



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

REGION 3 PROJECT DEVELOPMENT

6601 CENTENNIAL BOULEVARD
NASHVILLE, TN 37243
(615) 350-4300

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

TO: Jennifer Lloyd PE, Director, Roadway Design Division

FROM: Shane Hester PE, Director, Region 3 Project Development

DATE: 12/27/2017

SUBJECT: DESIGN EXCEPTION REQUEST AND JUSTIFICATION

Project No.	<u>NH-I-440-4(84); 19014-1169-04</u>	
PIN No.	<u>125325.00</u>	
Project Description:	<u>Davidson County, I-440, From I-40 to I-24</u>	
NHS	<u>YES</u>	<u>NO</u>
State Route	<u>YES</u>	<u>NO</u>

DESIGN CONTROLLING CRITERIA FOR WHICH EXCEPTION IS REQUESTED:

APPLICABLE FOR ALL NHS ROADWAYS

Design Speed Design Loading Structural Capacity

APPLICABLE FOR NHS ROADWAYS WITH DESIGN SPEED \geq 50 MPH

Lane Width	<input type="checkbox"/>	Cross Slopes	<input type="checkbox"/>
Horizontal Curve Radius	<input checked="" type="checkbox"/>	Vertical Clearance	<input checked="" type="checkbox"/>
Stopping Sight Distance (L1 & L2)	<input checked="" type="checkbox"/>	Superelevation Rate (L2)	<input checked="" type="checkbox"/>
Shoulder Width	<input type="checkbox"/>	Maximum Grade	<input type="checkbox"/>

DESCRIBE THE REASONING OF THE DESIGN EXCEPTION REQUEST:

The I-440 project proposes widening along the inside of the existing roadway. The widening adds one 12-foot thru lane in each direction, 11-foot inside shoulders and a 51-inch median barrier between the two inside shoulders:

Location 1 (L1)

The 51-inch median barrier creates a horizontal sight obstruction (HSO) for the eastbound inside travel lane along the curve located at STA 1112+05.26 to STA 1114+87.47. The HSO

causes a stopping sight distance (SSD) that is below standard. The required SSD is 537 feet (60 MPH - Grade Adjusted). Modifications to the alignment to achieve the standard SSD are not possible since the existing alignment is being retained. The existing SSD along this segment is approximately 468 feet (55 MPH - Grade Adjusted). The proposed inside shoulder width along this curve has been increased by 5-feet. This provides approximately 468 feet (55 MPH - Grade Adjusted) SSD which equals the current SSD.

Location 2 (L2)

The 51-inch median barrier creates a horizontal sight obstruction (HSO) for the eastbound inside travel lane along the curve located at STA 1161+85.29 to STA 1170+90.06. The HSO causes a stopping sight distance (SSD) that is below standard. The required SSD is 588 feet (60 MPH - Grade Adjusted). Modifications to the alignment to achieve the standard SSD are not possible since the existing alignment is being retained. The existing SSD along this segment is approximately 439 feet (50 MPH - Grade Adjusted). Due to a conflict with an existing overpass bent footing, the proposed eastbound inside shoulder is shifted 9 feet from the centerline and a 32-inch barrier is installed. This modification provides approximately 511 feet (55 MPH - Grade Adjusted) SSD which is an 72 foot improvement over the existing SSD. The proposed 9 foot shift causes the standard superelevation of 7.8% to compromise the standard 16 foot vertical clearance with the Belmont Blvd. overpass. To maintain the standard vertical clearance, the existing superelevation of 6% has been retained and utilized in the proposed design.

PROJECT DESIGN DATA:

Highway Functional Classification: (Green Book 2011 Section 1.3)	Principal Arterial <input checked="" type="checkbox"/>	Arterial <input type="checkbox"/>
Rural or Urban area:	Connector <input type="checkbox"/>	Local road <input type="checkbox"/>
Roadway Design Standard Drawing:	Urban <u>RD01-TS-5W</u>	
Existing Design Speed:	<u>60 MPH</u>	
Existing Posted Speed:	<u>55 MPH</u>	
Proposed Design Speed:	<u>60 MPH</u>	
Proposed Posted Speed:	<u>55 MPH</u>	
Type of Terrain:	Level <input type="checkbox"/> Rolling <input checked="" type="checkbox"/> Mountainous <input type="checkbox"/>	
Traffic Data:	ADT (2021): <u>103000</u> ADT (2041): <u>123720</u> DHV: <u>13610</u>	D: <u>55-45</u> T: <u>7%</u> V: <u>60 MPH</u>

Figure 3-1 (Continued)
Design Exception and Justification Form

GEOMETRIC DESIGN DATA FOR LOCATIONS (L1 & L2) OF THE REQUESTED DESIGN EXCEPTION:

	Standard	Existing	Proposed	N/A
Cross Slope (tangent section):	8.0 %	6.0 %	6.0 %	<input checked="" type="checkbox"/>
Max. Superelevation Rate L2:				<input type="checkbox"/>
Minimum Radius of Curve:				<input checked="" type="checkbox"/>
Minimum Stopping Sight Distance L1:	537ft.	468ft.	468ft.	<input type="checkbox"/>
	(Grade Adjusted)	(Grade Adjusted)	(Grade Adjusted)	
Minimum Stopping Sight Distance L2:	588ft.	439ft.	511ft.	<input type="checkbox"/>
	(Grade Adjusted)	(Grade Adjusted)	(Grade Adjusted)	
Passing Sight Distance:				<input checked="" type="checkbox"/>
Crest Vertical Curve "K":				<input checked="" type="checkbox"/>
Sag Vertical Curve K:				<input checked="" type="checkbox"/>
Maximum Grade:				<input checked="" type="checkbox"/>
Design Loading:				<input checked="" type="checkbox"/>
ROADWAY TYPICAL SECTION				
Lane Width:				<input checked="" type="checkbox"/>
Outside Shoulder width:				<input checked="" type="checkbox"/>
Inside Shoulder width:				<input checked="" type="checkbox"/>
Clear Zone width:				<input checked="" type="checkbox"/>

BRIDGE DESIGN FEATURES

	Standard	Existing	Proposed	N/A
Traffic Lane Widths:				<input checked="" type="checkbox"/>
Outside Shoulder Widths:				<input checked="" type="checkbox"/>
Inside Shoulder Widths:				<input checked="" type="checkbox"/>
Sufficiency Rating:				<input checked="" type="checkbox"/>
Vertical Clearance				<input checked="" type="checkbox"/>
To Navigational Waterway:				<input checked="" type="checkbox"/>
To Other Highway:				<input checked="" type="checkbox"/>
To Railroad:				<input checked="" type="checkbox"/>

Figure 3-1 (Continued)
Design Exception and Justification Form

OTHER FACTORS CONSIDERED FOR THE EXCEPTION REQUEST:

	YES	NO	N/A
SAFETY			
Accident history data has been reviewed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All roadway and roadside safety mitigation measures have been considered and provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed variance from the minimum roadway design standards does not adversely affect the safety of the facility.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Highway Safety Manual is used to justify the design exception.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OPERATIONS			
The operation of the proposed typical cross-section is comparable with operation of the adjacent cross-sections.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed design does not cause a reduction in capacity or adversely affect traffic flow of the facility.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed design does not adversely effect long-term operations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROADWAY DESIGN			
It is not feasible to meet the minimum roadway design standards due to right-of-way restrictions, environmental impacts, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed design maintains the same level of service compared to the design based on minimum roadway design standards.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed design results in a significant cost savings compared to the design based on minimum roadway design standards.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The proposed design can meet minimum roadway design standards in the future.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

JUSTIFICATION OF DESIGN EXCEPTION:

Please provide detailed justification for the each item checked NO above

Location 1

Providing full SSD would require the modification/reconstruction of the 21st Avenue/Hillsboro Pike interchange/overpass structure. Established residential properties and utilities are located along all four quadrants of the interchange and modification/reconstruction would result in major right-of-way, utility and exposure impacts.

Cost estimates for providing the full SSD were not developed, however providing full SSD would require reconstruction of the 21st Avenue/Hillsboro Pike interchange resulting in a substantial cost increase in the project.

A review was conducted for this segment's accident history over the last three years. Collisions indicative of insufficient stopping sight distance (rear end collision and sideswipe in the same direction) were evaluated. 43 rear end collisions were reported during this period. 24 of the 43 rear end collisions were found to have occurred during peak volume periods and in stop and go conditions. These rear end collisions appeared to not be caused by insufficient SSD. The remaining 19 rear end collisions were attributed to various other reasons ranging from driver error, distracted driving, driver impairment, and improper lane changes. 7 sideswipes in the same direction were reported. All 7 collisions were attributed to improper lane changes.

