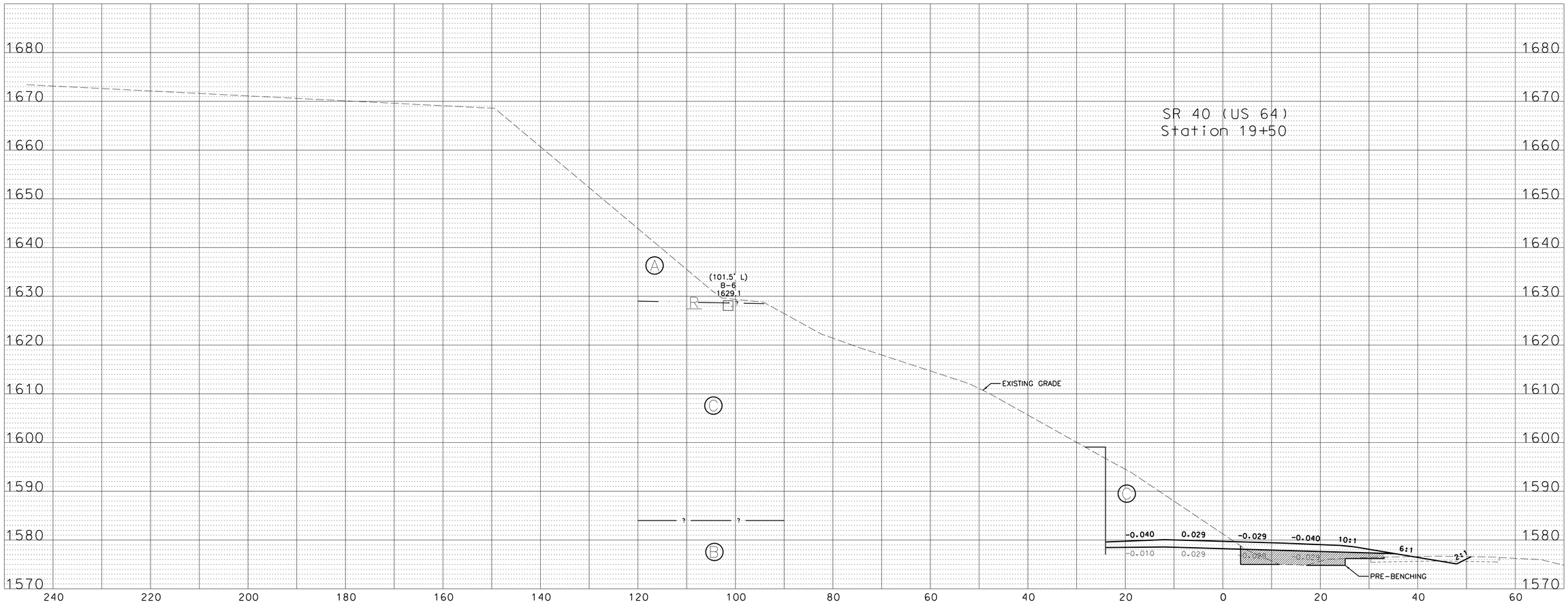
TYPICAL CROSS SECTIONS

STA. 18+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18G



GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
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3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- A — SOIL MATERIAL
- B — SOLID ROCK MATERIAL
- C — SOFT ROCK OR DEGRADABLE ROCK
- D — TRANSITIONAL MATERIAL

MATERIAL DESCRIPTION PATTERNS

- WEATHERED ROCK (SANDSTONE)
- FILL

- R — REFUSAL
- ? — TOP OF ROCK
- ? — TOP OF SOUND ROCK

UNOFFICIAL SET

NOT FOR BIDDING

DONALD E. [illegible]
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 20024
STATE OF TENNESSEE
12/3/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

TYPICAL CROSS SECTIONS

STA. 19+50

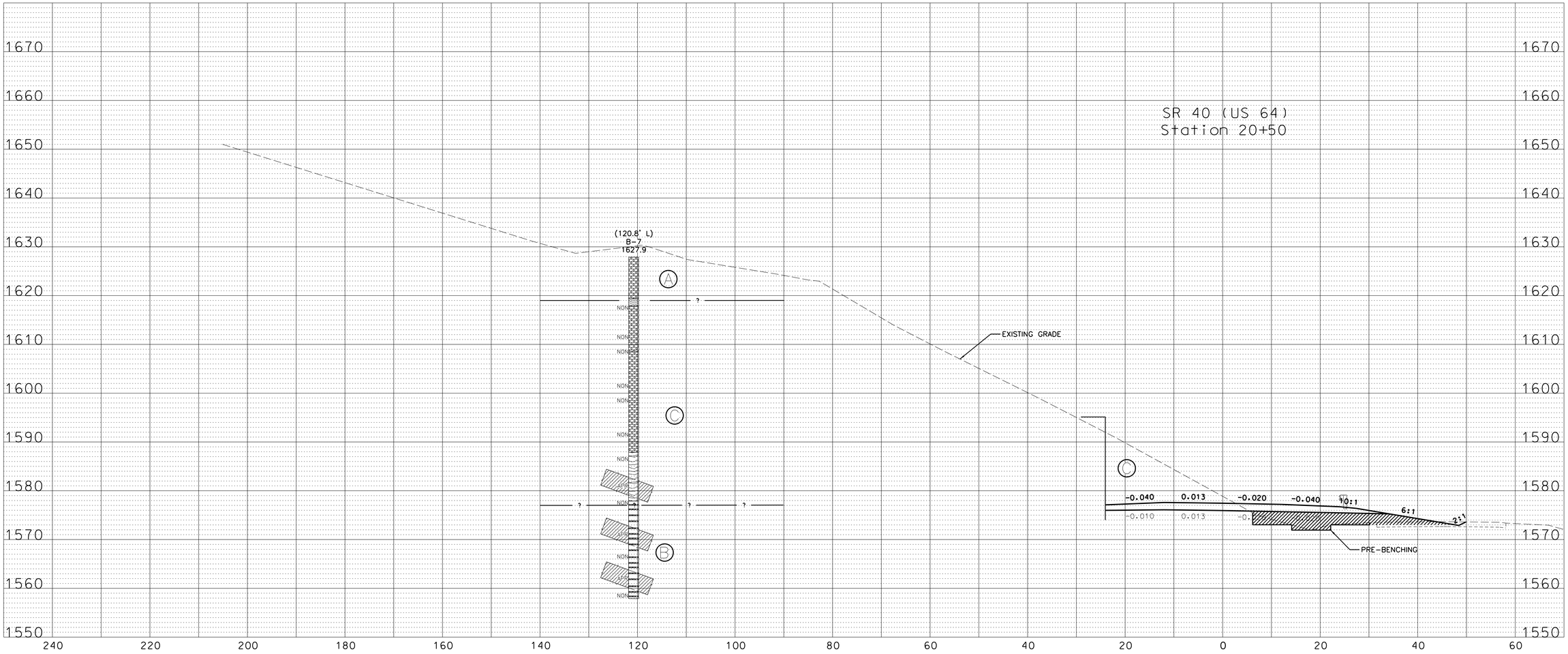
GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18H

UNOFFICIAL SET

NOT FOR BIDDING



GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
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SOIL DESCRIPTIONS

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APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — INTERBEDDED SANDSTONE/SHALE/ LIMESTONE
- — WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- — WEATHERED ROCK (SHALE)
- — INTERBEDDED SANDSTONE/SHALE/ LIMESTONE/QUARTZITE

— FILL

— ? — ? — TOP OF SOUND ROCK

— ? — ? — TOP OF ROCK

DONALD E. [illegible]
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 20324
STATE OF TENNESSEE
12/15/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

TYPICAL CROSS SECTIONS

STA. 20+50

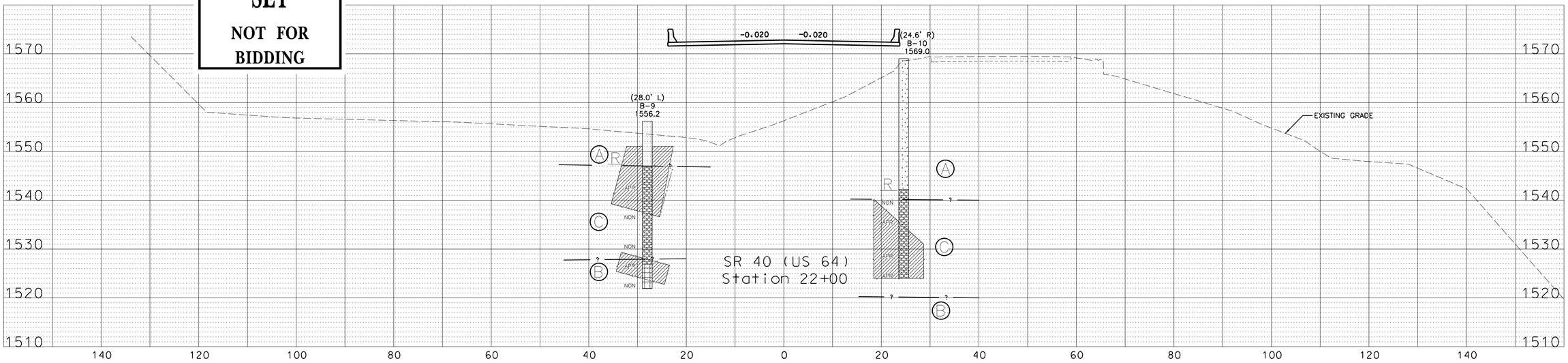
GEOTECHNICAL STUDY

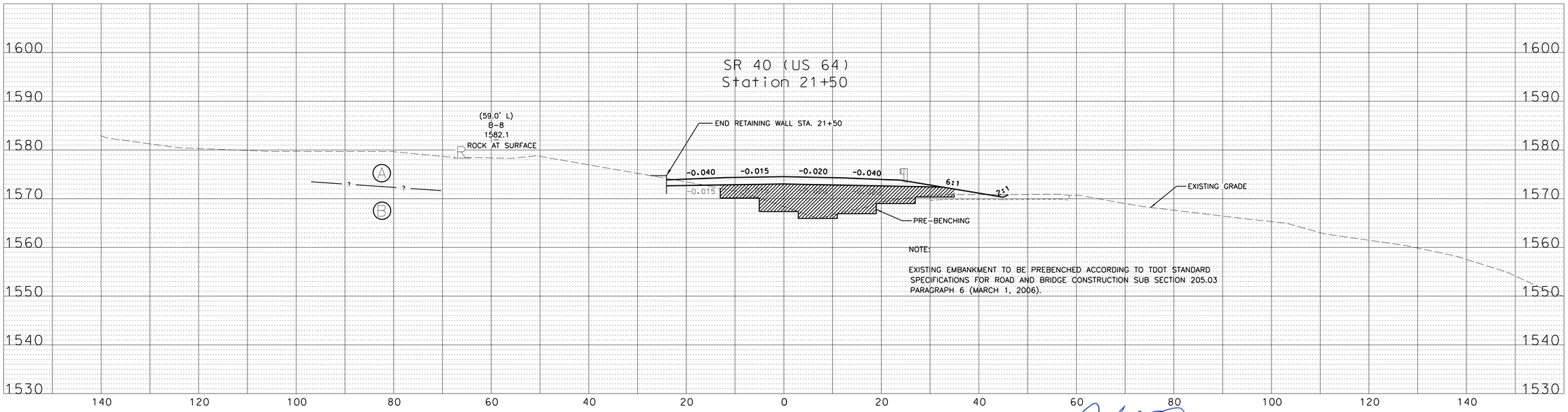
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	181

UNOFFICIAL SET

NOT FOR BIDDING





GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
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SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
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APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — SILTY SOIL
- — WEATHERED ROCK (SANDSTONE)
- — WEATHERED ROCK INTERBEDDED SANDSTONE/SHALE
- — INTERBEDDED SANDSTONE/SHALE
- — FILL
- ——?——?—— TOP OF SOUND ROCK
- ——·——?—— TOP OF ROCK
- R — REFUSAL

DOUGLAS E. DATE
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 20324
STATE OF TENNESSEE
12/3/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

TYPICAL CROSS SECTIONS

STA. 21+50 – STA. 22+00

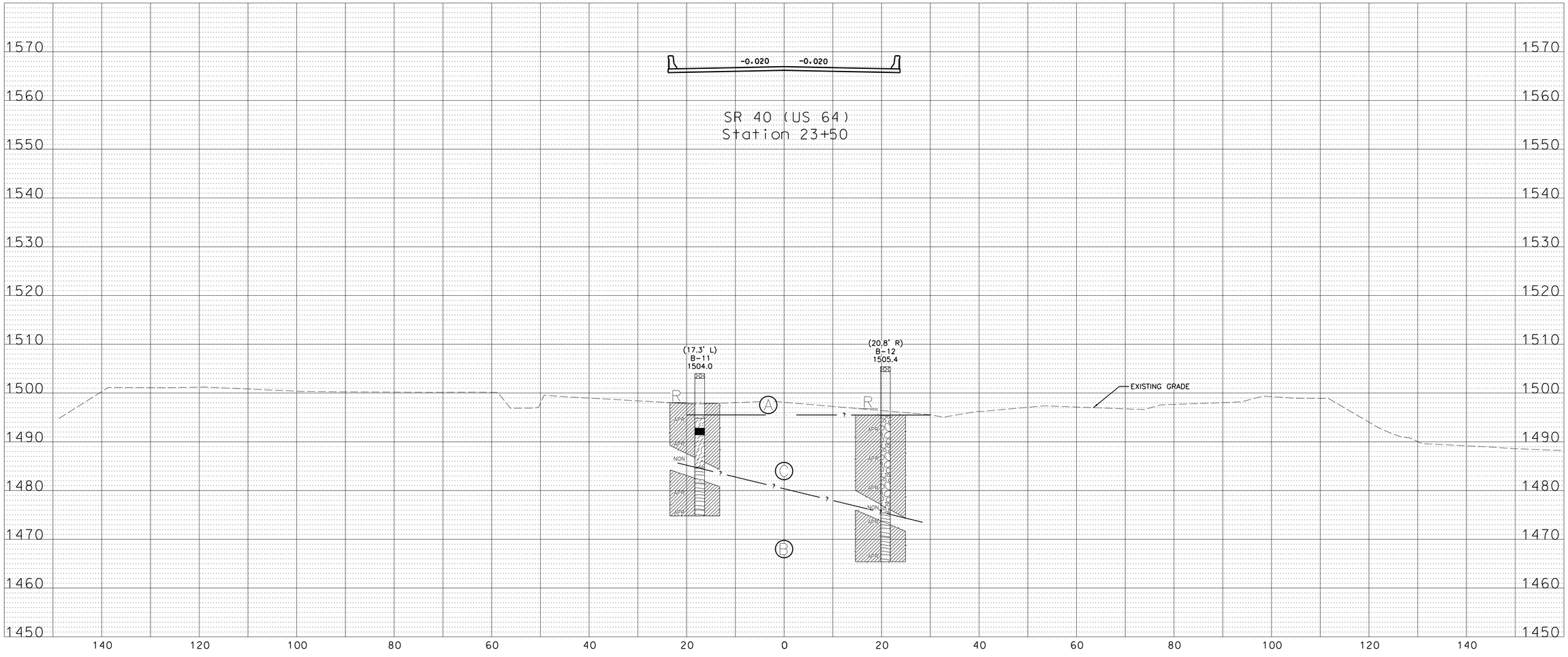
GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18J

UNOFFICIAL SET

NOT FOR BIDDING



SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — TOPSOIL
- — SILTY SOIL
- — WEATHERED ROCK (SANDSTONE)
- — SANDSTONE CONGLOMERATE WITH SHALE/LIMESTONE
- — INTERBEDDED SANDSTONE/LIMESTONE
- — SOIL FILLED CAVITY
- — WEATHERED ROCK INTERBEDDED SANDSTONE/LIMESTONE

R — REFUSAL

— ? — TOP OF ROCK

— ? — ? — TOP OF SOUND ROCK

GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

DOUGLAS E. STATE — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — NO. 26924 — STATE OF TENNESSEE

12/9/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

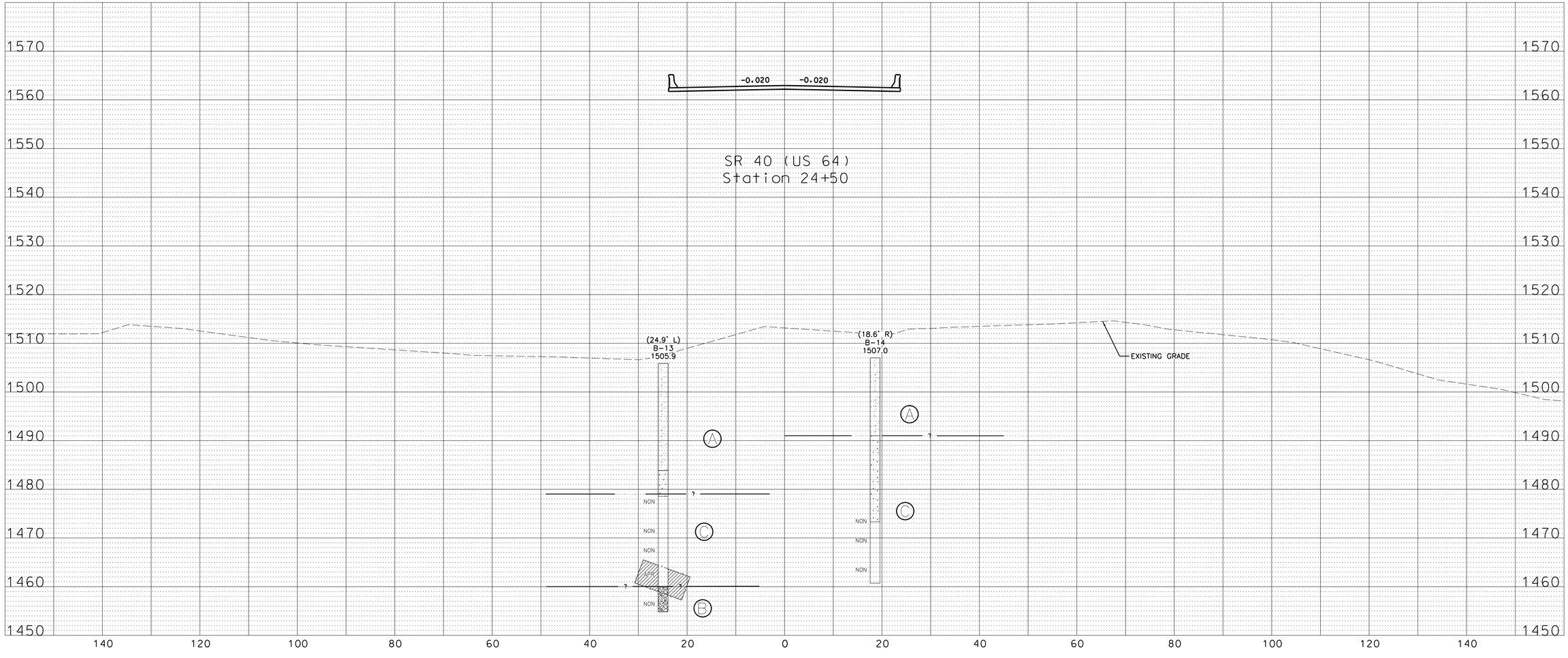
TYPICAL CROSS SECTIONS

STA. 23+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18K



GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL
- APR — ACID PRODUCING ROCK
- NON — NON-ACID PRODUCING ROCK
- P-APR — POTENTIAL ACID PRODUCING ROCK
- — APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — SANDY SOIL
- — WEATHERED ROCK (SANDSTONE)
- — INTERBEDDED SANDSTONE/SHALE
- — SANDSTONE CONGLOMERATE WITH SHALE/LIMESTONE
- — SANDSTONE, MICACEOUS

UNOFFICIAL SET

NOT FOR BIDDING

DONALD S. [illegible]
REGISTERED ENGINEER
AGRICULTURE
No. 20294
STATE OF TENNESSEE
12/15/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