Currently in the Highway Safety Manual, 1st Edition, designates increases in sight distance (Section 13A.12.3) as a treatment with unknown crash effects, therefore no HSM analysis was

Figure 3-1 (Continued)
Design Exception and Justification Form

performed.

Achieving the full SSD is unlikely in the foreseeable future. The 21st Avenue/Hillsboro Pike overpass currently provides four through lanes in each direction with dual left turn lanes for motorist accessing I-440 eastbound and one left turn lane for motorist accessing I-440 westbound. Modifications to this interchange/overpass aren't currently proposed in TDOT's short or long range plans.

Therefore, we respectfully request approval of the design exception for maintaining the existing SSD of 468' in the proposed design as stated above.

Location 2

Providing full SSD and standard maximum superelevation rate would require the modification/reconstruction of the Belmont Blvd. overpass structure. Established residential and commercial properties and utilities are located along both sides of the overpass and modification/reconstruction would result in major right-of-way, utility and exposure impacts. Cost estimates for providing the full SSD and standard maximum superelevation rate were not developed, however providing full SSD and standard maximum superelevation rate would require reconstruction of the Belmont Blvd. overpass resulting in a substantial cost increase to the project.

A review was conducted for this segment's accident history over the last three years. Collisions indicative of insufficient stopping sight distance (rear end collision and sideswipe in the same direction) were evaluated. 39 rear end collisions were reported during this period. 14 of the 39 rear end collisions were found to have occurred during peak volume periods and in stop and go conditions. These rear end collisions appeared to not be caused by insufficient SSD, since speeds are reduced during heavy traffic periods. The remaining 25 rear end collisions were attributed to various other reasons ranging from driver error, distracted driving, driving too close, abrupt stops, and improper lane changes. 5 sideswipes in the same direction were reported. All 5 collisions were attributed to improper lane changes.

The existing superelevation rate of 6% was evaluated utilizing Table 3-9 - *Minimum Radii for Design Superelevation Rates, Design Speeds, and $emax= 6\%$* from A Policy on Geometric Design of Highway and Streets, 2011, 6th edition. The proposed roadway curve is 1422.50 feet. The minimum design radius for an $emax= 6\%$ and $V = 60$ MPH is 1330 feet. Based on Table 3-9, maintaining the existing superelevation rate of 6% was considered to be safe and appropriate for the proposed design speed of 60 MPH.

Currently in the Highway Safety Manual, 1st Edition, designates increases in sight distance (Section 13A.12.3) as a treatment with unknown crash effects, therefore no HSM analysis was performed.

Achieving the full SSD or the standard maximum superelevation rate is unlikely in the foreseeable future. The Belmont Blvd. overpass currently provides two through lanes in each direction with a two-way left turn lane for motorists traveling north and south on Belmont Blvd. Modifications to this overpass aren't currently proposed in TDOT's short or long range plans.

Therefore, we respectfully request approval of the design exception for the proposed SSD of 511' and superelevation maximum of 6% in the proposed design as stated above.

Figure 3-1 (Continued)
Design Exception and Justification Form

Attachments – Preliminary roadway plan sheets and Crash Summary Sheet

**DESIGN EXCEPTION IS REVIEWED AND RECOMMENDED
FOR APPROVAL BY:**



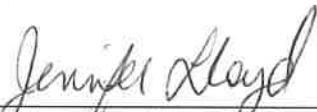
12/27/2017

Director, Region 3 Project
Development

Date

Reviewer Comments Attached

APPROVED BY:



12/27/17

Director, Roadway Design Division

Date

Figure 3-1 (Continued)
Design Exception and Justification Form

Index Of Sheets

TITLE SHEET.....	1
TYPICAL SECTIONS.....	2-2N*
RIGHT-OF-WAY NOTES, UTILITY NOTES and PROPERTY OWNERS.....	NOT USED
RIGHT-OF-WAY ACQUISITION TABLE and PROPERTY MAP.....	NOT USED
PRESENT LAYOUTS.....	4 - 37
PROPOSED LAYOUTS.....	4A - 37A
PROPOSED PROFILES I-440 EB LANES.....	4B - 33B
PROPOSED PROFILES I-440 WB LANES.....	4C - 33C
RAMP PROFILES.....	38 - 38Y*
DRAINAGE MAPS.....	39 - 39F
CULVERT CROSS SECTIONS.....	40 - 40D
I-440 CROSS SECTIONS.....	41 - 291
RAMP CROSS SECTIONS.....	292 - 314

*THE LETTERS "I", "O", AND "Q" WERE NOT USED IN THE NUMBERING OF THESE SHEETS.

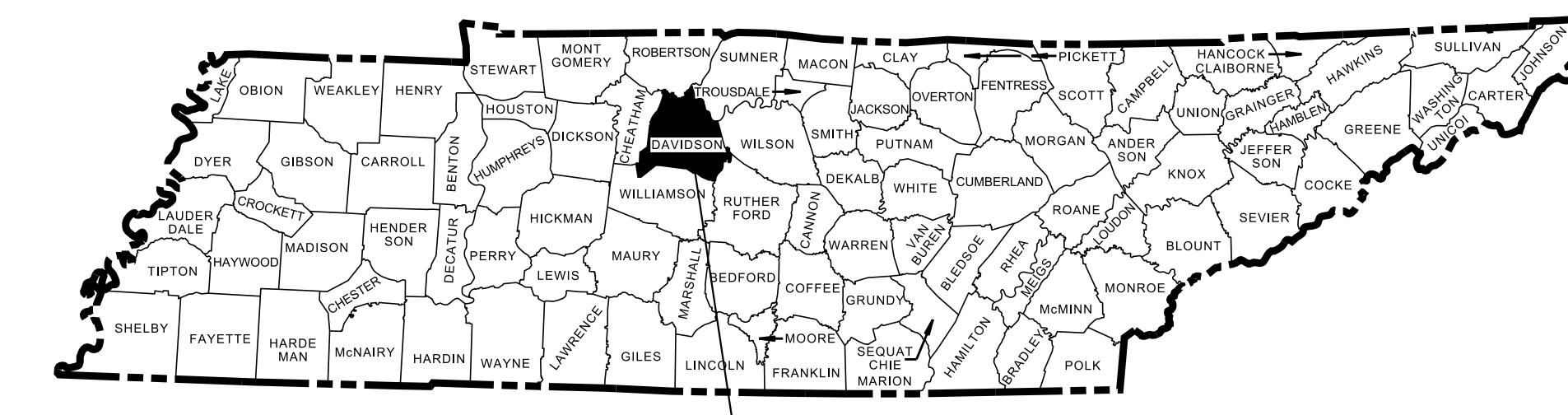
STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

DAVIDSON COUNTY

I-440 FROM I-40 TO I-24

PRELIMINARY

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



PROJECT LOCATION
BRIDGE ID. #

PRELIMINARY
PLANS

BEGIN PROJECT NO. 19014-1169-04 PRELIMINARY

STA. 13003+89.38 RAMP EB ON I-40 EB

N 663853.9563 E 1725682.6990

END PROJECT NO. 19014-1169-04 PRELIMINARY

STA. 1376+41.72

N 653465.6068 E 1752808.2268

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 OR
TDOT TRANSPORTATION MANAGER 1 :