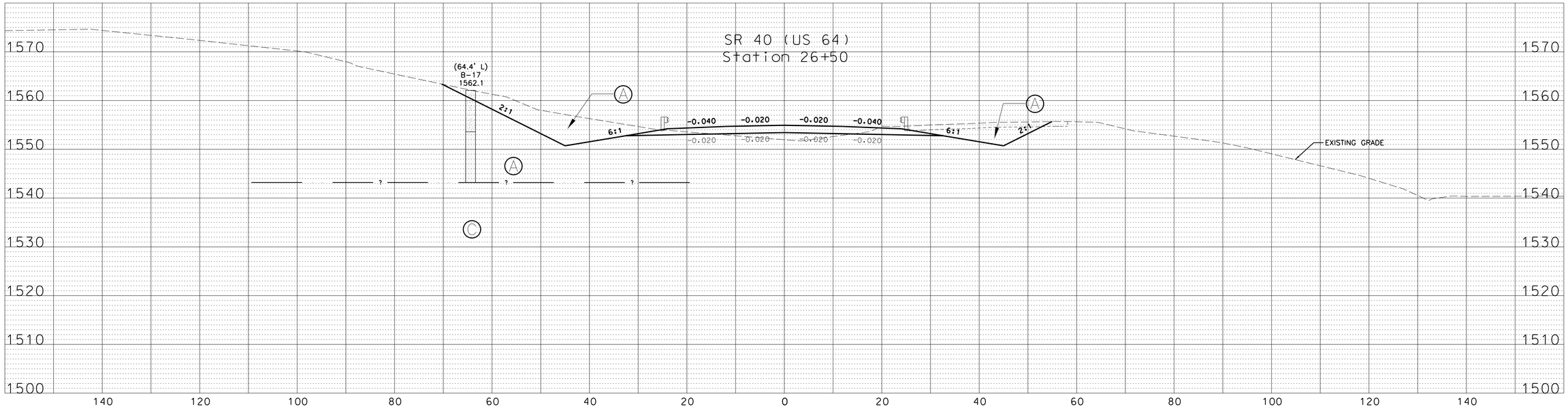
TYPICAL CROSS SECTIONS

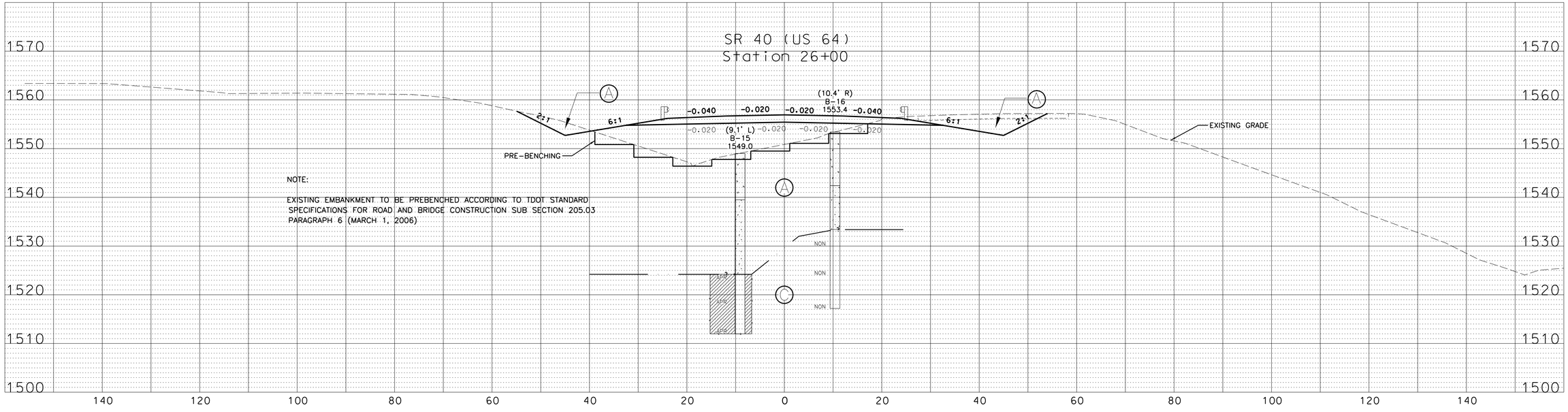
STA. 24+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18L





GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- A — SOIL MATERIAL
- B — SOLID ROCK MATERIAL
- C — SOFT ROCK OR DEGRADABLE ROCK
- D — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — SILTY SOIL
- — SANDY SOIL
- — SHOT ROCK
- — WEATHERED ROCK (SANDSTONE)
- — SANDSTONE, MICACEOUS

——— ? ——— TOP OF ROCK

UNOFFICIAL SET

NOT FOR BIDDING



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

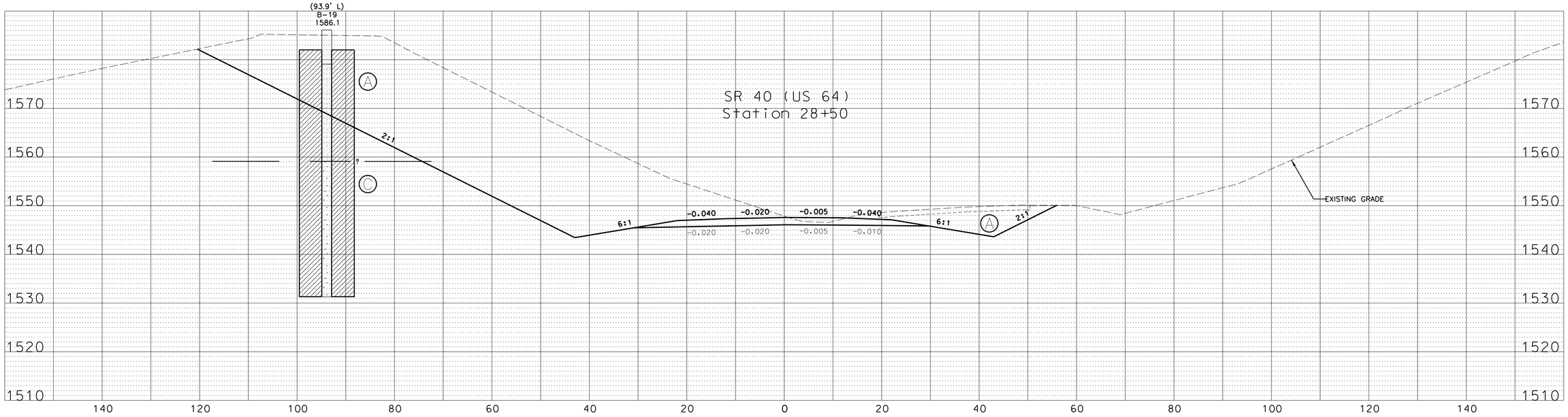
TYPICAL CROSS SECTIONS

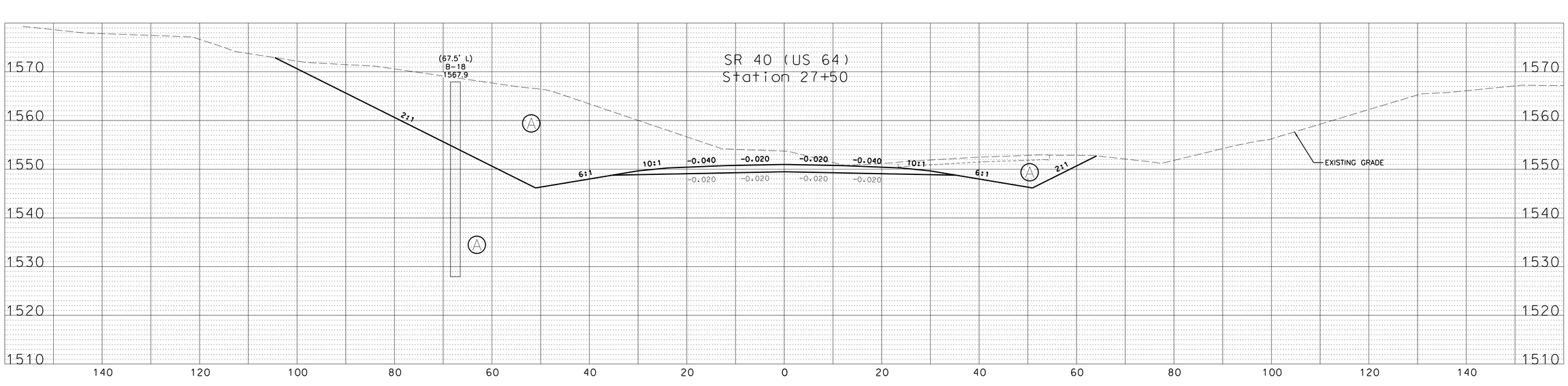
STA. 26+00 – STA. 26+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18M





GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- (A) — SOIL MATERIAL
- (B) — SOLID ROCK MATERIAL
- (C) — SOFT ROCK OR DEGRADABLE ROCK
- (D) — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATT

- — SILTY SOIL
- — SANDY SOIL
- — WEATHERED ROCK (SANDSTONE)

UNOFFICIAL SET

NOT FOR BIDDING

— — — — ? — — — — TOP OF ROCK

DISCIPLINE: STATE REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 26924 STATE OF TENNESSEE

12/3/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

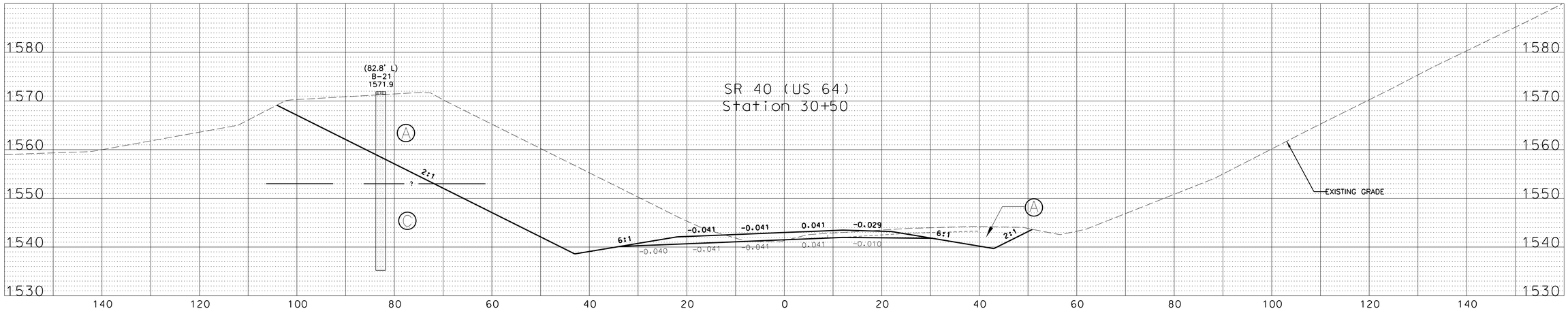
TYPICAL CROSS SECTIONS

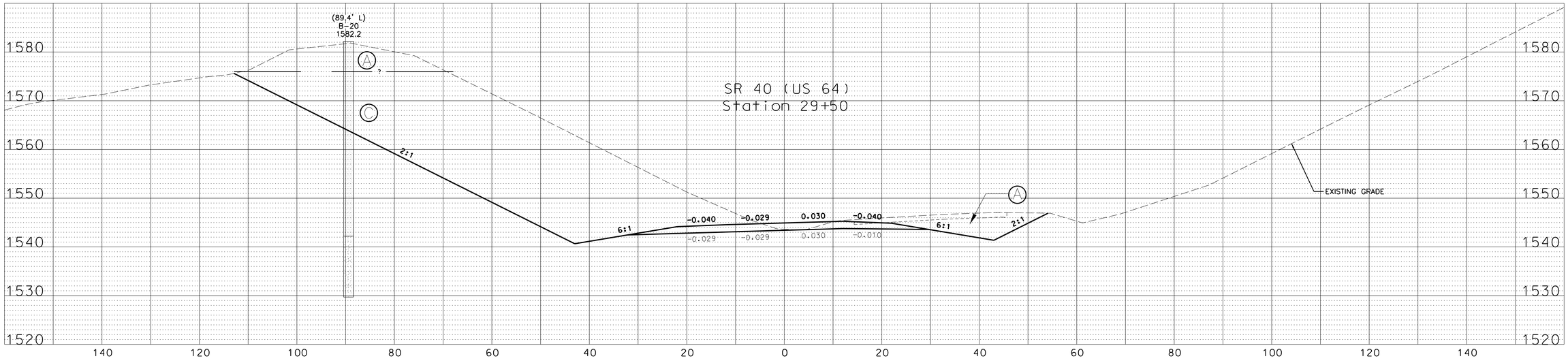
STA. 27+50 - STA. 28+50

GEOTECHNICAL STUDY

$FILES$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	18N





GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- A — SOIL MATERIAL
- B — SOLID ROCK MATERIAL
- C — SOFT ROCK OR DEGRADABLE ROCK
- D — TRANSITIONAL MATERIAL

MATERIAL DESCRIPTION PATTERNS

- TOPSOIL
- SILTY SOIL
- SANDY SOIL

——— · ——— ? ——— TOP OF ROCK

UNOFFICIAL SET

NOT FOR BIDDING

DONALD E. STATE — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 20324 — STATE OF TENNESSEE

12/9/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

TYPICAL CROSS SECTIONS

STA. 29+50 – STA. 30+50

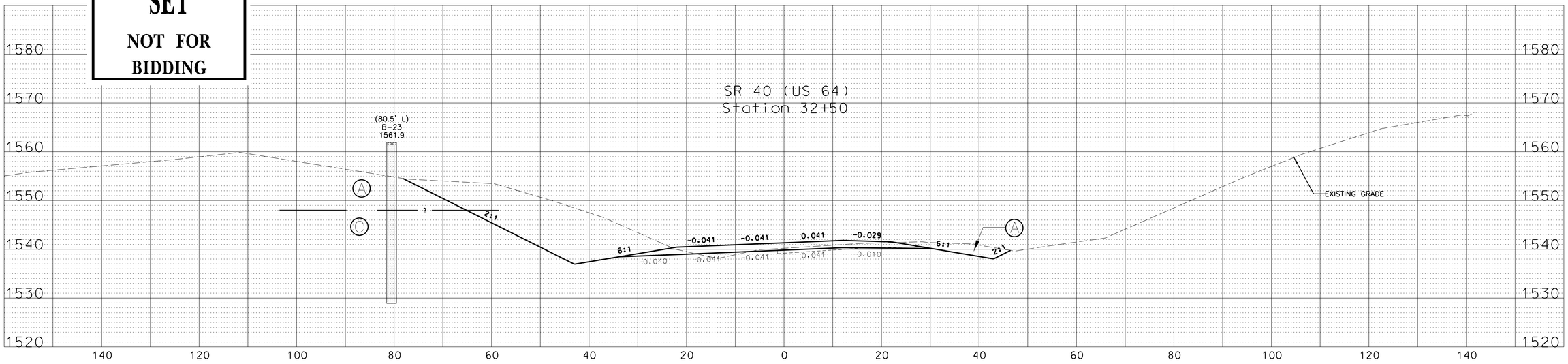
GEOTECHNICAL STUDY

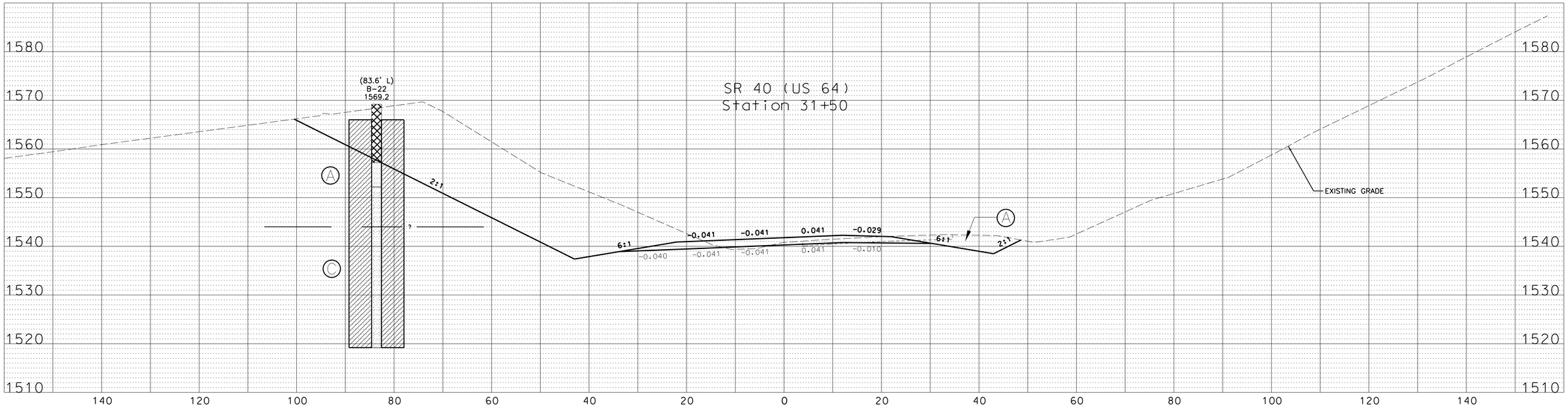
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	70004-3299-94	180

UNOFFICIAL SET

NOT FOR BIDDING





GENERAL NOTES (GEOTECHNICAL):

1. BOREHOLE ELEVATIONS PROVIDED BY AMEC SURVEY.
2. APPROACH AND BRIDGE REPORTS OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGENEERING STUDY FOR PROPOSED REALIGNMENT AND BRIDGE FOR SR 40 (US 64), LM 24.85 AMEC FILE NO. 5-6979-0000 AVAILABLE FROM AMEC ENVIRONMENT & INFRASTRUCTURE, INC. NASHVILLE, TENNESSEE (615-333-0630).
3. SEE REPORT APPENDIX 2 FOR DETAILED LOGS WITH DESCRIPTIONS.
4. CROSS SECTIONS PROVIDED BY TDOT ON JUNE 7, 2013.
5. SEE SHEET 18 FOR GEOTECH LEGEND.

SOIL DESCRIPTIONS

- A — SOIL MATERIAL
- B — SOLID ROCK MATERIAL
- C — SOFT ROCK OR DEGRADABLE ROCK
- D — TRANSITIONAL MATERIAL

APR — ACID PRODUCING ROCK

NON — NON-ACID PRODUCING ROCK

P-APR — POTENTIAL ACID PRODUCING ROCK

— APR AND P-APR ZONES

MATERIAL DESCRIPTION PATTERNS

- — TOPSOIL
- — CLAYEY SOIL
- — SILTY SOIL
- — SANDY SOIL

———— ? ———— TOP OF ROCK

DUSTIN E. STATE REGISTERED ENGINEER AGRICULTURE No. 2024 STATE OF TENNESSEE

12/3/2015

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

AMEC ENVIRONMENT & INFRASTRUCTURE
3800 EZELL ROAD
SUITE 100
NASHVILLE, TENNESSEE 37211

SR 40
BRIDGE OVER BRANCH AND RAILROAD

TYPICAL CROSS SECTIONS

STA. 31+50 – STA. 32+50

GEOTECHNICAL STUDY

$FILES$

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	16
CONST.	2015	BR-NH-40(27)	19

1560
1540
1520
1500
1480
1460

SR40
24+05.25 (OFFSET 61.29')
RAILROAD
506+50.00

506+50.00

1560
1540
1520
1500
1480
1460

SR40
23+97.23 (OFFSET 110.64')
RAILROAD
506+00.00

506+00.00

T.O.H.A. RAILROAD

BEGIN STA.506+00.00
END STA. 506+50.00

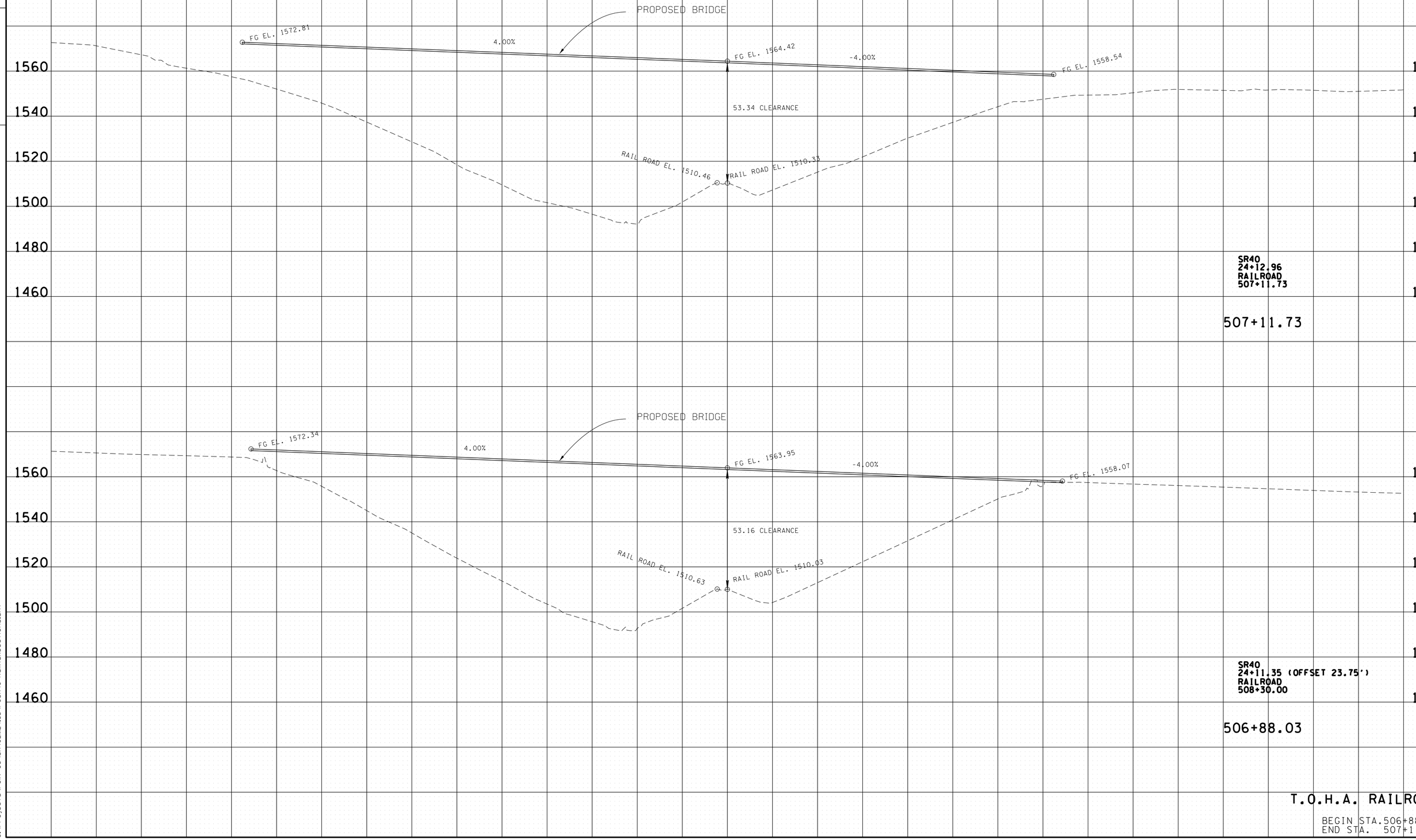
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	17
CONST.	2015	BR-NH-40(27)	20

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.



T.O.H.A. RAILROAD

BEGIN STA.506+88.03
END STA. 507+11.73

12-OCT-2015 09:44
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TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	18
CONST.	2015	BR-NH-40(27)	21

1580
1560
1540
1520
1500
1480
1460

SR40
24+26.10 (OFFSET -67.03')
RAILROAD
507+80.00

507+80.00

PROPOSED BRIDGE

FG EL. 1572.34

4.00%

FG EL. 1563.95

-4.00%

FG EL. 1558.07

52.54 CLEARANCE

RAIL ROAD EL. 1510.77

RAIL ROAD EL. 1510.65

SR40
24+19.06 (OFFSET -23.75')
RAILROAD
507+36.15

507+36.15

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

T.O.H.A. RAILROAD

BEGIN STA.507+36.15
END STA. 507+80.00

12-OCT-2015 09:44
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TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	19
CONST.	2015	BR-NH-40(27)	22

1560
1540
1520
1500
1480
1460

SR40
24+34.11 (OFFSET -116.38')
RAILROAD
508+30.00

508+30.00

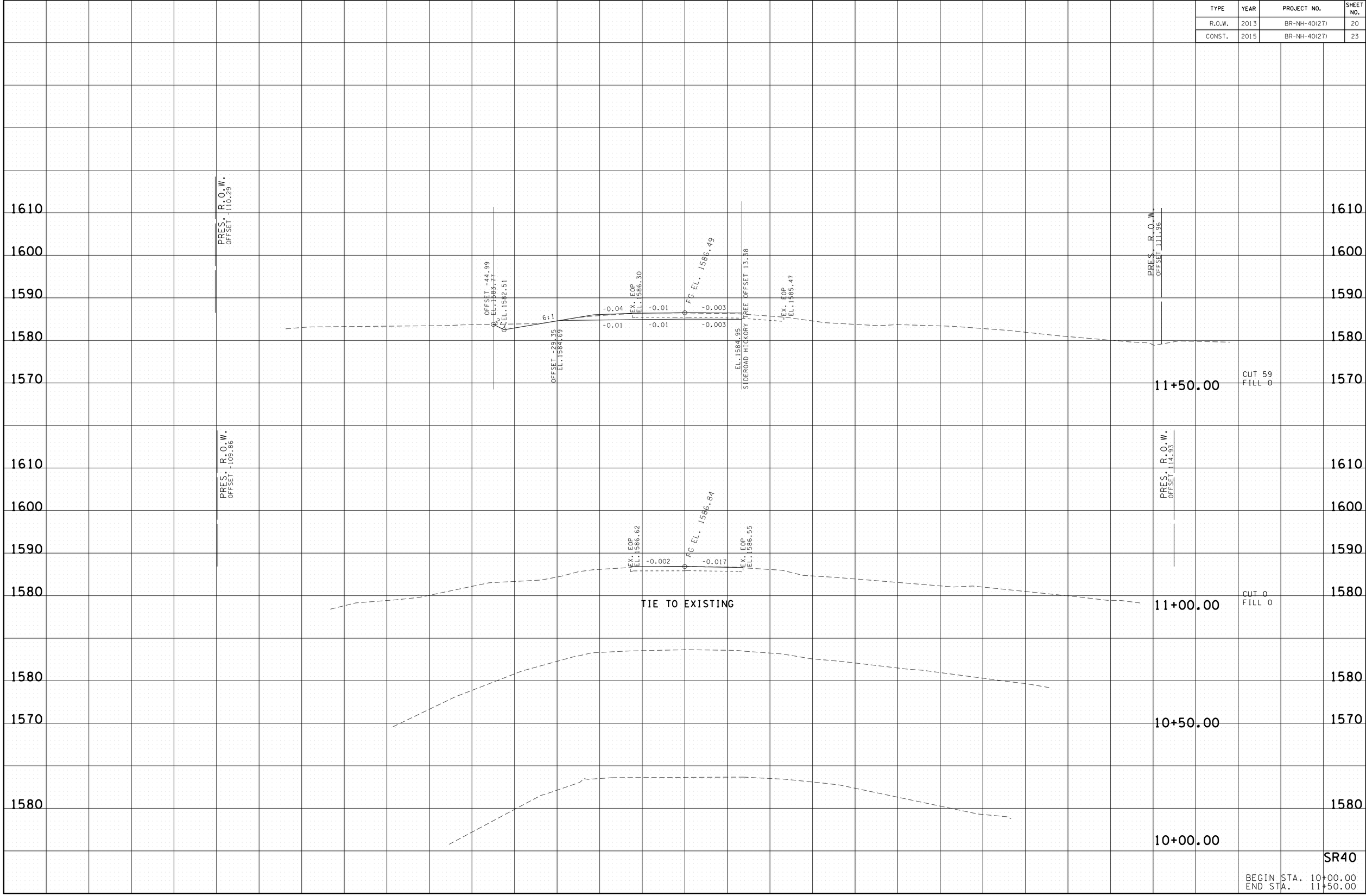
T.O.H.A. RAILROAD

BEGIN STA.508+30.00
END STA. 508+30.00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	20
CONST.	2015	BR-NH-40(27)	23

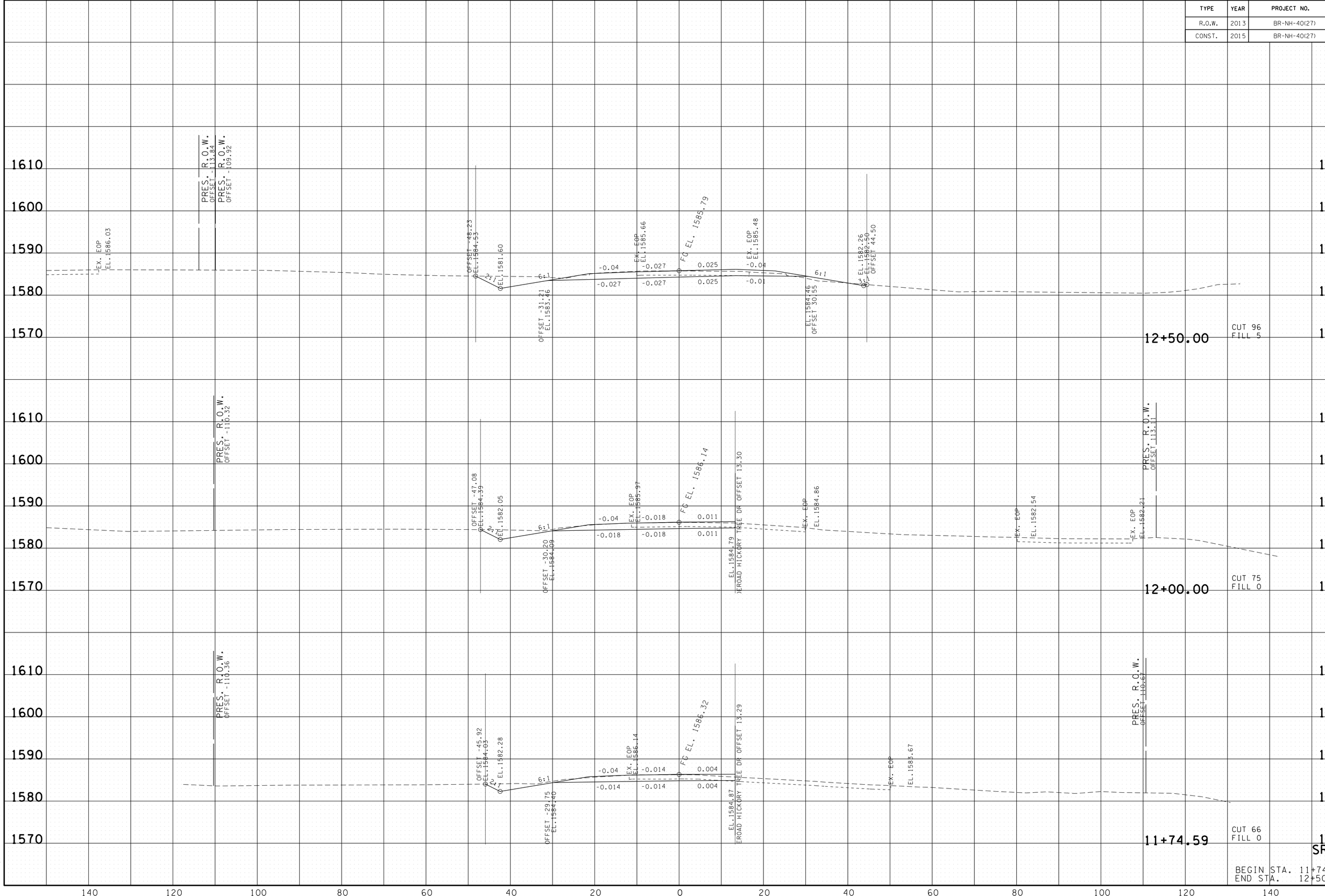


SR40

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

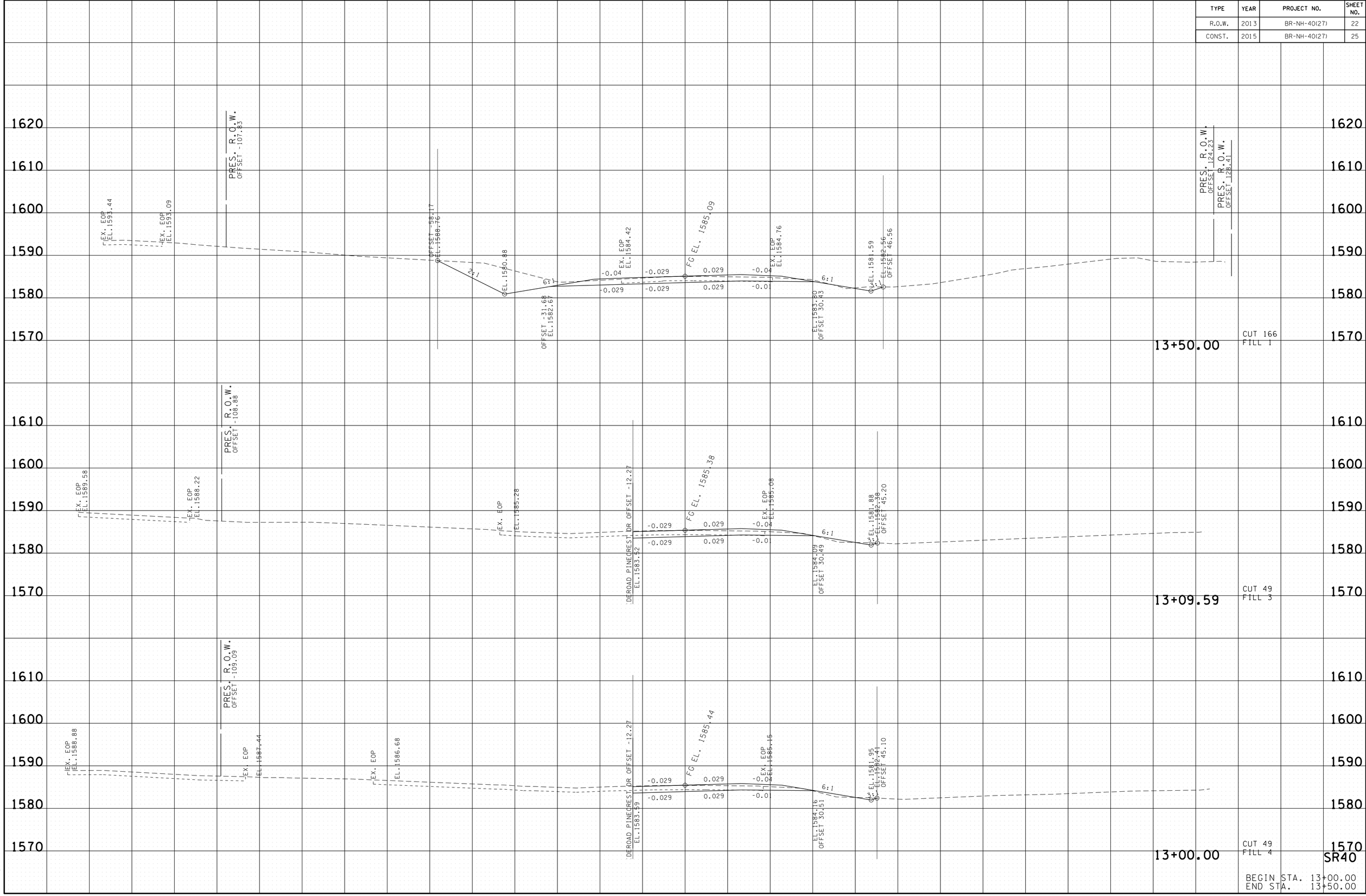
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	21
CONST.	2015	BR-NH-40(27)	24



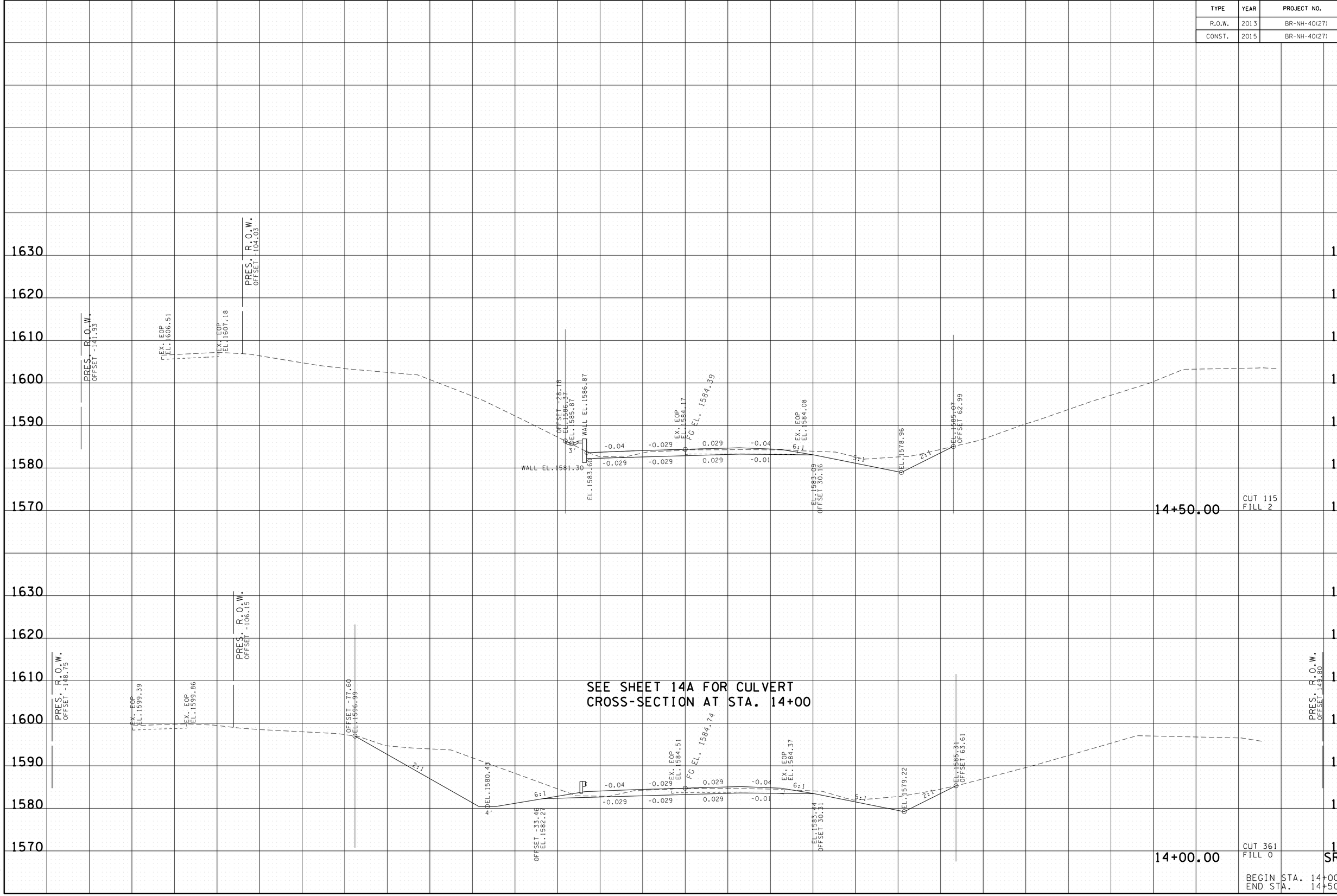
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	22
CONST.	2015	BR-NH-40(27)	25



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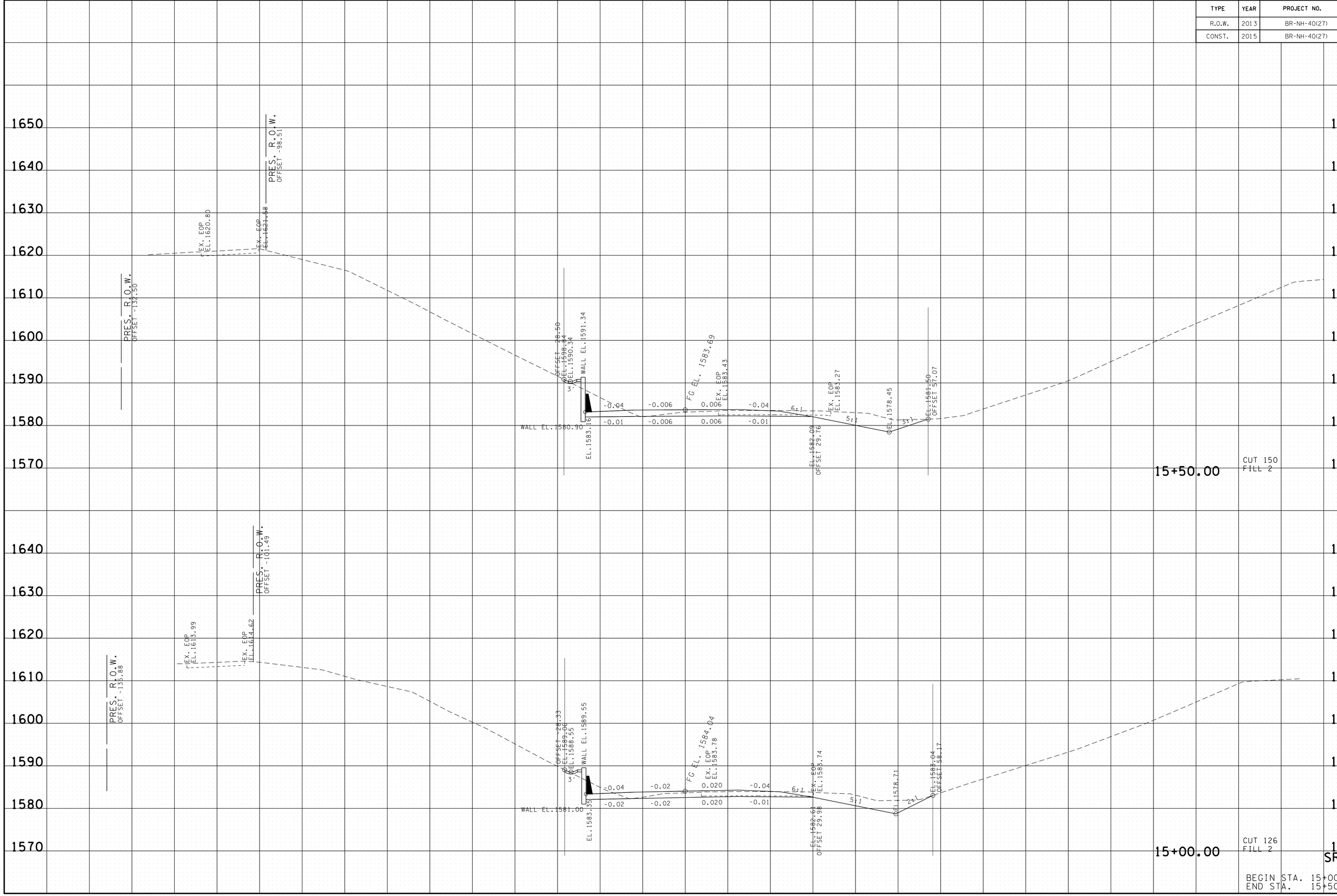
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	23
CONST.	2015	BR-NH-40(27)	26