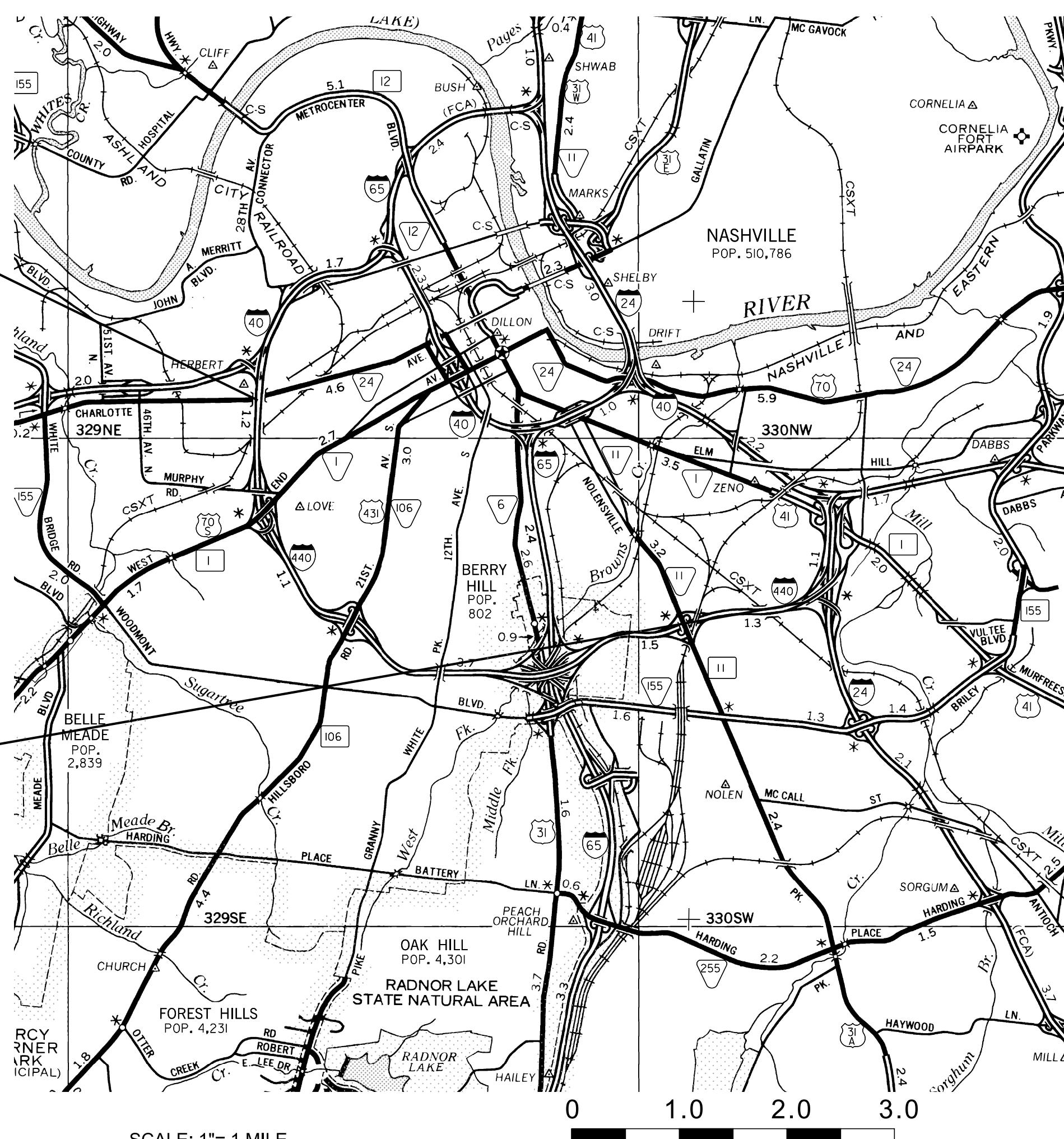
DESIGNED BY : ARCADIS U.S., INC.

DESIGNER : JAMES FRITZ BROGDON, P.E.

CHECKED BY

P.E. NO. (NEPA)

PIN NO. 125325.00



R.O.W. LENGTH

0.000 MILES

SURVEY 4-7-17	TRAFFIC DATA
UPDATED: 9-13-17	ADT (2021) 103000
UPDATED: 10-27-17	ADT (2041) 123720
	DHV (2041) 13610
	D 55 - 45
	T (ADT) 7 %
	T (DHV) 5 %
	V 60 MPH

STATE PLANE COORDINATES ARE BASED ON GPS MEASUREMENTS
OBTAINED -- USING GEODID 2013 MODEL AND DATUM
ADJUSTMENT FACTOR OF 1.0006

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

Paul D. Degges
PAUL D. DEGES, CHIEF ENGINEER

DATE:

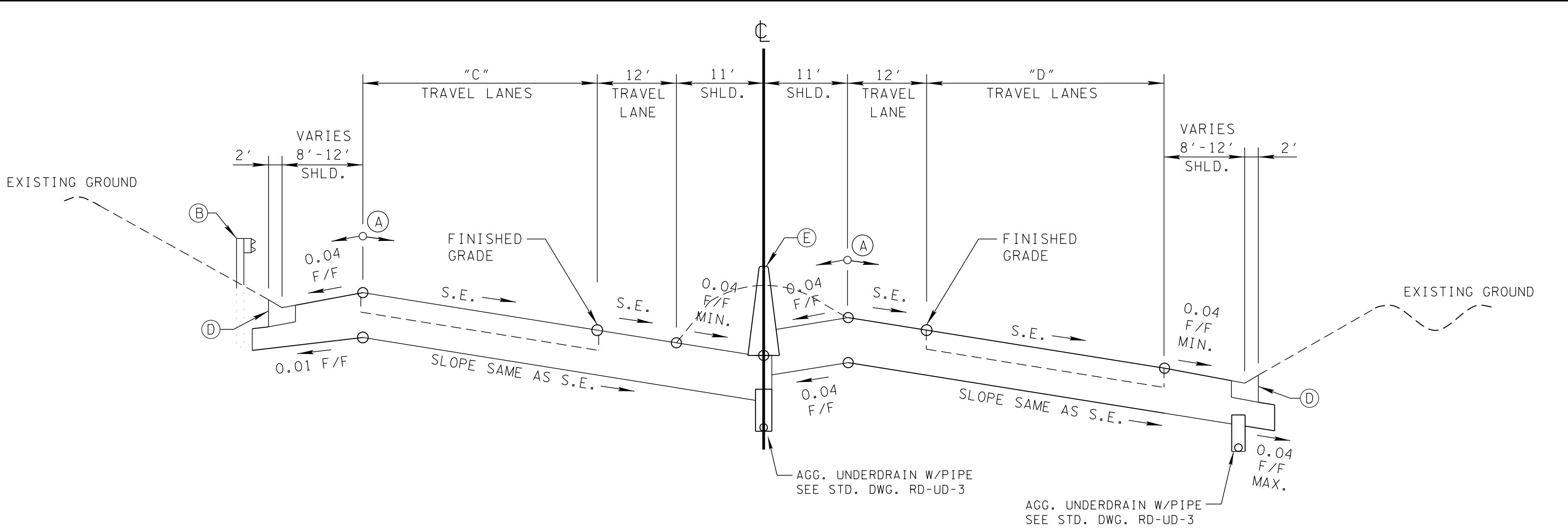
APPROVED:

John Schroer
JOHN SCHROER, COMMISSIONER

DIVISION ADMINISTRATOR

DATE

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	2D

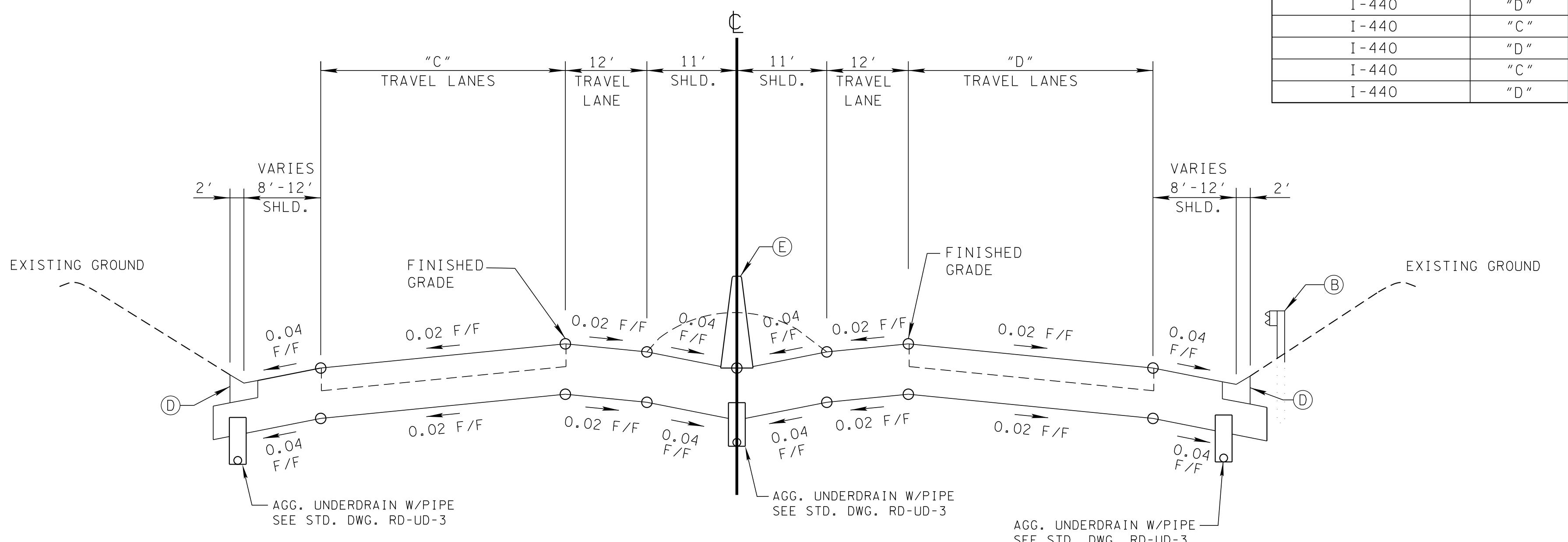


I-440 SUPERELEVATED SECTION

(BASED ON STD. DWG. RDO1-TS-5W)