SEE SHEET 14A FOR CULVERT CROSS-SECTION AT STA. 14+00

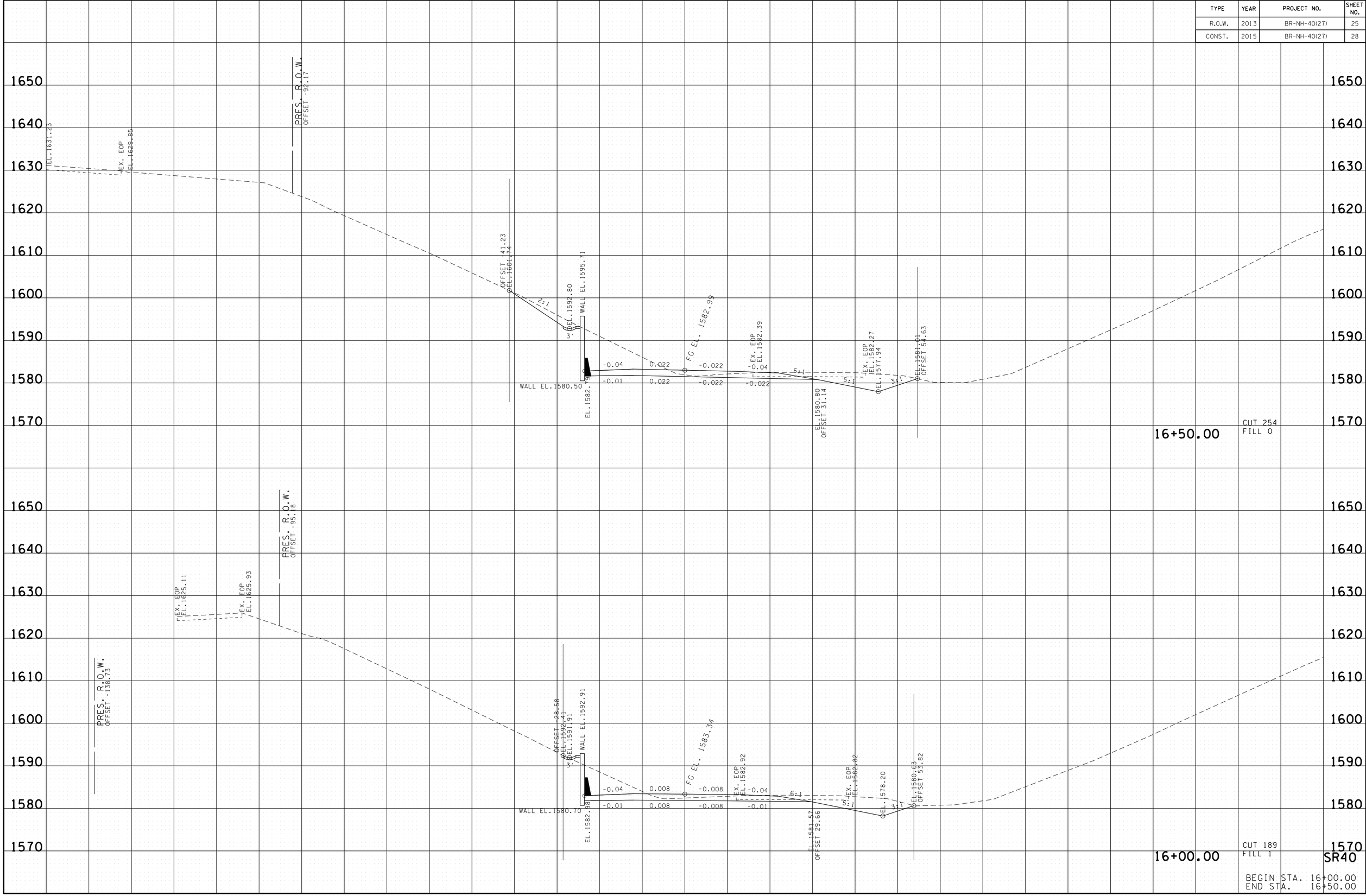
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	24
CONST.	2015	BR-NH-40(27)	27



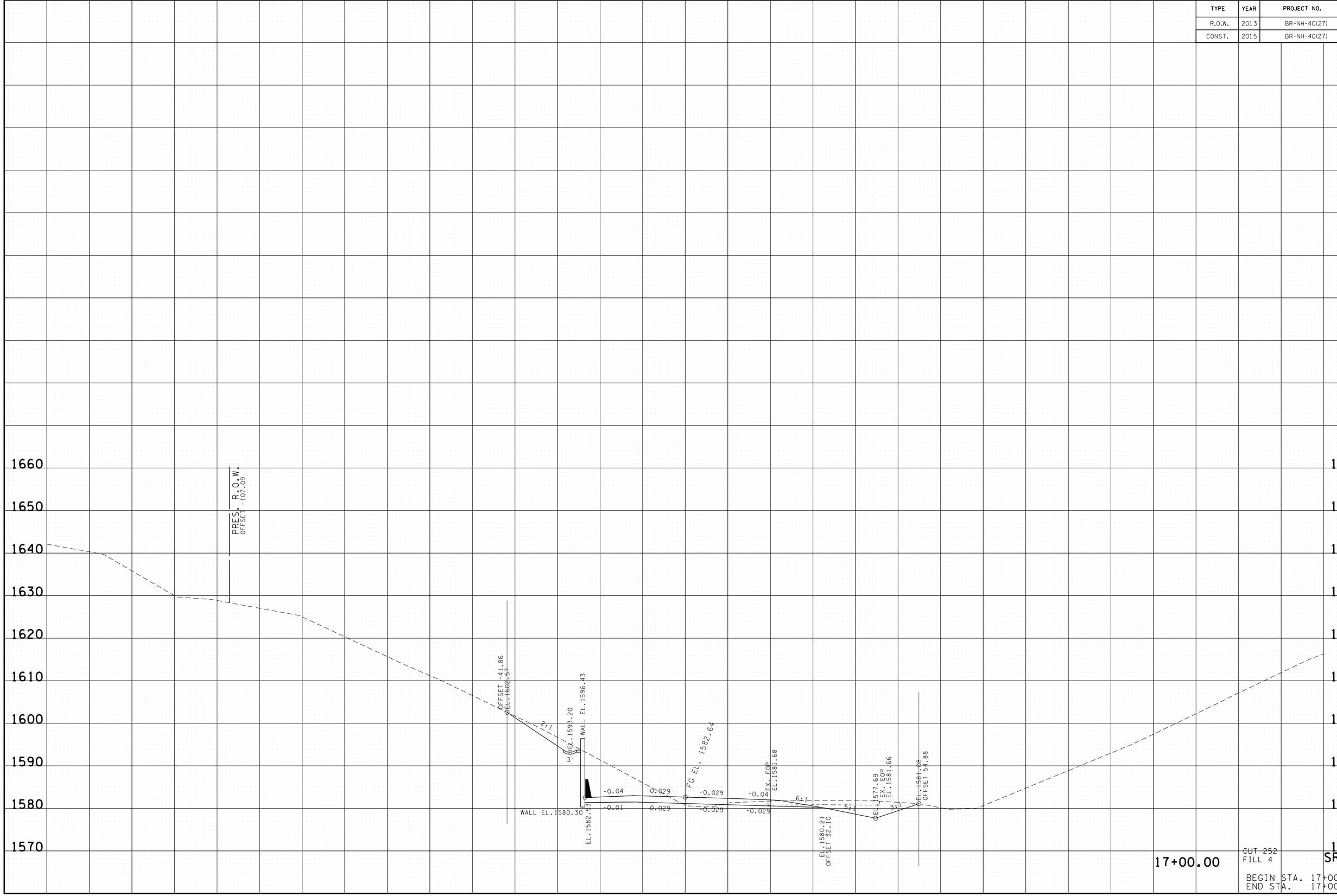
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	25
CONST.	2015	BR-NH-40(27)	28



12-OCT-2015 09:44
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	26
CONST.	2015	BR-NH-40(27)	29



17+00.00

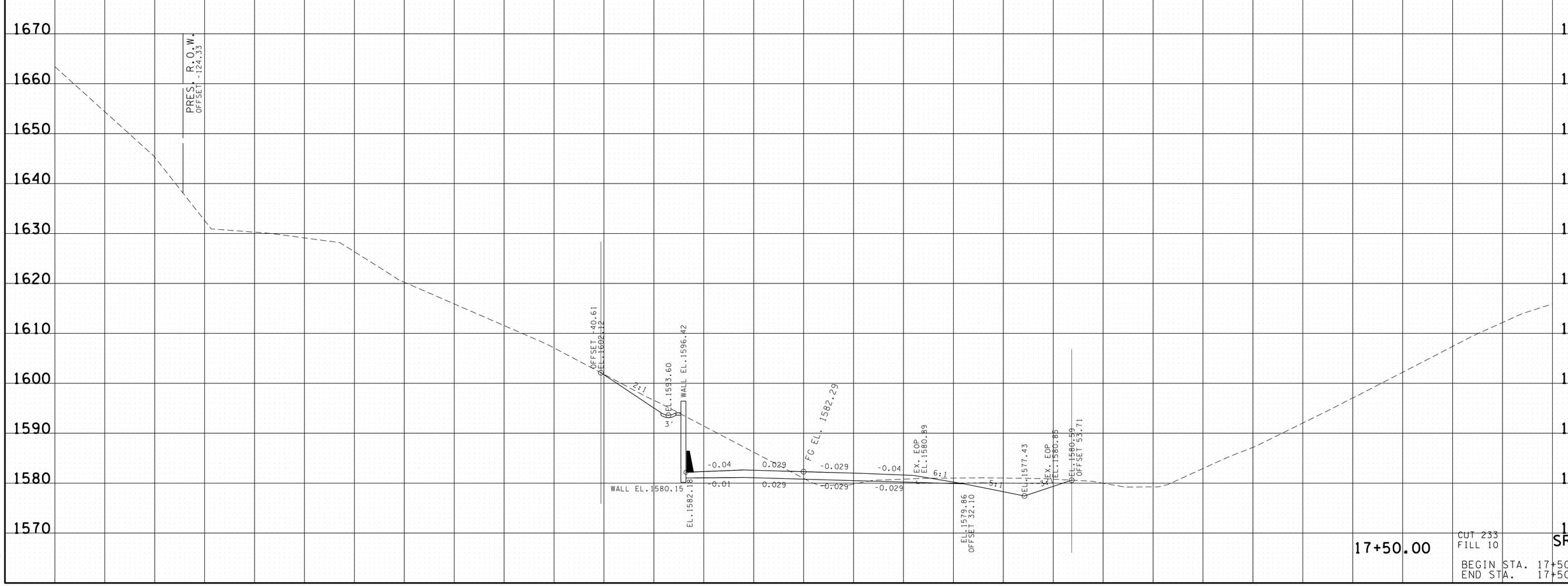
CUT 252
FILL 4

SR40

BEGIN STA. 17+00.00
END STA. 17+00.00

12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	27
CONST.	2015	BR-NH-40(27)	30



17+50.00

CUT 233
FILL 10

SR40

BEGIN STA. 17+50.00
END STA. 17+50.00

12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\PDSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	28
CONST.	2015	BR-NH-40(27)	31

PROP. R.O.W.
OFFSET -142.12

OFFSET -31.48
EL. 1596.43

EL. 1594.00

WALL EL. 1595.50

FG EL. 1581.89

EX. EOP
EL. 1579.97

EX. EOP
EL. 1579.94

EL. 1579.93
OFFSET 51.179

EL. 1577.18

EL. 1579.46
OFFSET 32.10

WALL EL. 1579.75

EL. 1581.78

-0.04 0.029 -0.029 -0.04

-0.01 0.029 -0.029 -0.029

6:1

18+00.00

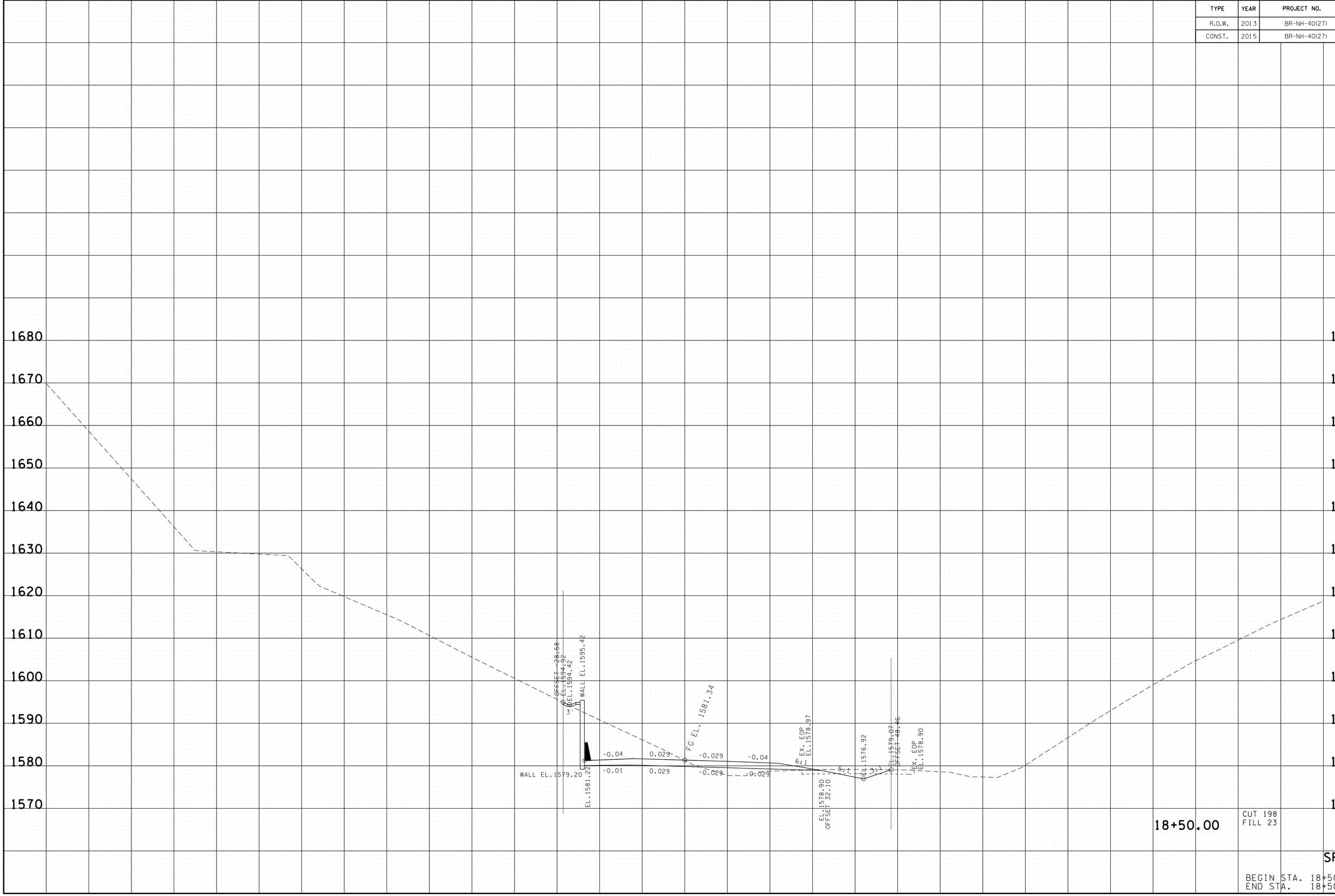
CUT 202
FILL 16

SR40

BEGIN STA. 18+00.00
END STA. 18+00.00

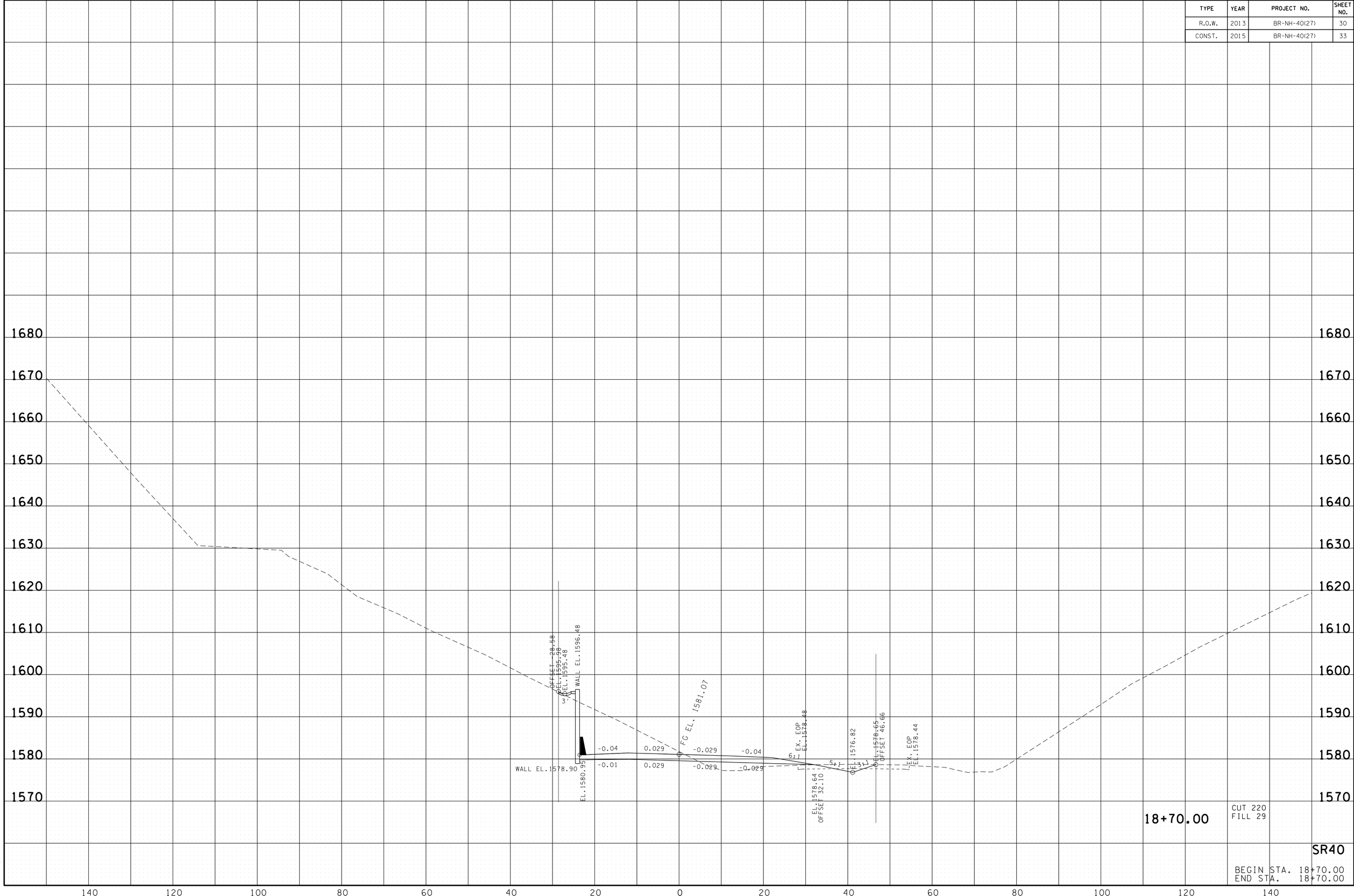
12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	29
CONST.	2015	BR-NH-40(27)	32



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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	30
CONST.	2015	BR-NH-40(27)	33



18+70.00

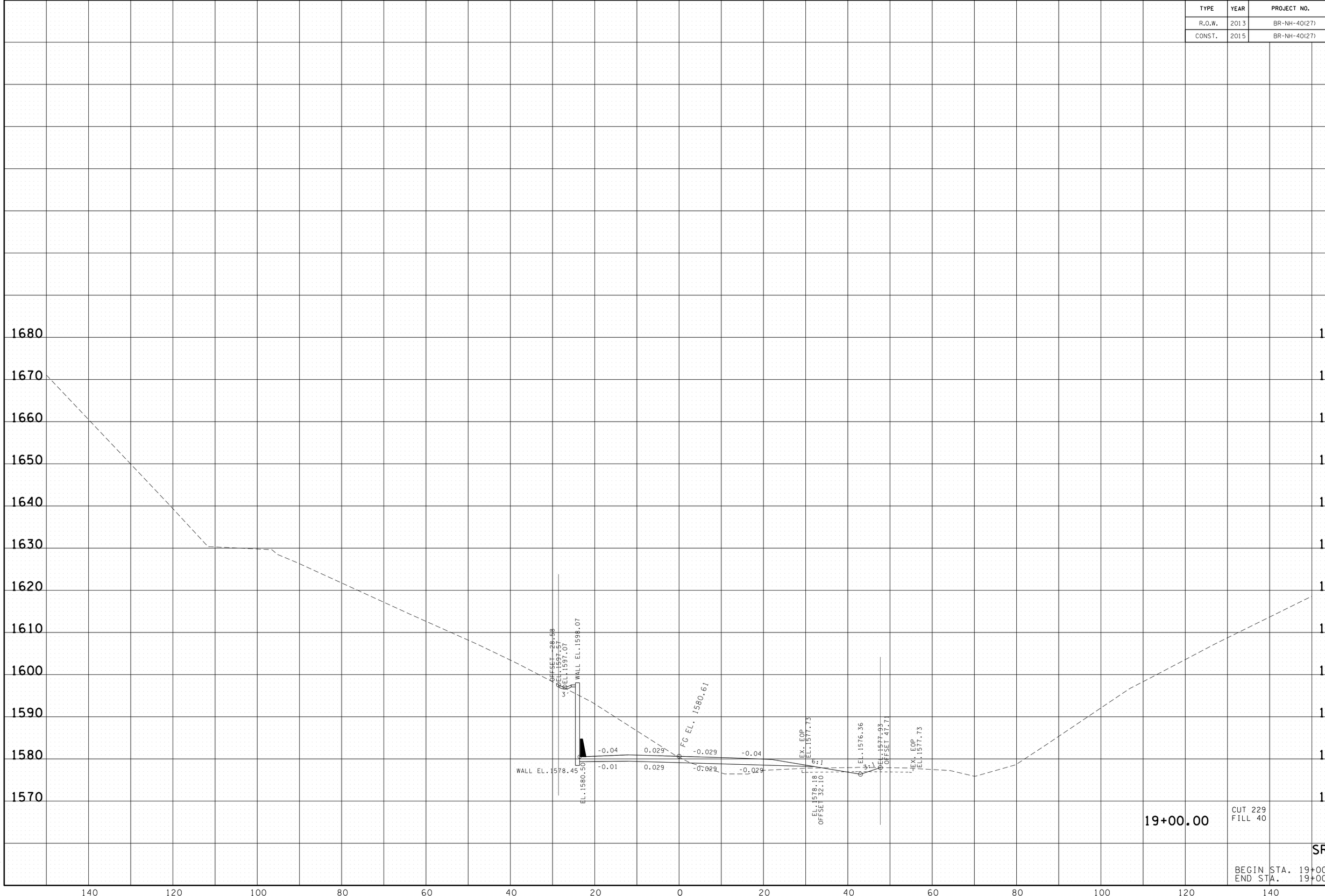
CUT 220
FILL 29

SR40

BEGIN STA. 18+70.00
END STA. 18+70.00

12-OCT-2015 09:45
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	31
CONST.	2015	BR-NH-40(27)	34