STA. 1028+48.64 TO STA. 1032+21.79
STA. 1040+00.72 TO STA. 1058+92.67
STA. 1102+79.86 TO STA. 1120+17.47
STA. 1125+92.25 TO STA. 1147+01.88
STA. 1182+44.47 TO STA. 1191+63.03
STA. 1280+58.27 TO STA. 1288+94.73

TABLE OF DIMENSIONS (THIS SHEET)						
LOCATION	DIMENSION	WIDTH (FT)	STATION	WIDTH (FT)	STATION	REMARKS
I-440	"C"	24	1028+48.64	24	1075+27.30	
I-440	"D"	24	1028+48.64	24	1088+53.49	
I-440	"C"	36	1075+27.30	36	1109+00.07	
I-440	"D"	36	1088+53.49	36	1109+67.41	
I-440	"C"	24	1109+00.07	24	1154+38.29	
I-440	"D"	24	1109+67.41	24	1155+56.38	
I-440	"C"	36	1154+38.29	36	1156+35.29	
I-440	"D"	36	1155+56.38	36	1156+35.29	
I-440	"C"	36	1176+40.06	36	1209+92.44	
I-440	"D"	36	1176+40.06	36	1212+32.51	
I-440	"C"	24	1209+92.44	24	1271+85.62	
I-440	"D"	24	1212+32.51	24	1271+57.47	
I-440	"C"	36	1271+85.62	36	1292+24.53	
I-440	"D"	36	1271+57.47	36	1292+24.53	
I-440	"C"	24	1301+46.59	24	1301+47.34	
I-440	"D"	24	1295+93.56	24	1299+44.53	



I-440 TANGENT SECTION

(BASED ON STD. DWG. RDO1-TS-5W)

STA. 1032+21.79 TO STA. 1040+00.72
STA. 1058+92.67 TO STA. 1102+79.86
STA. 1120+17.47 TO STA. 1125+92.25
STA. 1147+01.88 TO STA. 1156+35.29
STA. 1176+40.06 TO STA. 1182+44.47
STA. 1191+63.03 TO STA. 1194+69.73
STA. 1288+94.73 TO STA. 1292+24.53

GENERAL NOTES

- (A) THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 F/F.
- (B) SEE STANDARD ROADWAY DRAWINGS FOR GUARDRAIL PLACEMENT AND FLARE DETAILS.
- (C) SEE STANDARD ROADWAY DRAWINGS S-SSMB-1 AND S-SSMB-9 FOR CONCRETE MEDIAN BARRIERS WALL.
- (D) PROPOSED CONCRETE VALLEY GUTTER. SEE DETAIL SHEET 2.
- (E) SEE STANDARD ROADWAY DRAWINGS S-SSMB-2 AND S-SSMB-9 FOR CONCRETE MEDIAN BARRIERS WALL.

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

TYPICAL
SECTIONS

Location 1

County: DAVIDSON

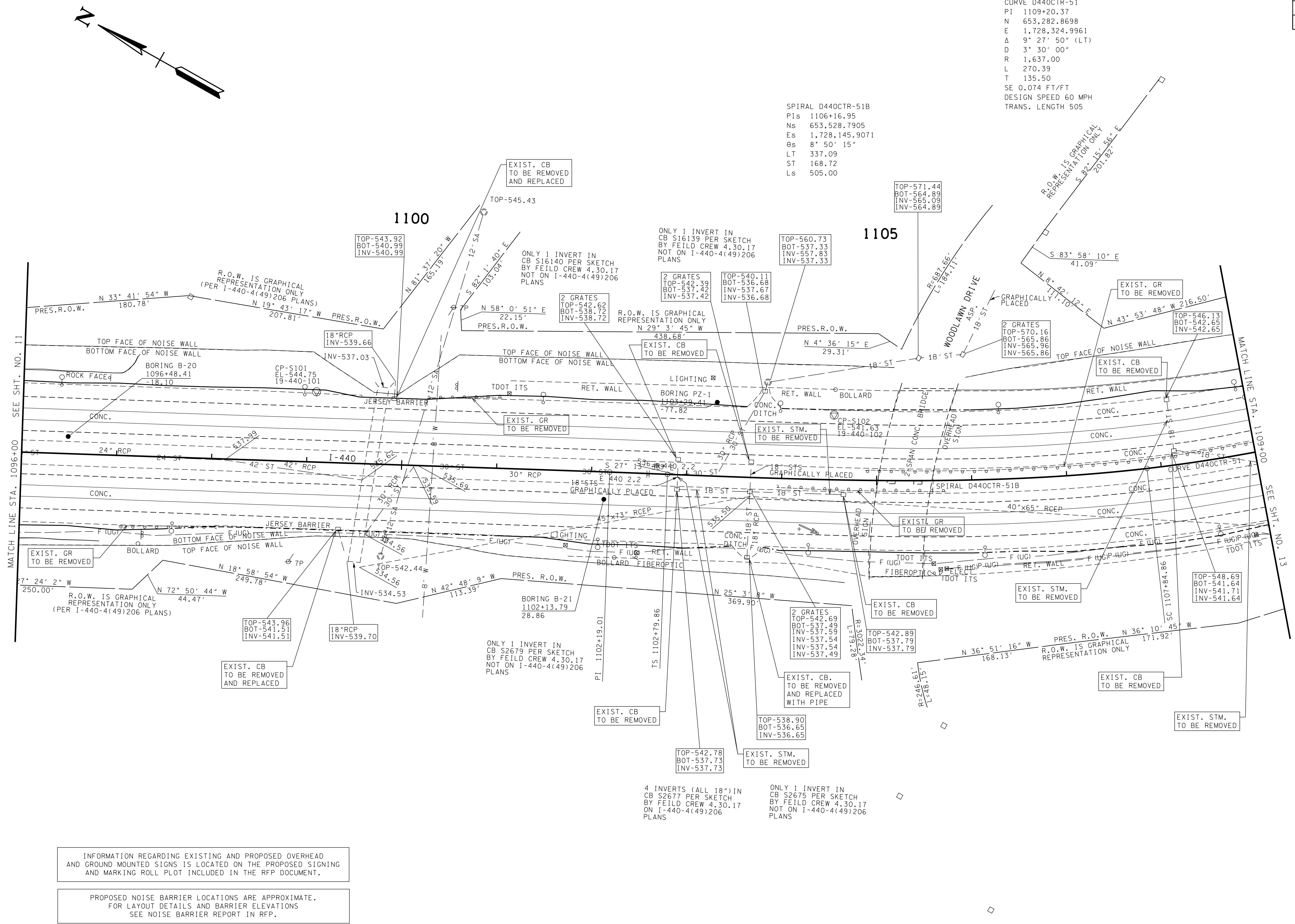
Route: I0440

Spcl Cse: 0-NONE

Cnty Seq: 1

Log Miles: 2.200 to 2.800 - Crash Dates: 12/5/2014 to 12/5/2017
 Vehicle Filter: None - Other Factors Filter: None

Statistics	Crashes Involving	First Harmful Event
Fatal Crashes: 0 Total Killed: 0 Incap Injury Crashes: 1 Total Incap Injuries: 1 Other Injury Crashes: 28 Total Other Injuries: 33 Prop Damage Crashes: 88 Total Crashes: 117	Pedestrians: 0 Hazardous Cargo: 0 Work / Constr Zones: 1 Fixed Objects: 18 Single Unit Trucks 3 Tractor - Trailer Trucks: 6 Bicycles: 0 Motorcycles: 1 Lane Departures: 18 Distracted Drivers: 5	Pedestrian: 0 Pedalcycle: 0 Railway Train: 0 Deer (Animal): 0 Other Animal: 0 Motor Vehicle in Transport: 89 Motor Vehicle in Transport in Other Roadway: 0 Parked Motor Vehicle: 0 Other Type Non-Motorist: 0 Fixed Object: 18 Other Object (Not Fixed): 3 Non Collision: 1 Overturn: 2 Jackknife: 0 Cross Median: 0 Ran Off Road: 0
Crash Location	Road Conditions	
Along Roadway: 114 At Intersection: 0 Railroad Crossing: 0 Bridge: 0 Underpass: 0 Ramp: 3 Private Property: 0 Other: 0	Ice: 2 Snow or Slush: 3 Sand, Mud, Dirt or Oil: 0 Wet: 28 Dry: 80	
Manner of Collision	Light Conditions	Weather Conditions
Rear End: 70 Head On: 0 Rear-to-Side / Rear: 0 Angle: 6 Sideswipe Same Dir: 13 Sideswipe Opp Dir: 0 Unknown: 0	Dawn: 0 Daylight: 80 Dusk: 6 Dark / Lighted: 25 Dark / Not Lighted: 2 Not Indicated: 0	No Adverse Conditions: 85 Rain: 24 Sleet and Hail: 1 Snow: 3 Foggy: 0 Smog, Smoke: 0 Crosswind: 0
Fixed Objects		
Boulder: 0 Building: 0 Impact Attenuator: 0 Overhead Structure: 0 Bridge Pier/Abutment/End: 0 Bridge Rail: 0 Guardrail: 10 Cable Barrier: 0	Other Barrier: 4 Highway Traffic Sign Post 0 Overhead Sign Support: 0 Luminaire/Light Support: 0 Traffic Signal Support: 0 Utility Pole: 0 Other Post, Pole Supports: 0 Culvert: 0 Curb: 0	Ditch: 0 Embankment: 1 Fence: 0 Wall: 2 Mail Box: 0 Shrubbery: 0 Tree: 0 Fire Hydrant: 0 Other Fixed Object: 1



PRELIMINARY PLANS

SEALED BY

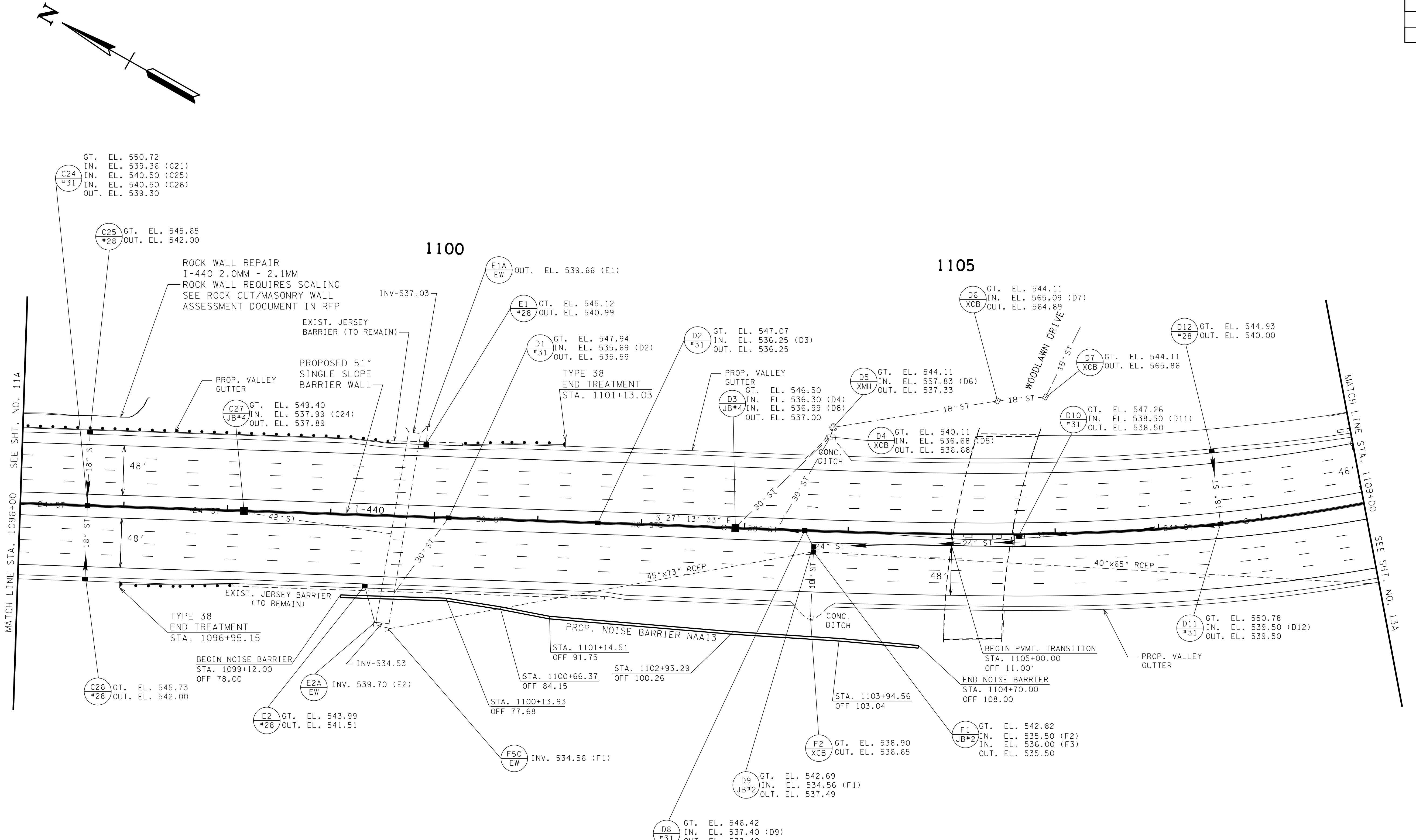
COORDINATES ARE NAD/83(1995),
ARE DATUM ADJUSTED BY THE
FACTOR OF 1.00006 AND TIED TO
THE TGRN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

PRESENT LAYOUT

STA. 1096+00 TO STA. 1109+00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	12A



PRELIMINARY PLANS

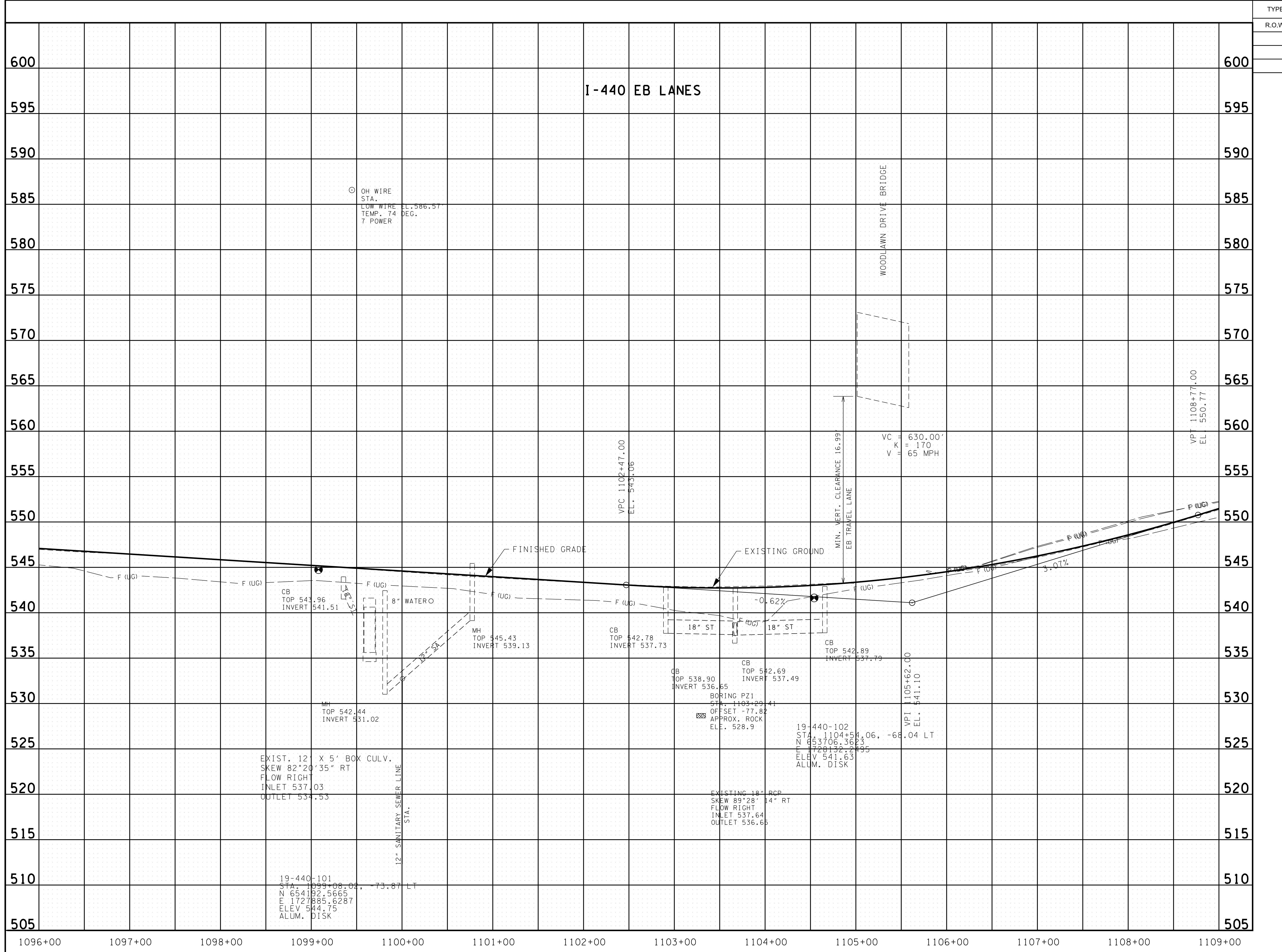
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COORDINATES ARE NAD/83(1995),
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROPOSED LAYOUT

STA. 1096+00 TO STA. 1109+00
SCALE: 1"=50'



RELIMINARY PLANS

SEALED BY

ORDINATES ARE NAD/83(1995),
RE DATUM ADJUSTED BY THE
CTOR OF 1.00006 AND TIED TO
HE TGRN. ALL ELEVATIONS ARE
FERENCED TO THE NAVD 1988.