19+00.00

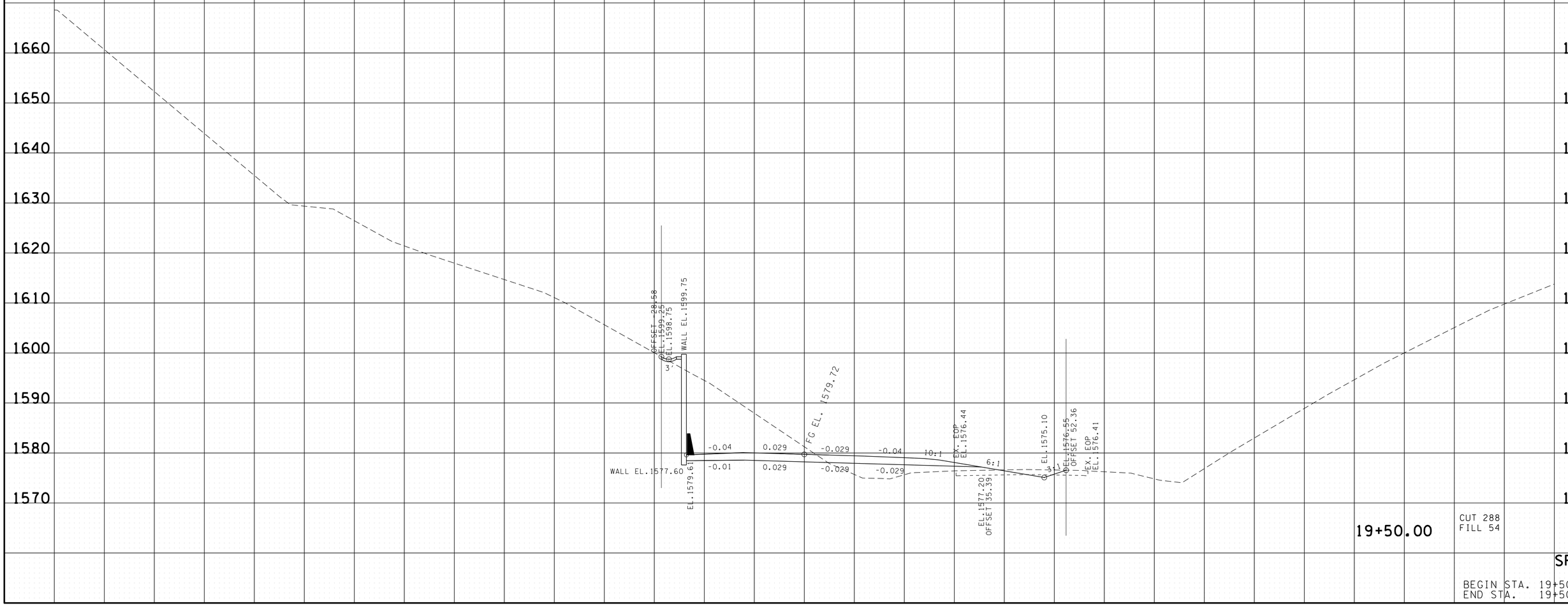
CUT 229
FILL 40

SR40

BEGIN STA. 19+00.00
END STA. 19+00.00

12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	32
CONST.	2015	BR-NH-40(27)	35



19+50.00

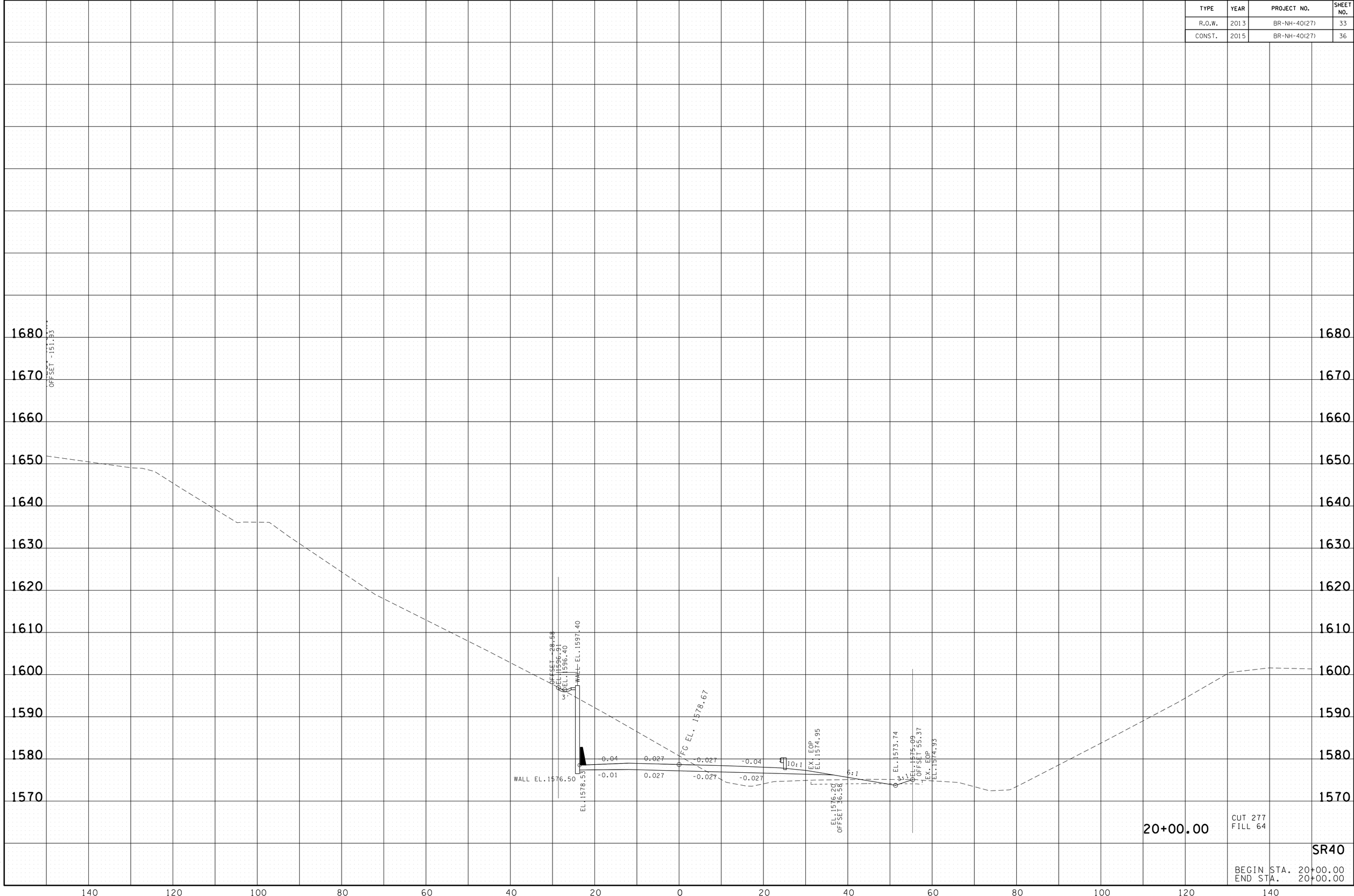
CUT 288
FILL 54

SR40

BEGIN STA. 19+50.00
END STA. 19+50.00

12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	33
CONST.	2015	BR-NH-40(27)	36



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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	34
CONST.	2015	BR-NH-40(27)	37

PRES. R.O.W.
OFFSET -138.31

PRES. R.O.W.
OFFSET -144.87

OFFSET -28.58
@ EL.1588.70
@ EL.1588.19
WALL EL.1589.19

WALL EL.1573.55
EL.1575.59

-0.04 -0.001 -0.02 -0.04
-0.01 -0.001 -0.02 -0.02

FG EL. 1576.07

EX. EOP
EL.1572.05

6:1

EL.1573.92
OFFSET 32.59

@ EL.1571.85
@ EL.1572.25
OFFSET 46.19

EX. EOP
EL.1572.04

21+00.00

CUT 139
FILL 104

OFFSET -28.58
@ EL.1594.30
@ EL.1593.79
WALL EL.1594.79

WALL EL.1575.14
EL.1577.14

-0.04 0.013 -0.02 -0.04
-0.01 0.013 -0.02 -0.02

FG EL. 1577.45

10:1

EX. EOP
EL. 573.51

6:1

EL.1575.27
OFFSET 34.15

@EL.1572.89
@ EL.1573.61
OFFSET 50.59

EX. EOP
EL.1573.39

20+50.00

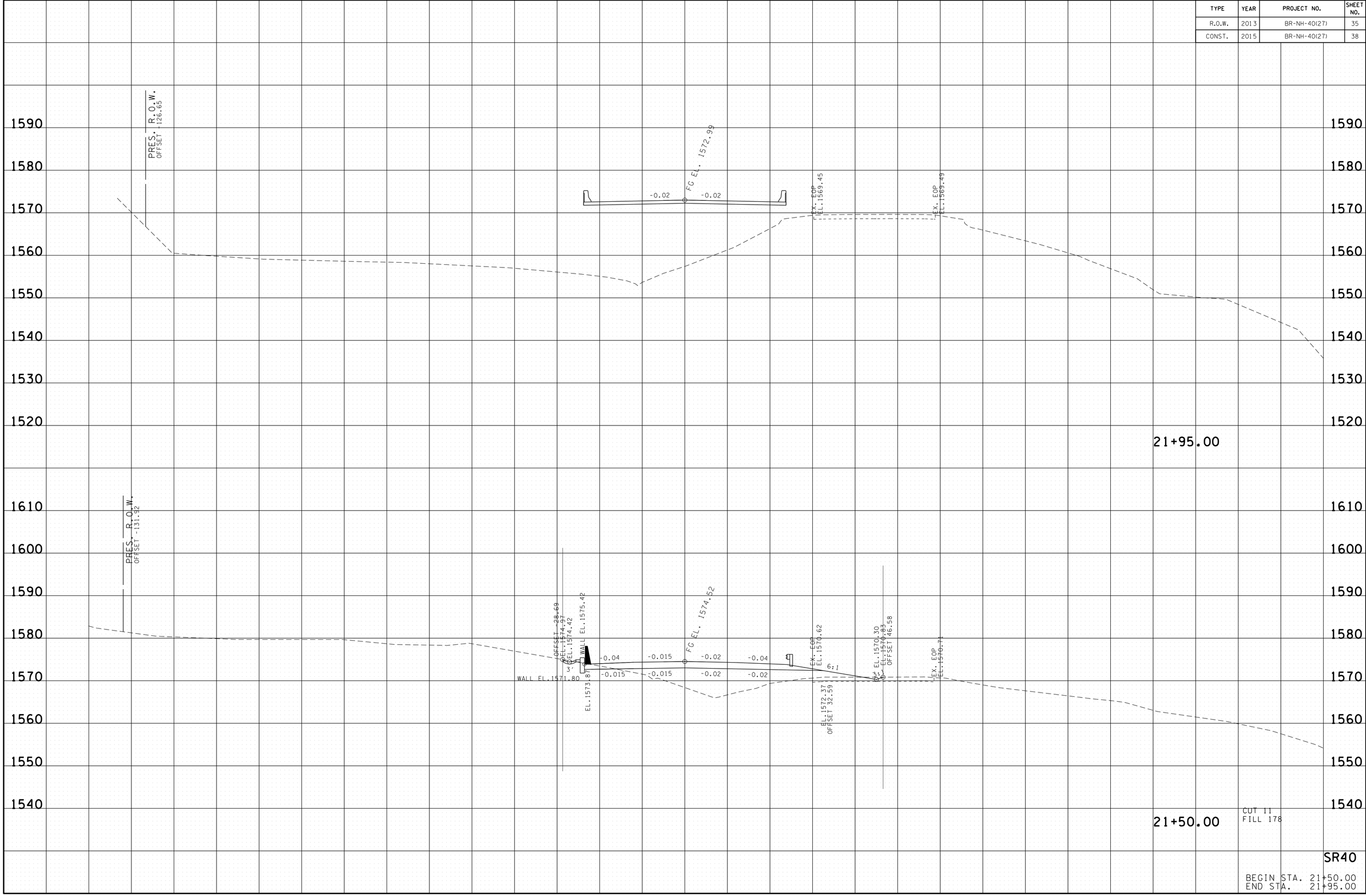
CUT 247
FILL 72

SR40

BEGIN STA. 20+50.00
END STA. 21+00.00

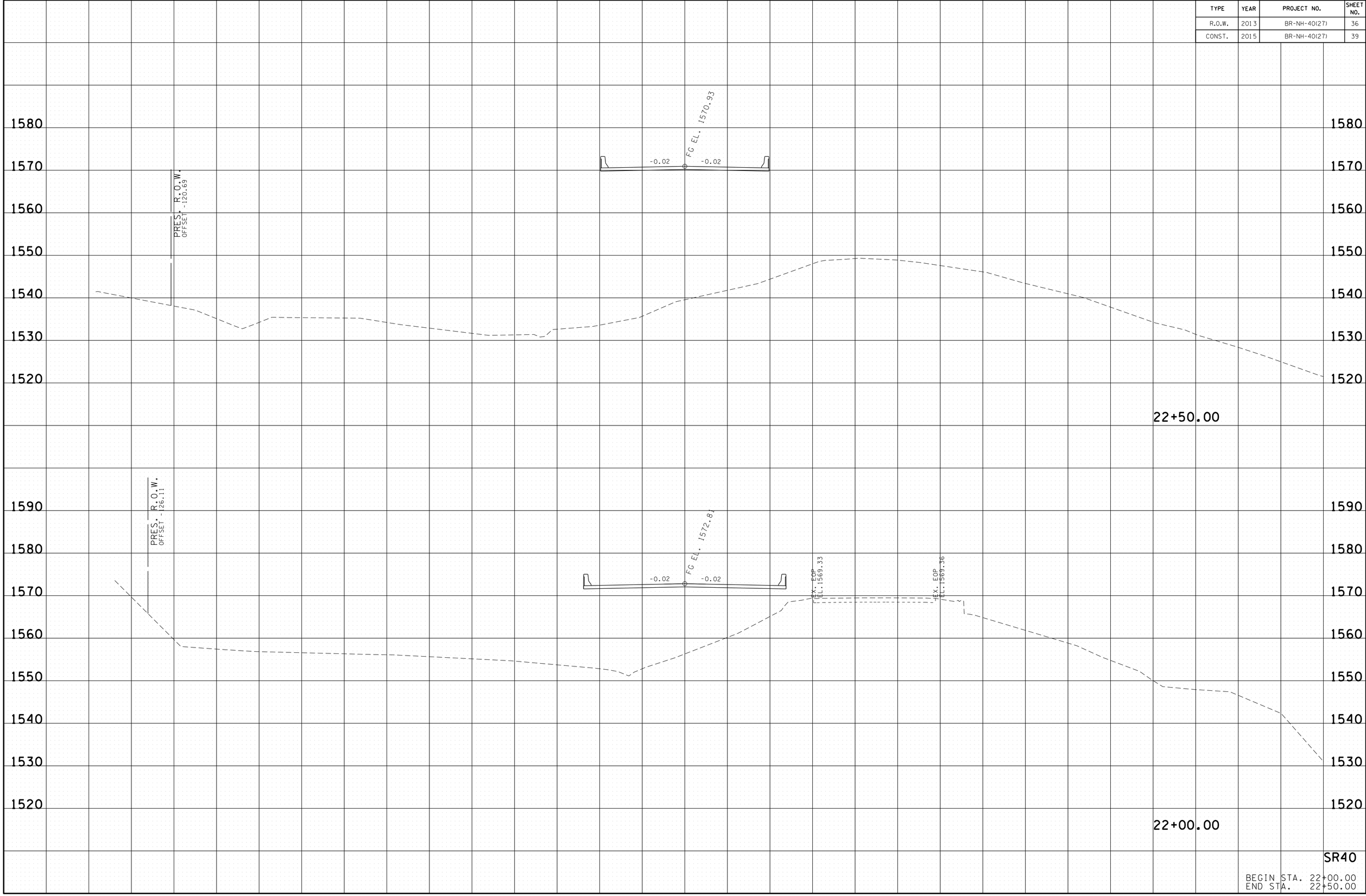
12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	35
CONST.	2015	BR-NH-40(27)	38



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C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	36
CONST.	2015	BR-NH-40(27)	39



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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	37
CONST.	2015	BR-NH-40(27)	40

1580
1570
1560
1550
1540
1530
1520
1510
1500
1490

FG EL. 1566.94

-0.02 -0.02

PRES. R.O.W.
OFFSET -109.84

23+50.00

CUT 0
FILL 0

1580
1570
1560
1550
1540
1530
1520
1510
1500

FG EL. 1568.94

0.02 -0.02

PRES. R.O.W.
OFFSET -115.27

23+00.00

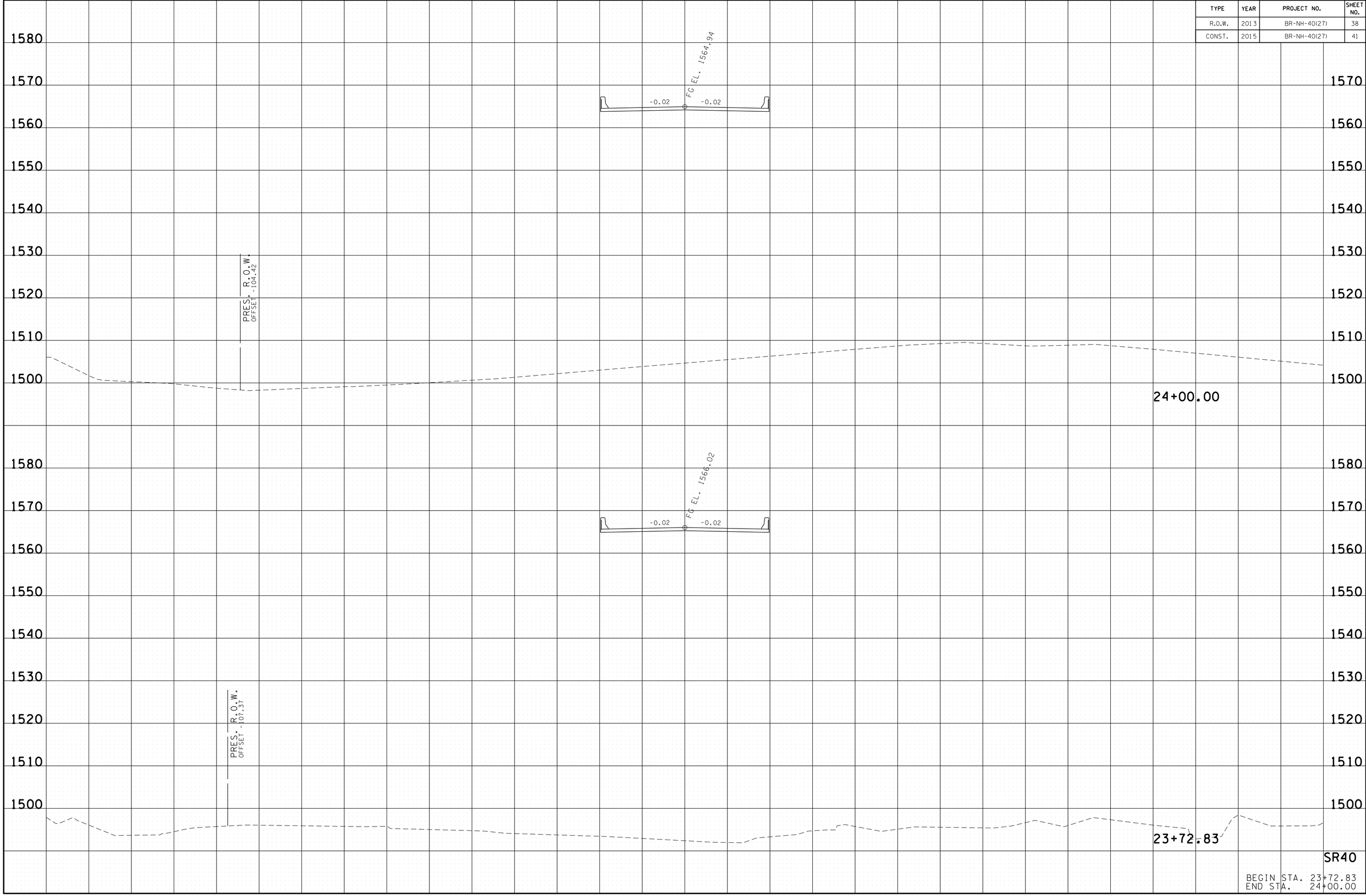
SR40

BEGIN STA. 23+00.00
END STA. 23+50.00

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

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C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	38
CONST.	2015	BR-NH-40(27)	41