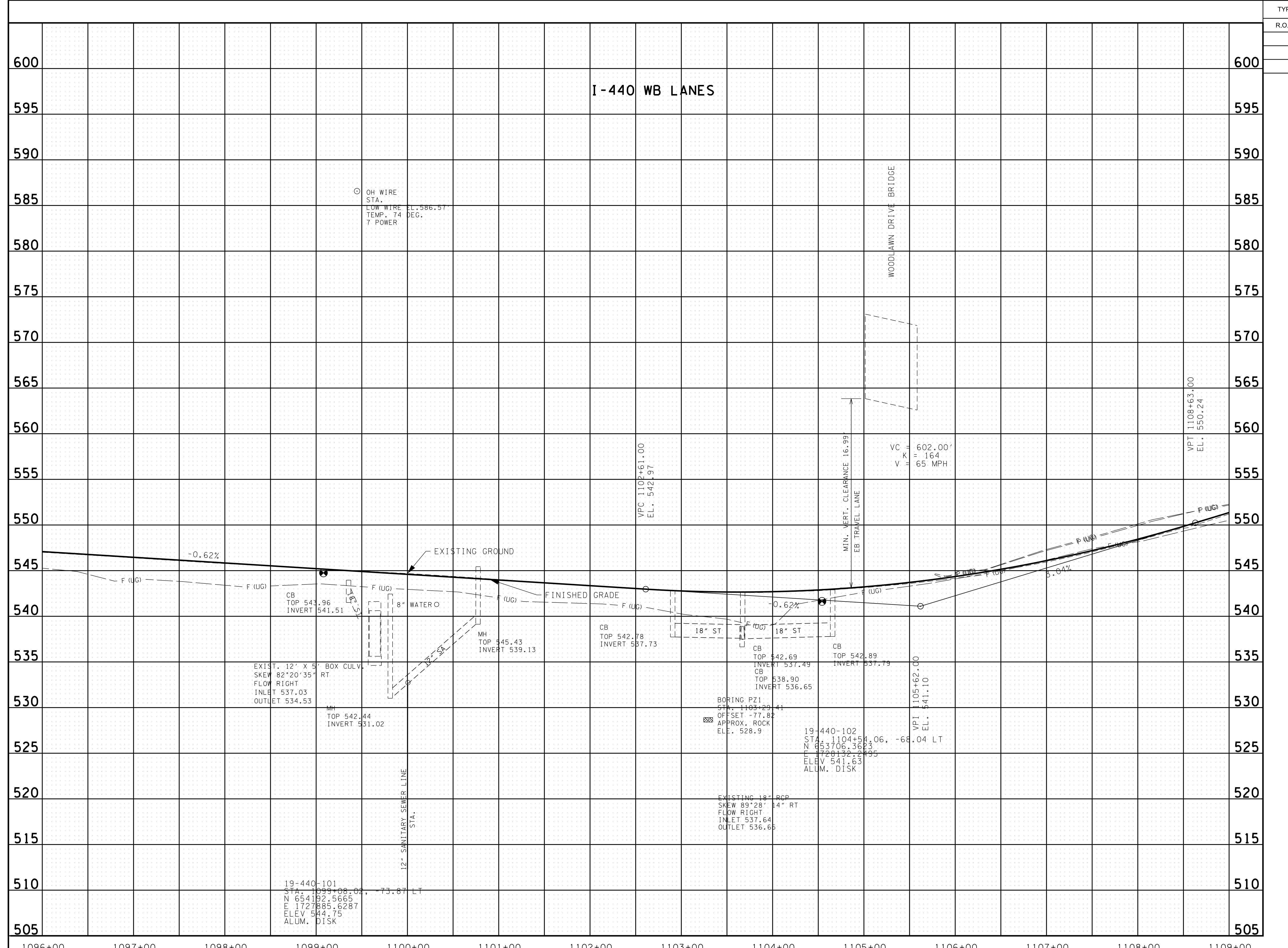
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

PROFILE 440 EB LANES

A. 1096+00 TO STA. 1109+00

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	12C



PRELIMINARY PLANS

SEALED BY

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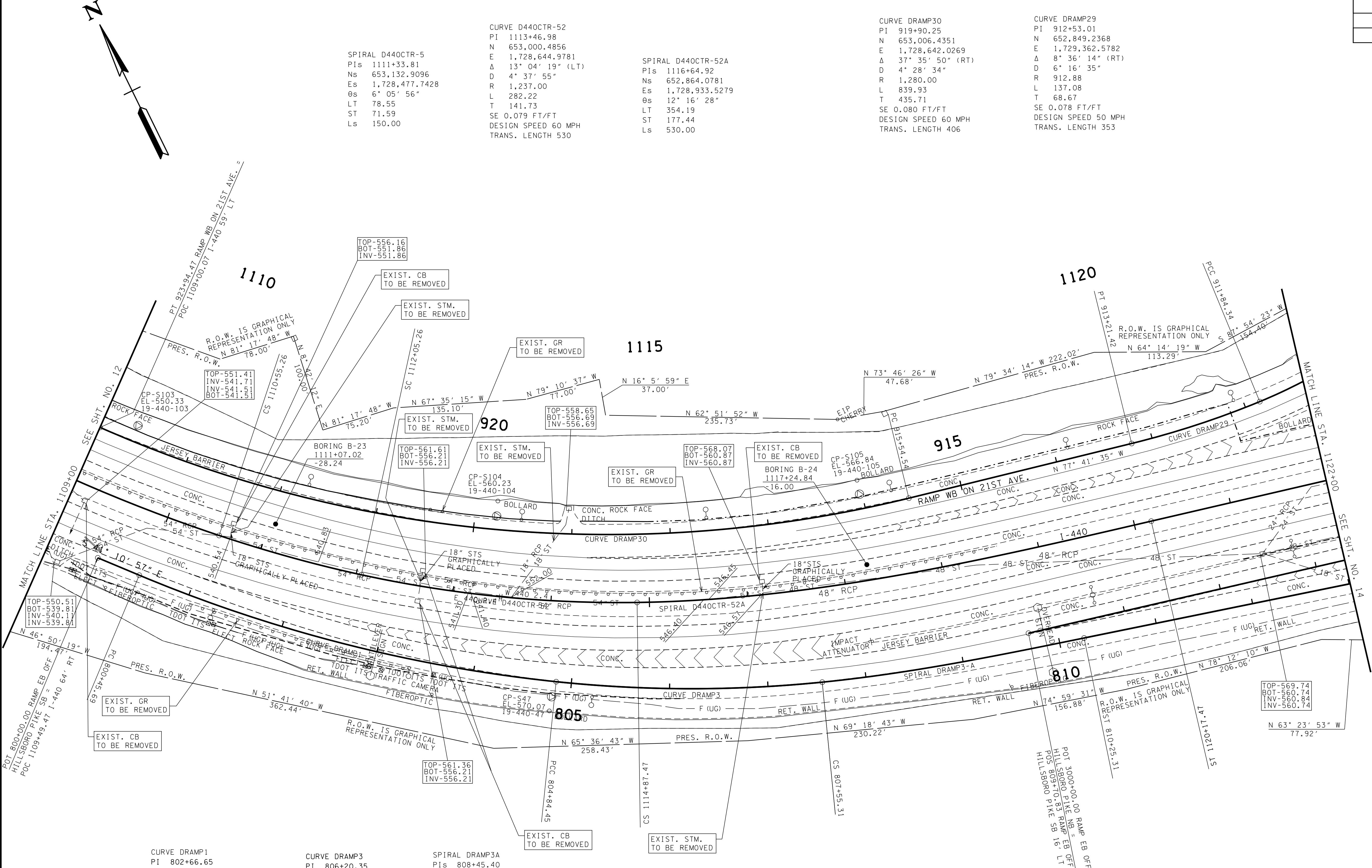
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE I-440 WB LANES

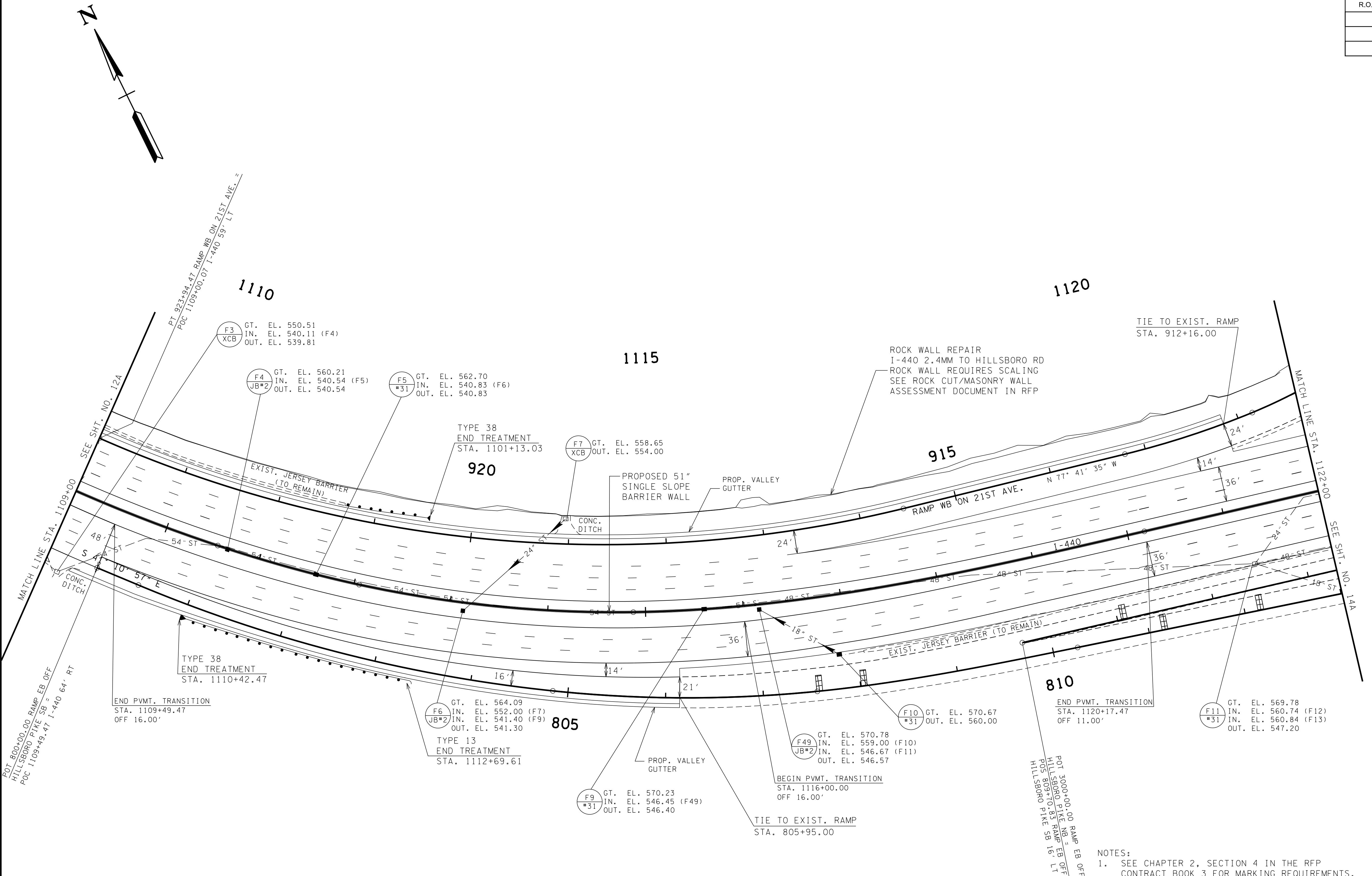
STA. 1096+00 TO STA. 1109+00

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

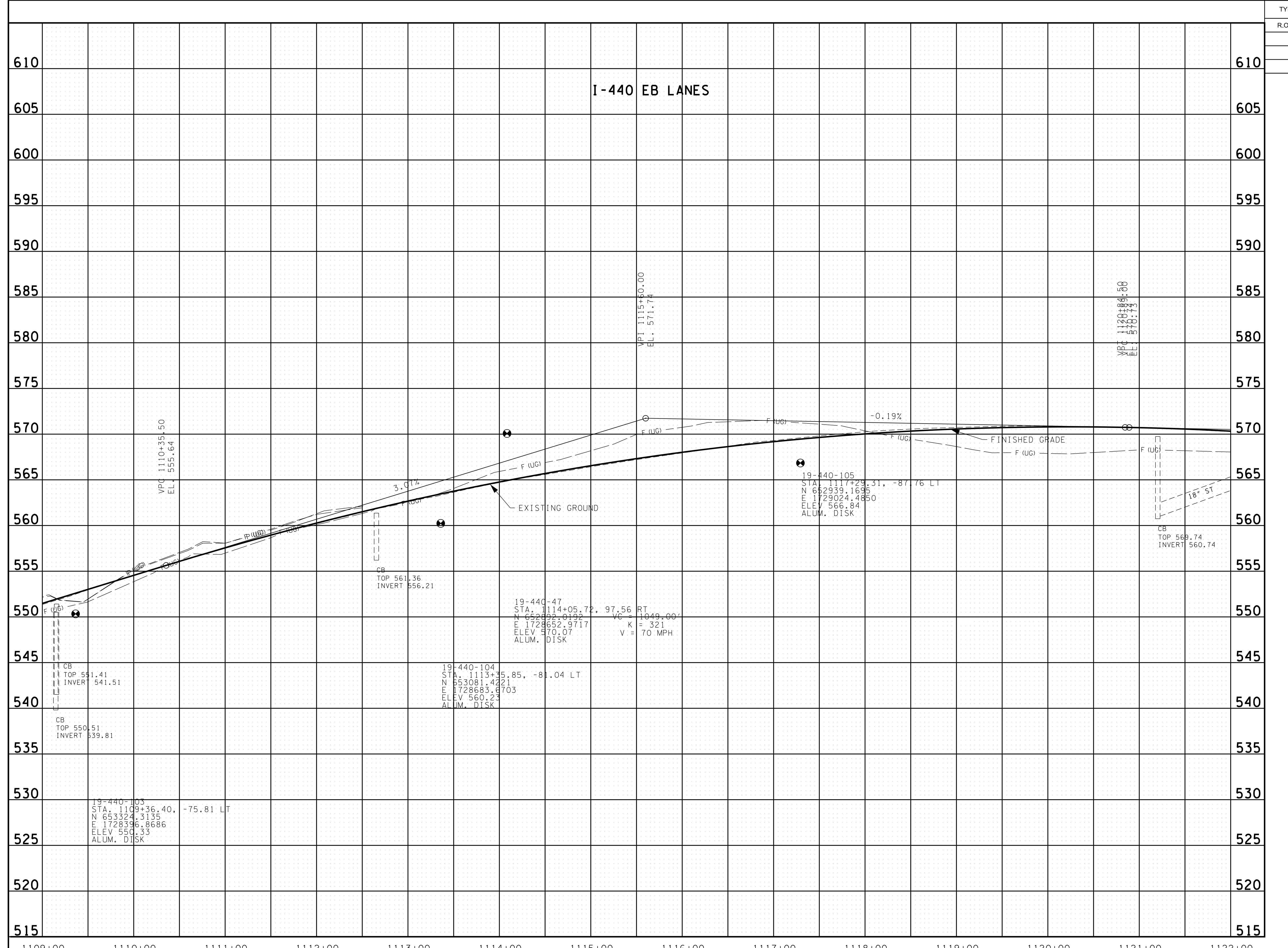
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	13