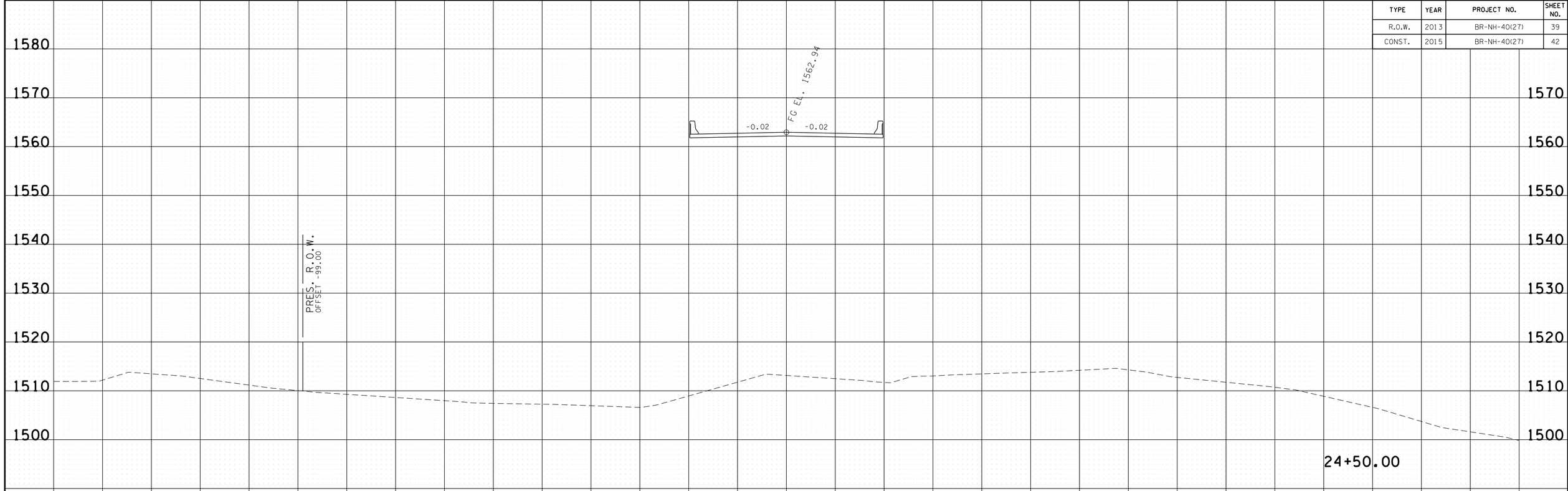


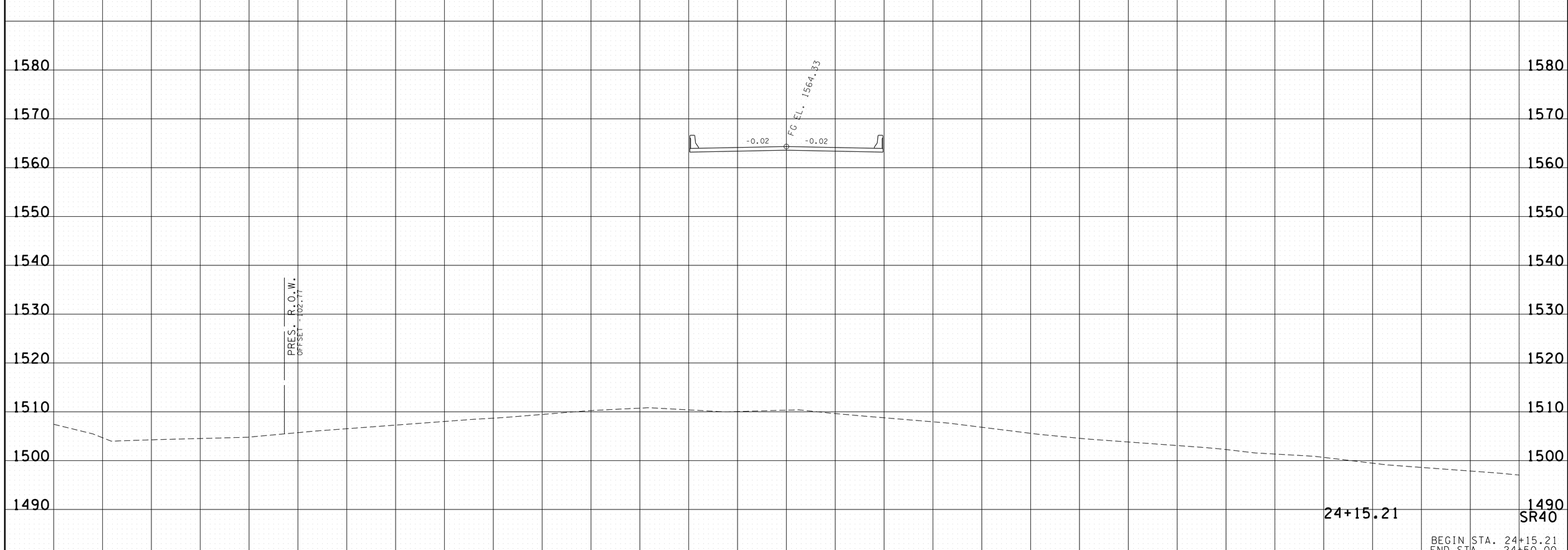
SR40

BEGIN STA. 23+72.83
END STA. 24+00.00

12-OCT-2015 09:45
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	39
CONST.	2015	BR-NH-40(27)	42

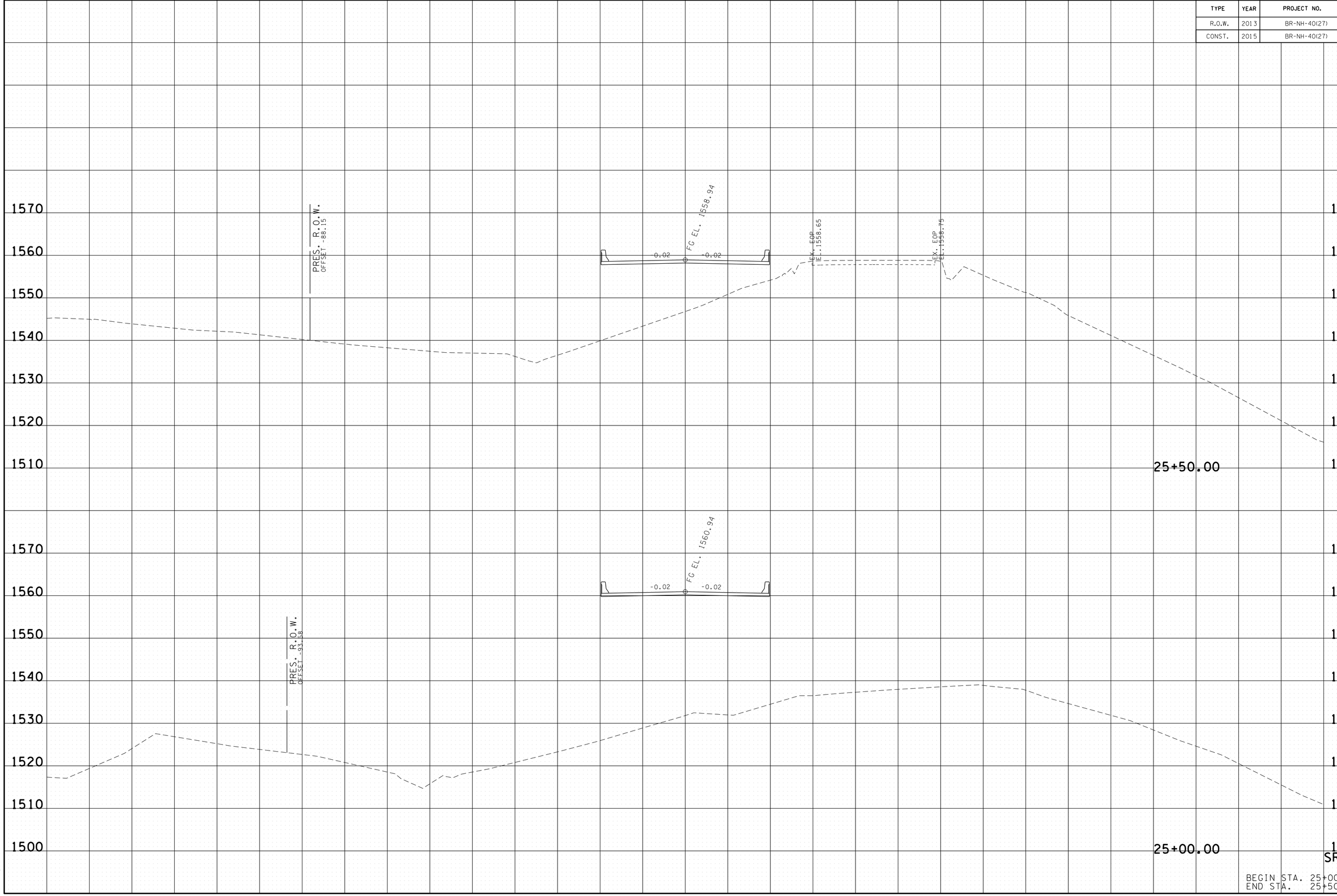




BEGIN STA. 24+15.21
END STA. 24+50.00

12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

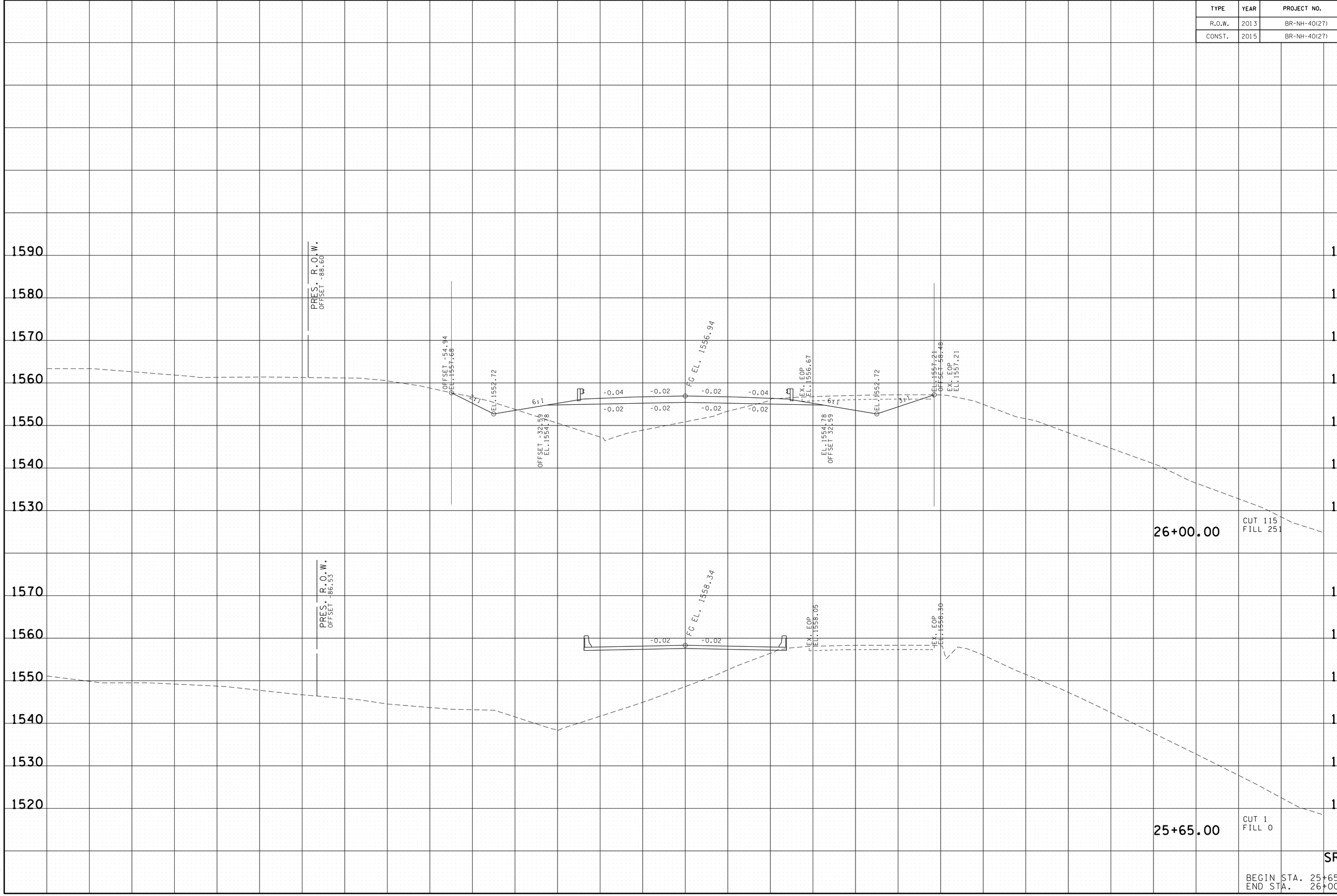
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	40
CONST.	2015	BR-NH-40(27)	43



BEGIN STA. 25+00.00
END STA. 25+50.00

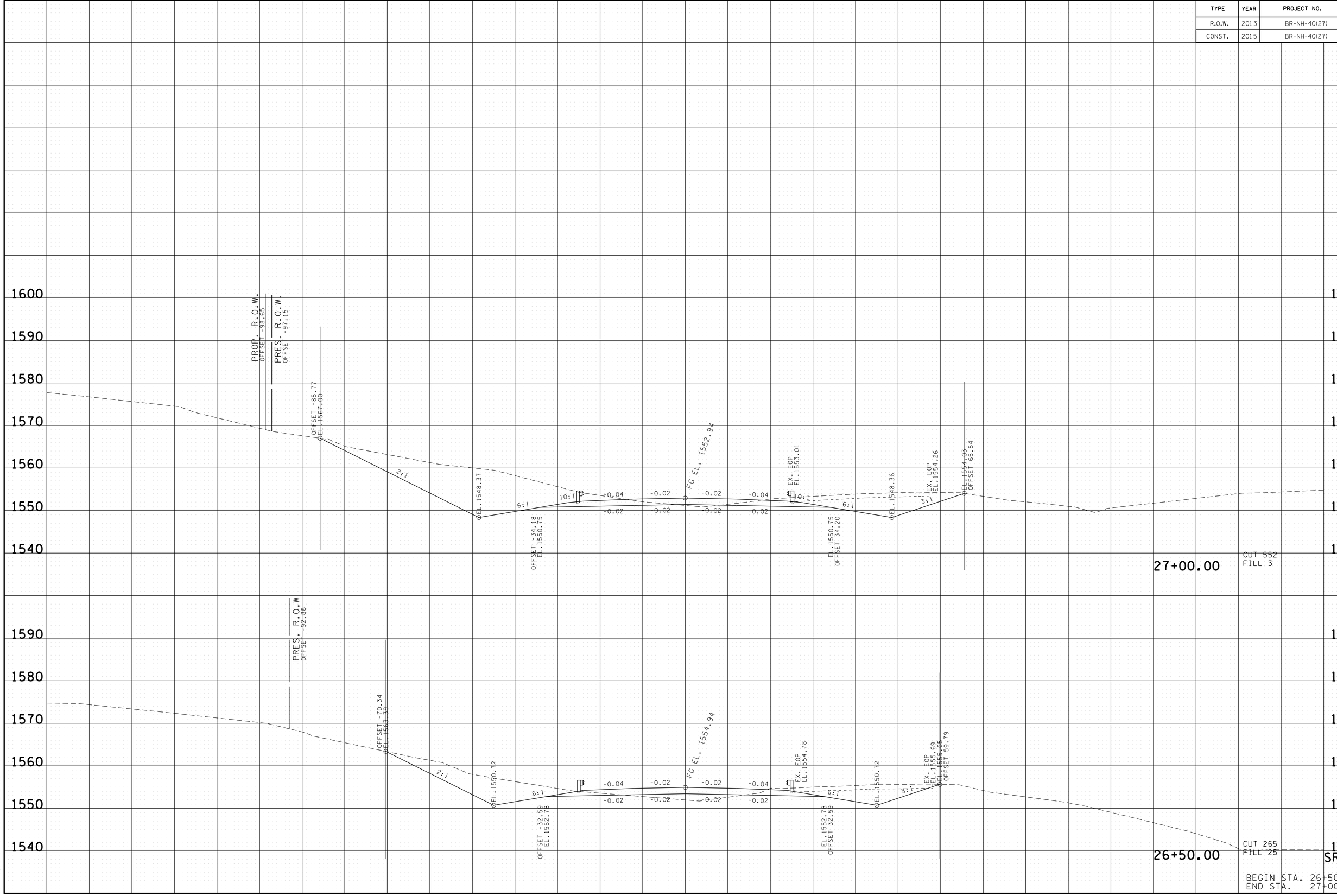
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	41
CONST.	2015	BR-NH-40(27)	44



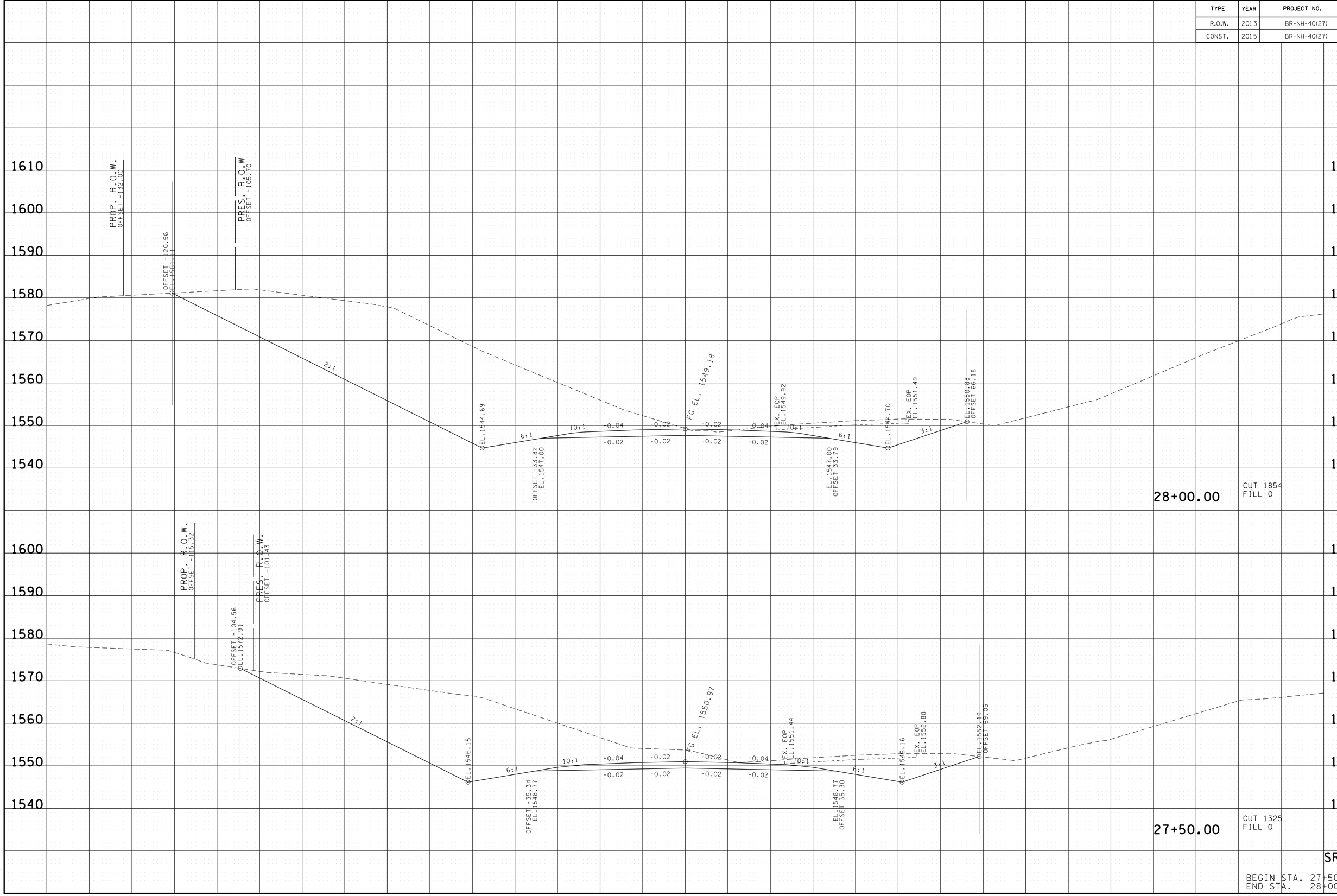
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40\LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	42
CONST.	2015	BR-NH-40(27)	45



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C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	43
CONST.	2015	BR-NH-40(27)	46

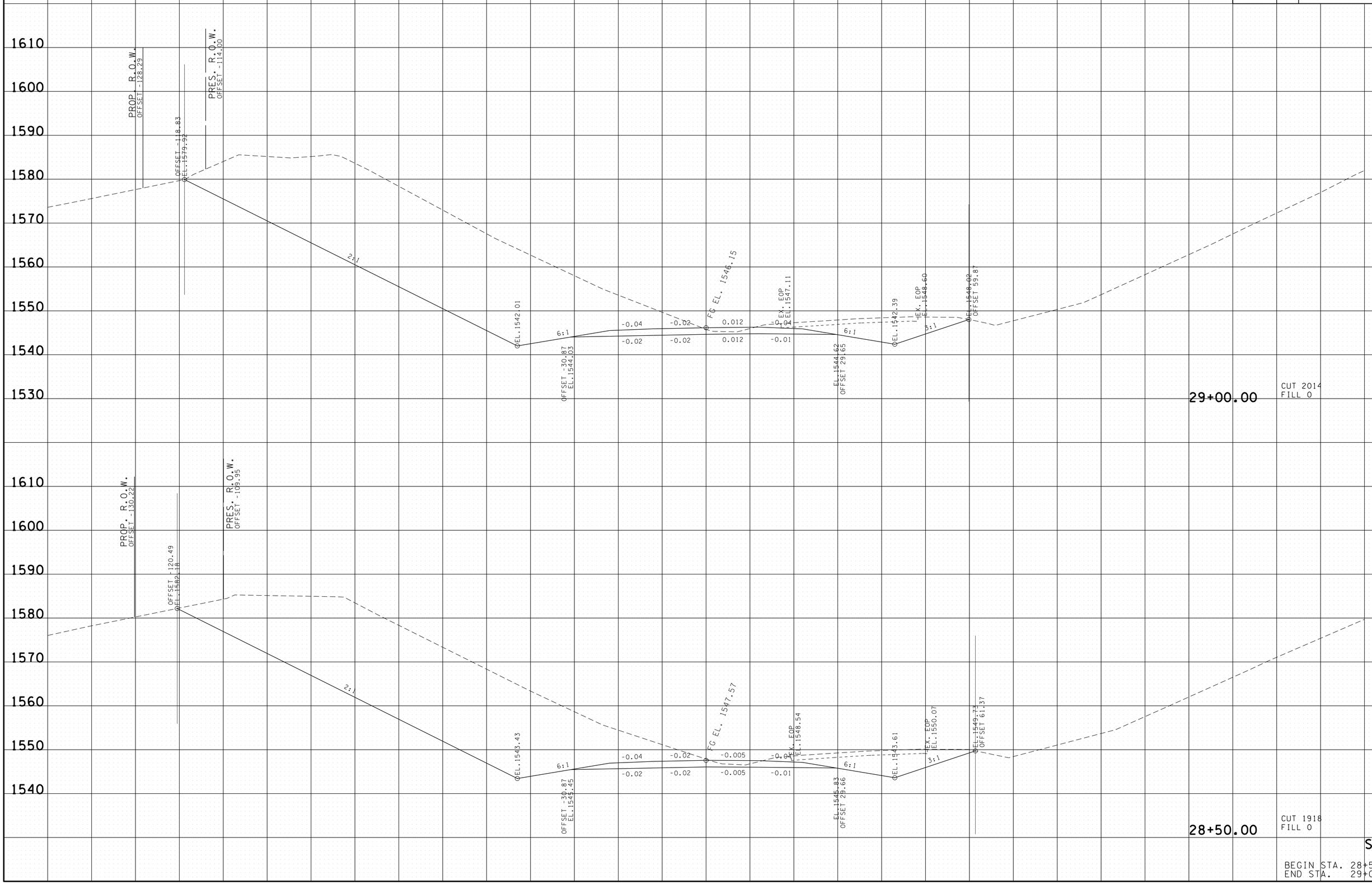


SR40

BEGIN STA. 27+50.00
END STA. 28+00.00

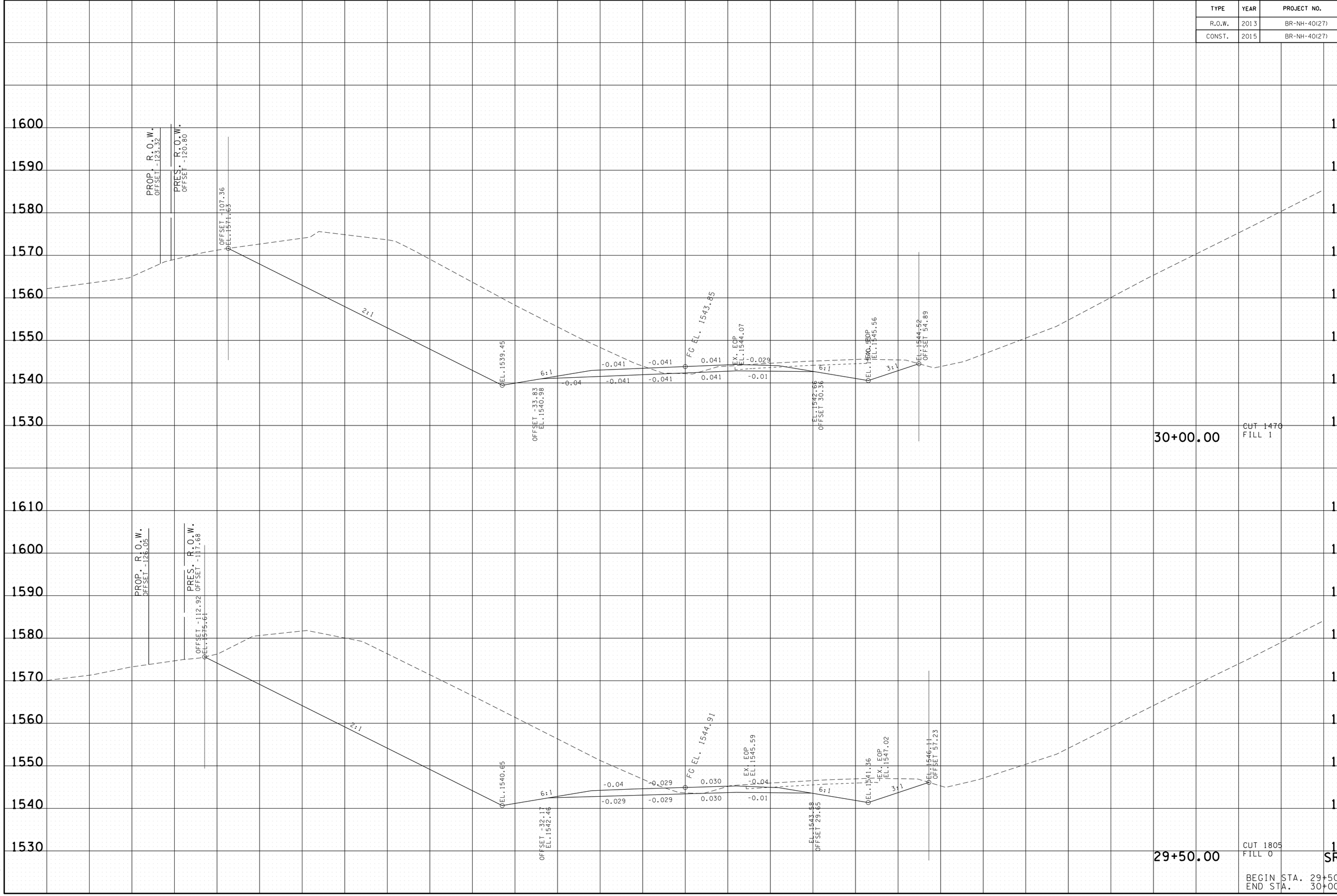
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	44
CONST.	2015	BR-NH-40(27)	47



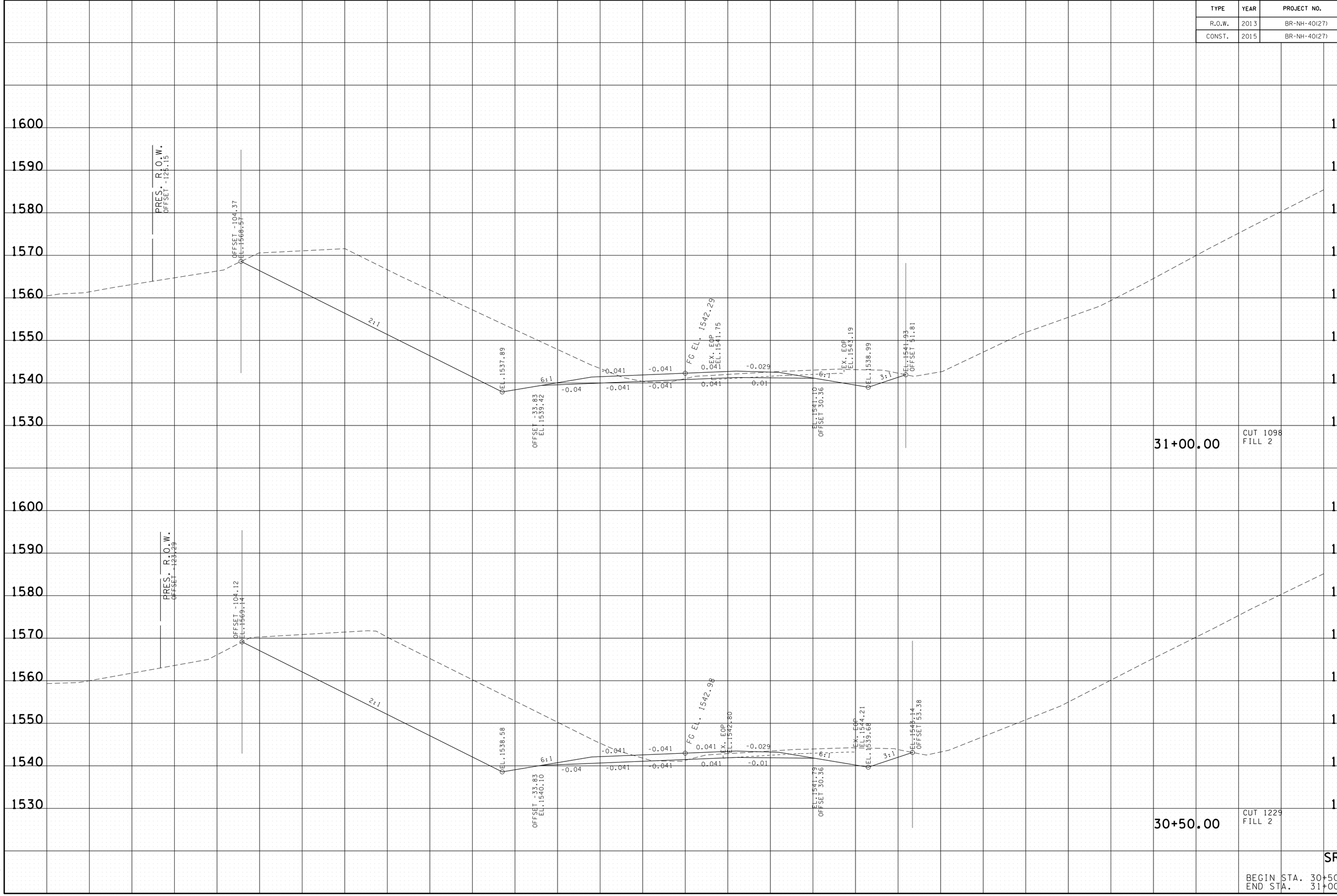
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	45
CONST.	2015	BR-NH-40(27)	48



12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	46
CONST.	2015	BR-NH-40(27)	49

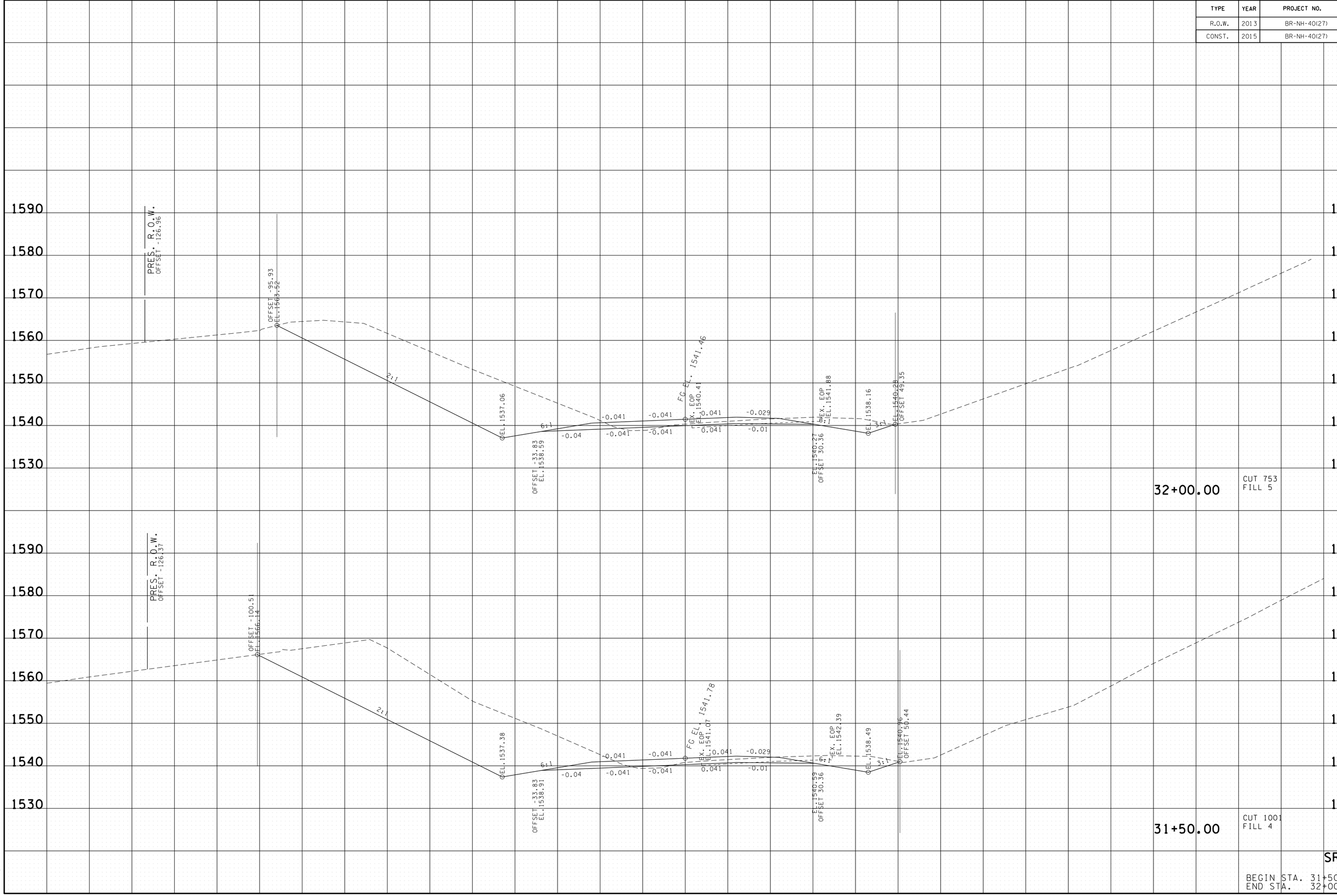


SR40

BEGIN STA. 30+50.00
END STA. 31+00.00

12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	47
CONST.	2015	BR-NH-40(27)	50

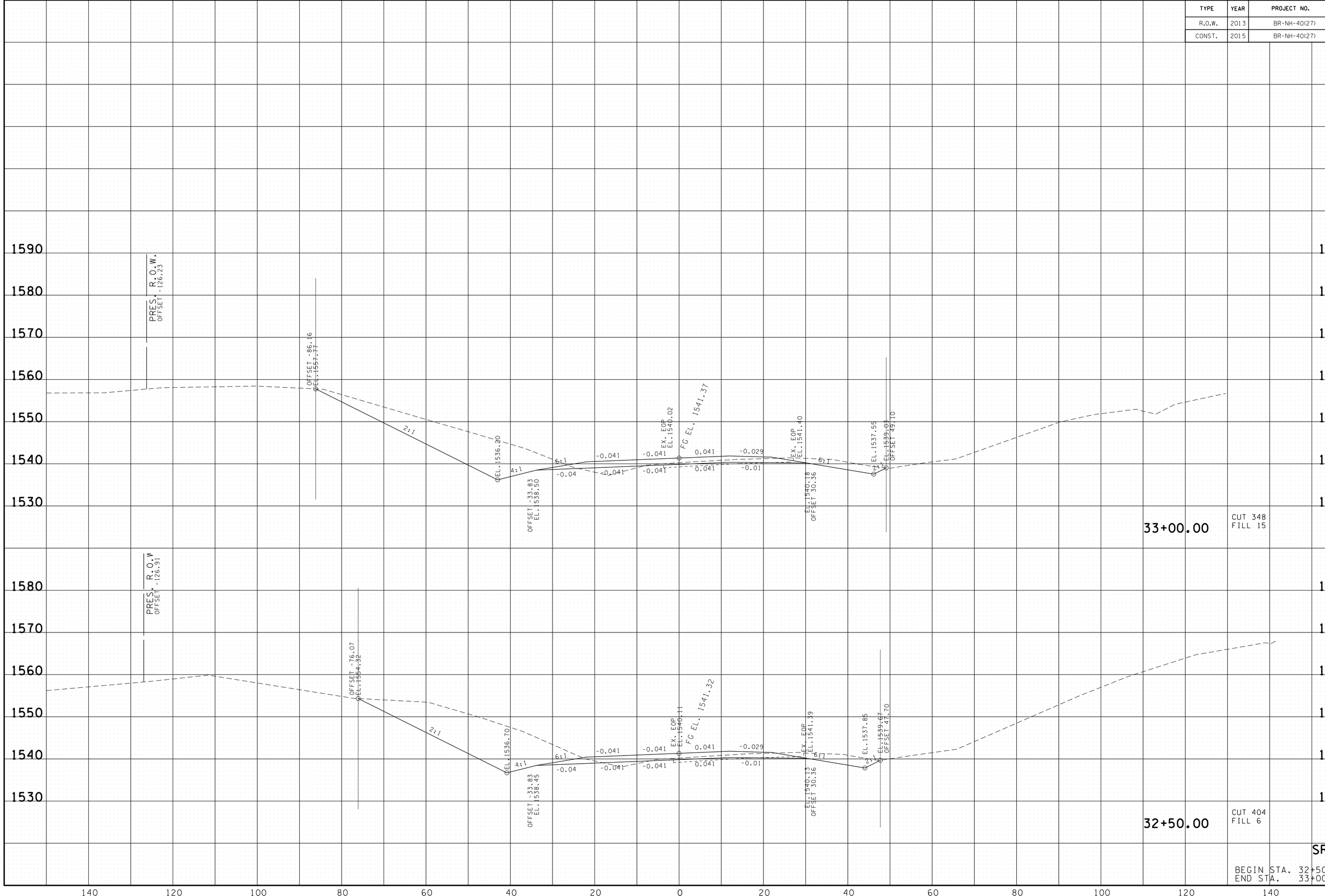


SR40

BEGIN STA. 31+50.00
END STA. 32+00.00

12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	48
CONST.	2015	BR-NH-40(27)	51

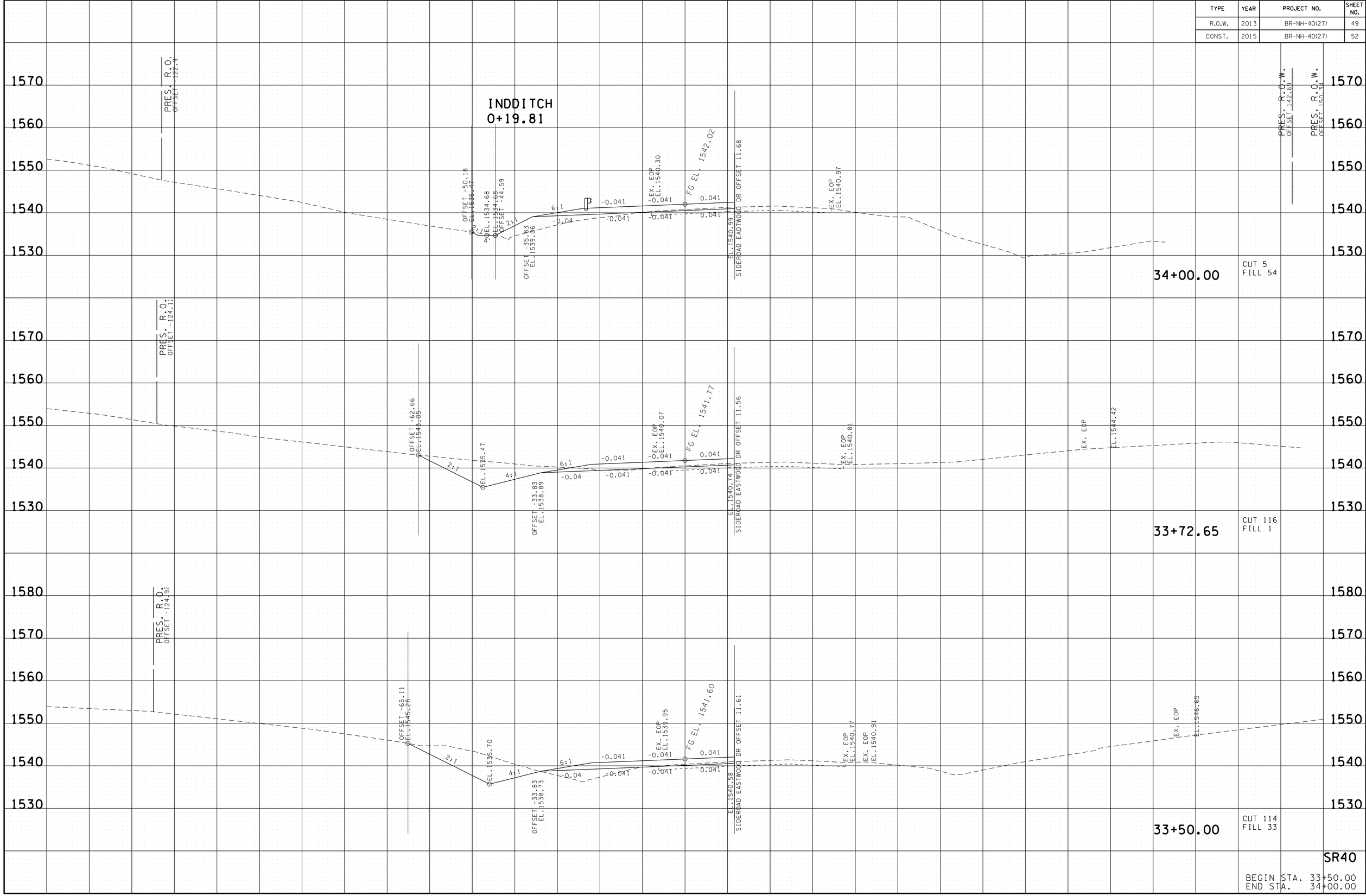


SR40

BEGIN STA. 32+50.00
END STA. 33+00.00

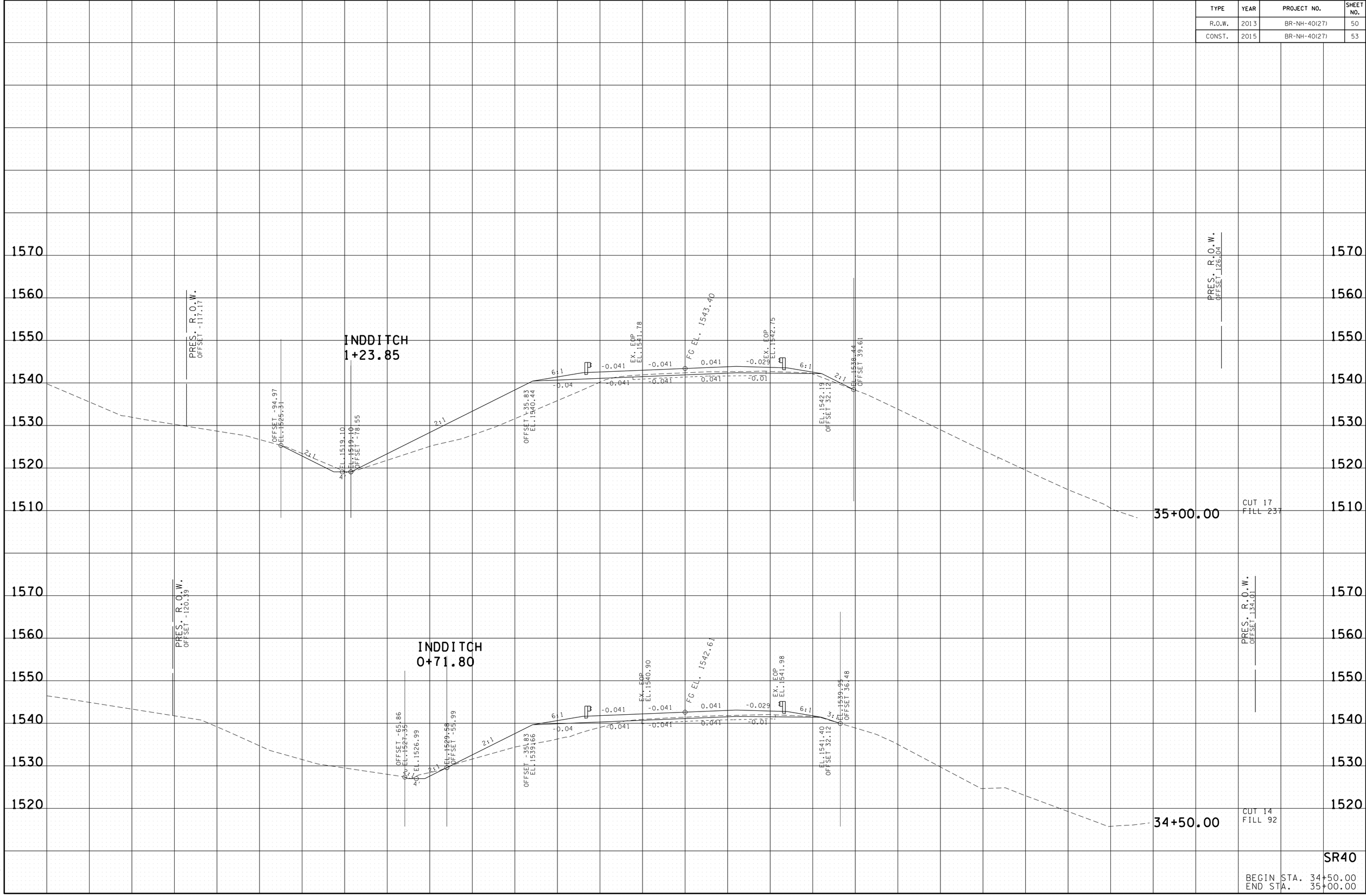
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\POSR40-xSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	49
CONST.	2015	BR-NH-40(27)	52



25-NOV-2015 13:17
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	50
CONST.	2015	BR-NH-40(27)	53

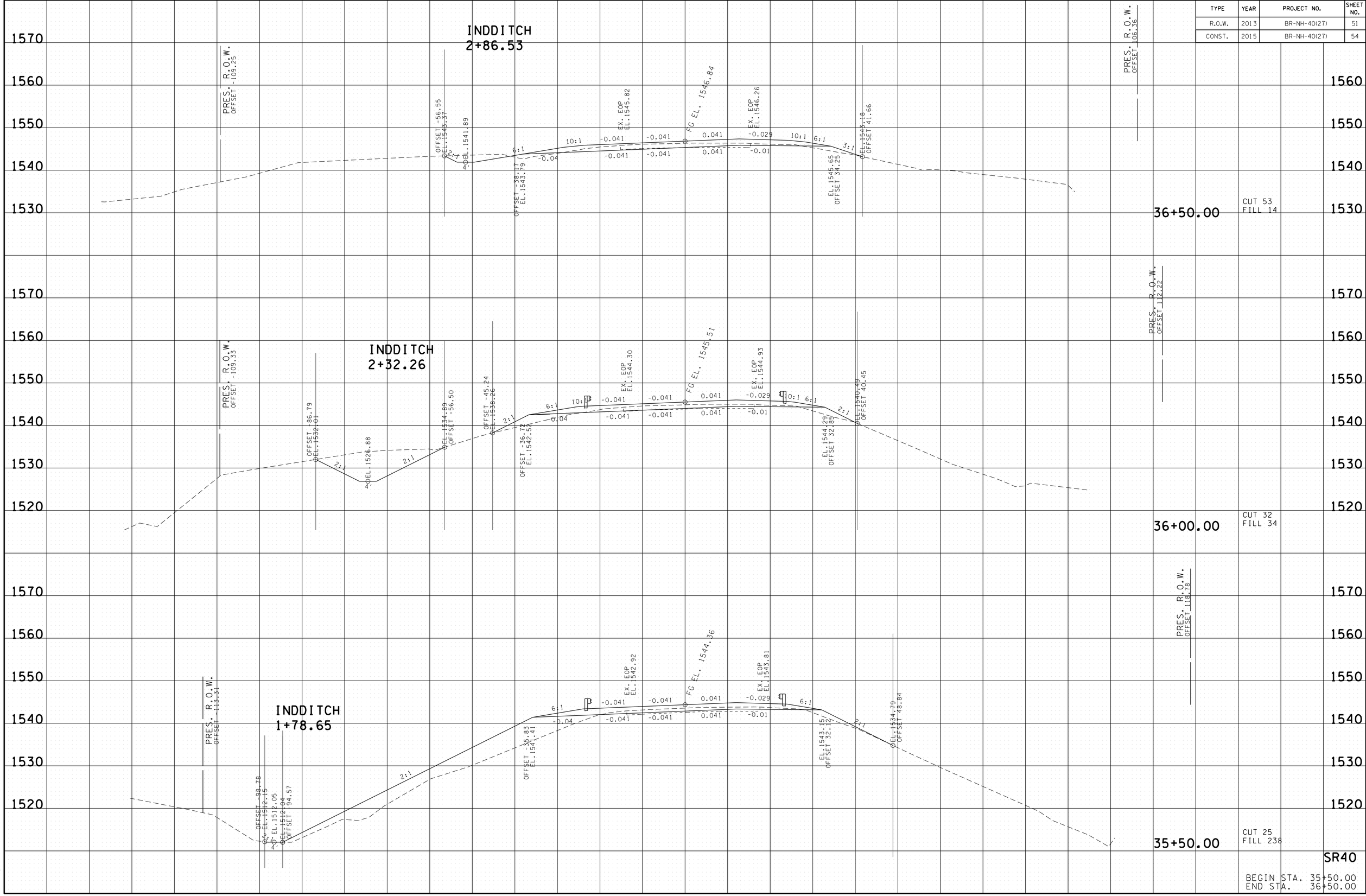


SR40

BEGIN STA. 34+50.00
END STA. 35+00.00

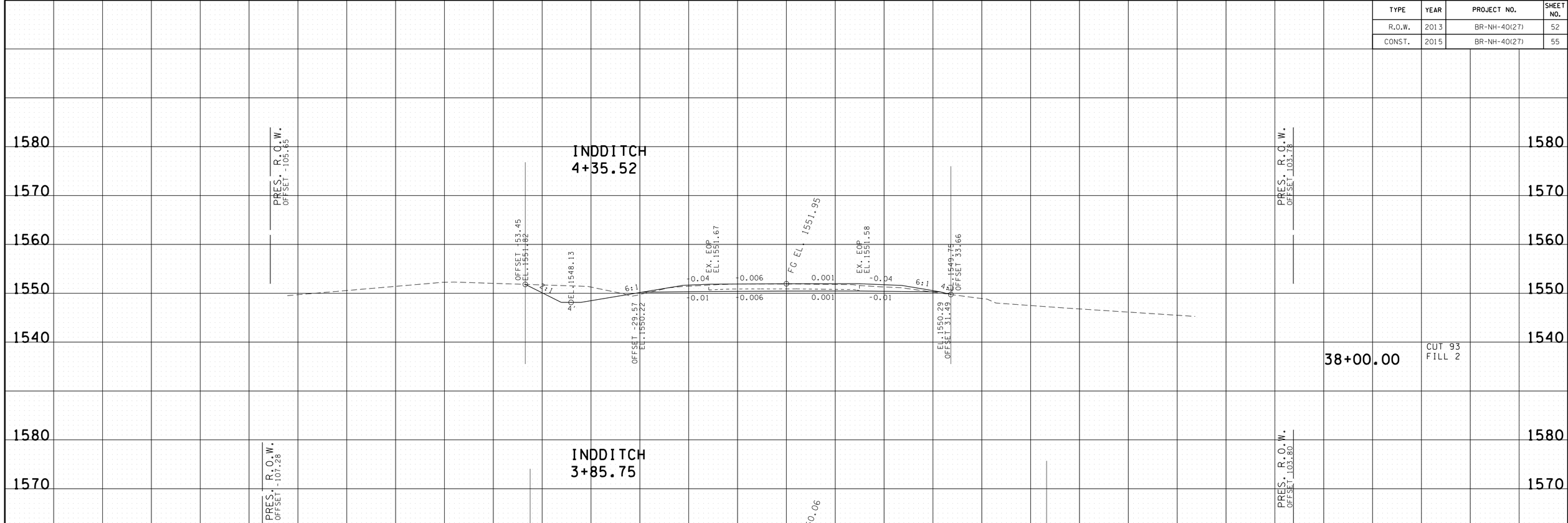
12-OCT-2015 09:46
C:\Projects\Polk Co\SR40LM24.85\POSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	51
CONST.	2015	BR-NH-40(27)	54



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C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	52
CONST.	2015	BR-NH-40(27)	55



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C:\Projects\Polk Co\SR40LM24.85\PQSR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	53
CONST.	2015	BR-NH-40(27)	56

38+97.07

38+50.00

38+24.41

PRES. R.O.W.
OFFSET -104.78

PRES. R.O.W.
OFFSET 103.84

TIE TO EXISTING

EX. EOP
EL.1552.78

0.001

FG EL. 1552.92

-0.007

EX. EOP
EL.1552.64

CUT 0
FILL 0

SR40

BEGIN STA. 38+24.41
END STA. 38+97.07

12-OCT-2015 09:47
C:\Projects\Polk Co\SR40LM24.85\P0SR40-XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	54
CONST.	2015	BR-NH-40(27)	57

1580
1580
1600
1590
1580
1600
1590
1580
1600
1590
1580
1570
1600
1590
1580

101+42.65

101+00.00

TIE TO EXISTING

FG EL. 1582.46

0.001 0.001

100+87.86

CUT 0
FILL 0

OFFSET -19.75
EL.1583.49

OFFSET -13.76
EL.1583.27

EL.1582.38

-0.004 -0.004 -0.004 0.004 0.004 0.004

FG EL. 1584.42

EL.1582.45

OFFSET 12.40
EL.1583.36

OFFSET 18.27
EL.1583.50

100+50.00

CUT 18
FILL 0

FG EL. 1586.38

-0.007 -0.007 0.007 0.007

SR 40 OFFSET 9.00
EL.1585.21

EL.1585.34
SR 40 OFFSET 9.00

TIE TO EXISTING

100+14.80

CUT 6
FILL 0

100+00.00

CUT 0
FILL 0

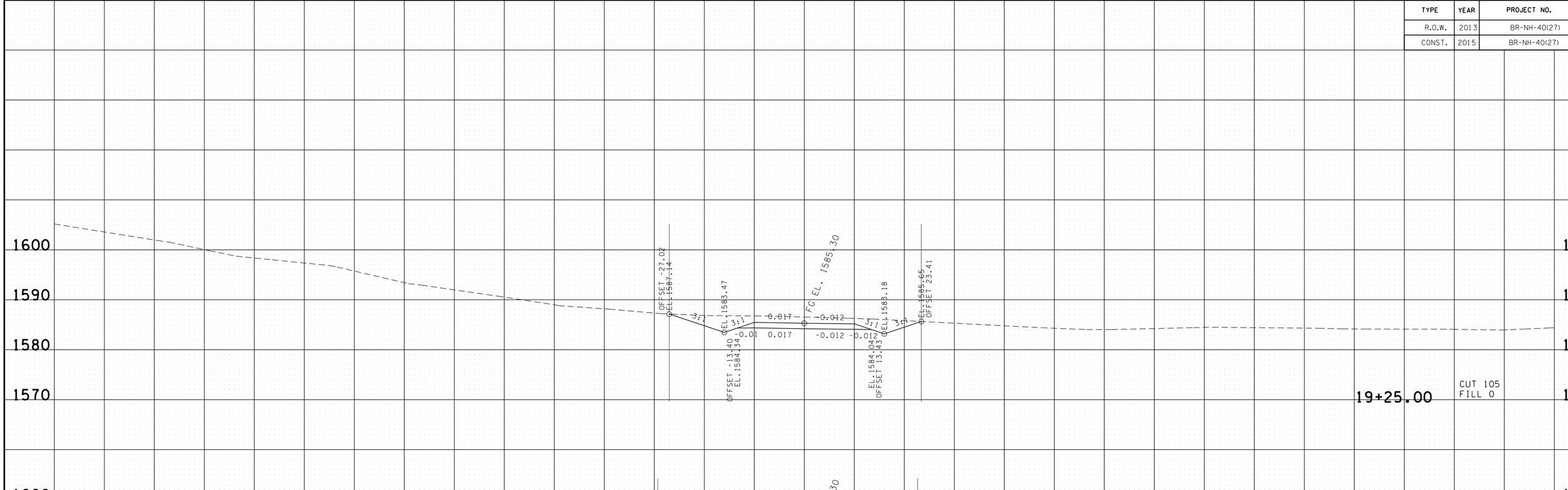
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

HICKORY TREE DR

BEGIN STA. 100+00.00
END STA. 101+42.65

12-OCT-2015 09:47
C:\Projects\Polk Co\SR40LM24.85\P0SR40-HickoryXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	55
CONST.	2015	BR-NH-40(27)	58



PINECREST DR

BEGIN STA. 18+83.50
END STA. 19+25.00

12-OCT-2015 09:47
C:\Projects\Polk Co\SR40LM24.85\P0SR40-PinecrestXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	56
CONST.	2015	BR-NH-40(27)	59

20+00.00

TIE TO EXISTING

1600
1590
1580
1570

FG EL. 1585.18

SR40 OFFSET -10.00
EL.1584.02

SR40 OFFSET 10.00
EL.1584.15

-0.007 0.007
-0.007 0.007

19+87.53
CUT 22
FILL 0

FG EL. 1584.79

OFFSET -26.96
EL.1586.39

OFFSET -13.70
EL.1583.70

OFFSET 13.40
EL.1583.65

OFFSET 22.92
EL.1585.09

3:1

-0.01 0.004 -0.004 -0.001
-0.01 0.004 -0.001 -0.01

19+50.00
CUT 92
FILL 0

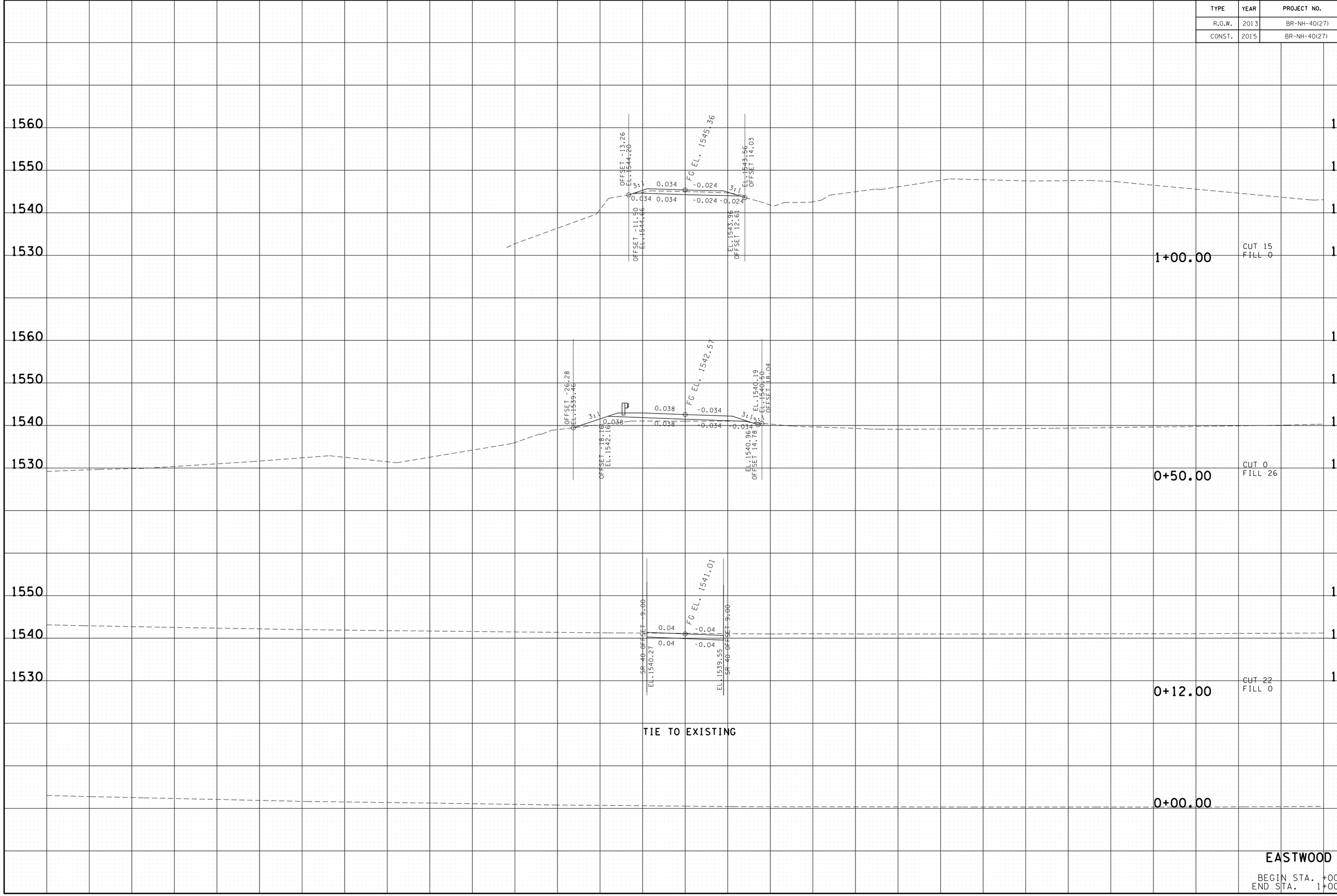
PINECREST DR

BEGIN STA. 19+50.00
END STA. 20+00.00

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

12-OCT-2015 09:47
C:\Projects\Polk Co\SR40LM24.85\P0SR40-PinecrestXSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	57
CONST.	2015	BR-NH-40(27)	60



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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2013	BR-NH-40(27)	58
CONST.	2015	BR-NH-40(27)	61

1560

1560

1+77.91

1560

1550

1550

1+50.00

TIE TO EXISTING

1560

1560

1550

1550

1540

1540

OFFSET -15.89
EL. 1547.79

OFFSET -11.79
EL. 1548.41

FG EL. 1549.15

EL. 1547.42

EL. 1547.85
OFFSET 12.89

EL. 1547.08
OFFSET 15.34

0.03 -0.016
0.03 0.03 -0.016 -0.016

1+38.49

CUT 26
FILL 0

EASTWOOD DR

BEGIN STA. 1+38.49
END STA. 1+77.91

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

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