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	13A



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	13B



PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD83(1995),
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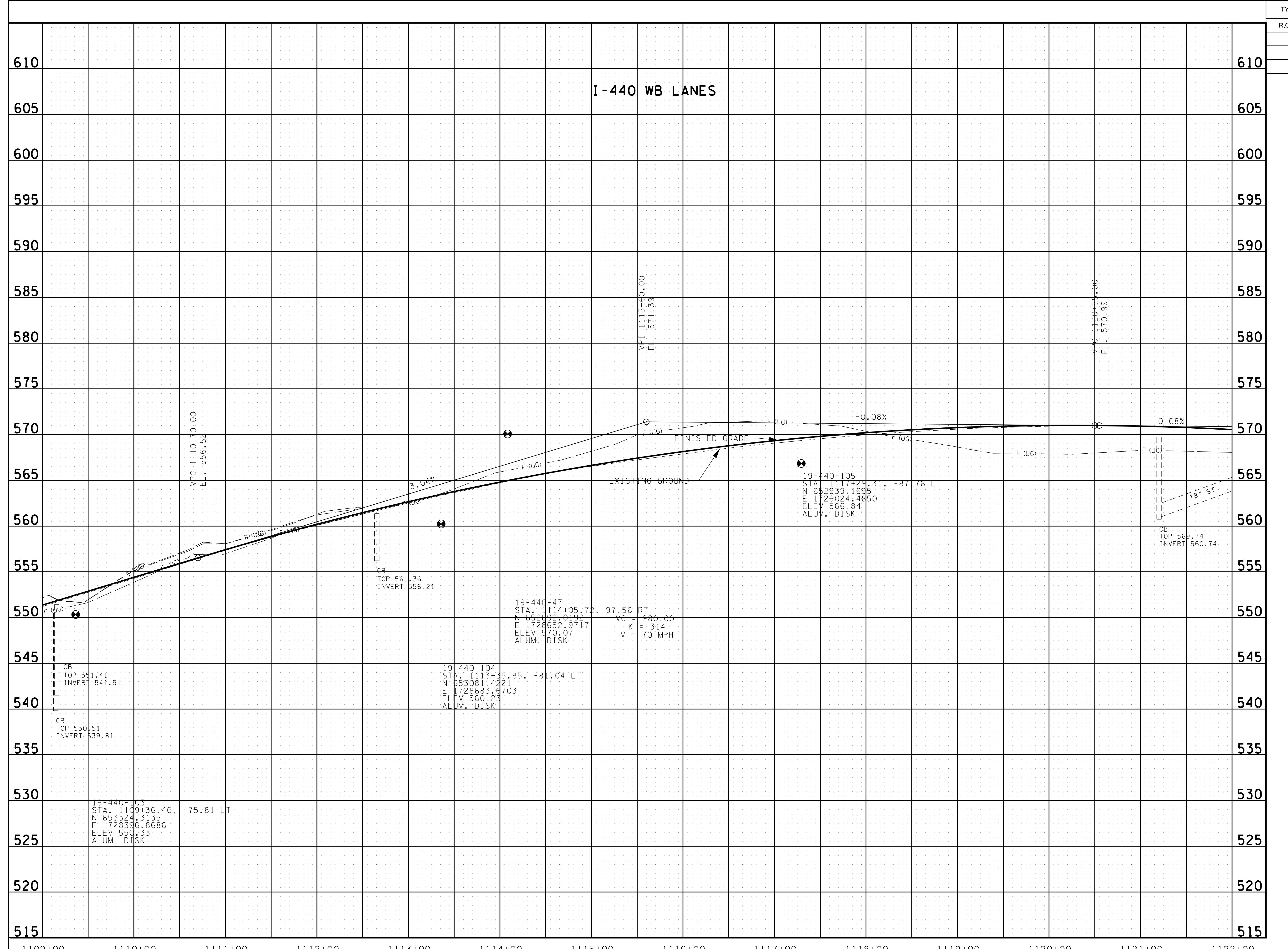
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 EB LANES

STA. 1109+00 TO STA. 1122+00

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	13C



PRELIMINARY PLANS

SEALED BY

COORDINATES ARE NAD83(1995),
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FACTOR OF 1.00006 AND TIED TO
THE TGRN. ALL ELEVATIONS ARE
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 WB LANES

STA. 1109+00 TO STA. 1122+00

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

Location 2

County: DAVIDSON

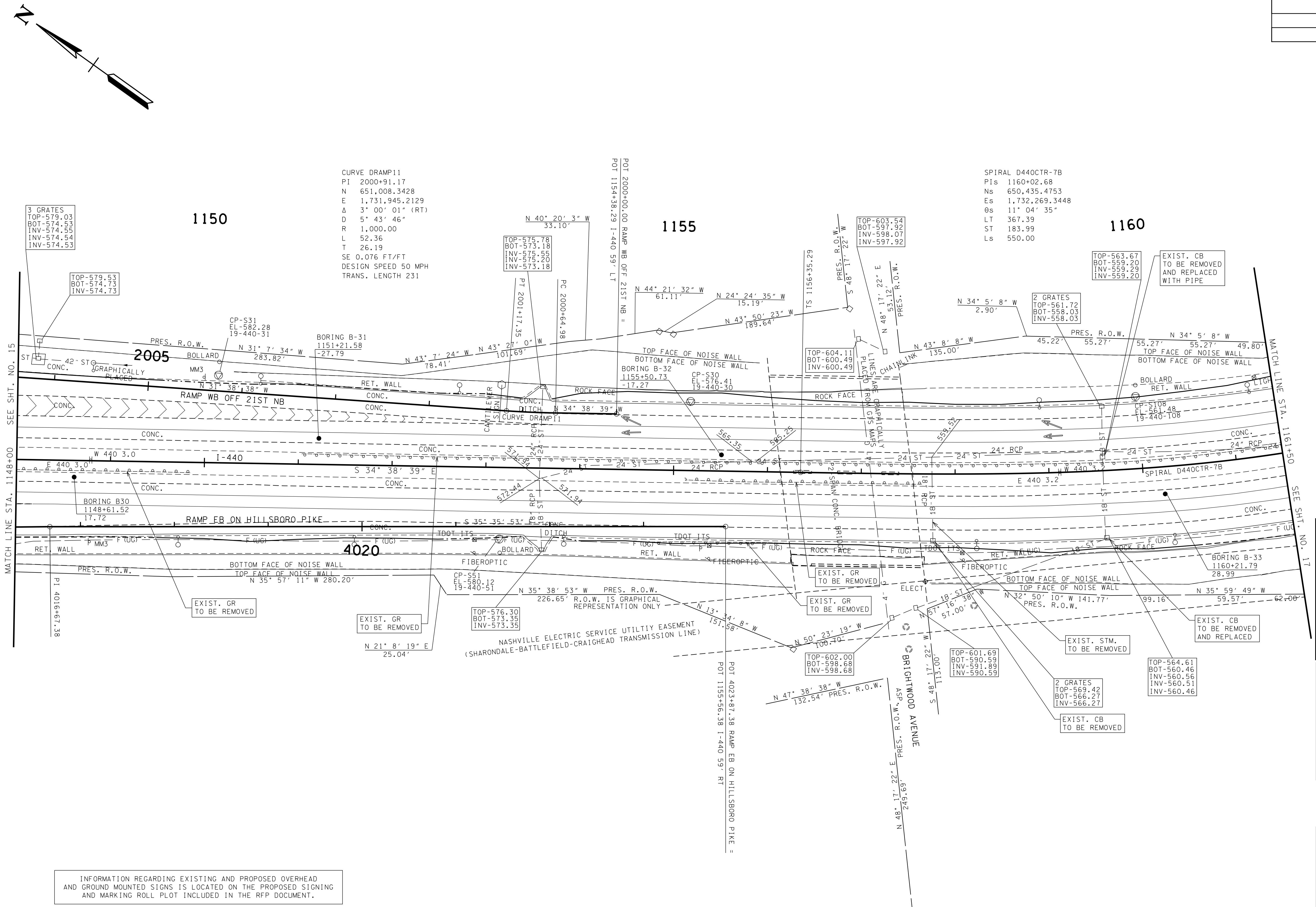
Route: I0440

Spcl Cse: 0-NONE

Cnty Seq: 1

Log Miles: 3.300 to 3.700 - Crash Dates: 12/5/2014 to 12/5/2017
 Vehicle Filter: None - Other Factors Filter: None

Statistics	Crashes Involving	First Harmful Event
Fatal Crashes: 1 Total Killed: 1 Incap Injury Crashes: 1 Total Incap Injuries: 2 Other Injury Crashes: 16 Total Other Injuries: 23 Prop Damage Crashes: 55 Total Crashes: 73	Pedestrians: 0 Hazardous Cargo: 0 Work / Constr Zones: 0 Fixed Objects: 8 Single Unit Trucks 4 Tractor - Trailer Trucks: 3 Bicycles: 0 Motorcycles: 0 Lane Departures: 9 Distracted Drivers: 4	Pedestrian: 0 Pedalcycle: 0 Railway Train: 0 Deer (Animal): 0 Other Animal: 0 Motor Vehicle in Transport: 60 Motor Vehicle in Transport in Other Roadway: 0 Parked Motor Vehicle: 0 Other Type Non-Motorist: 0 Fixed Object: 8 Other Object (Not Fixed): 2 Non Collision: 1 Overturn: 0 Jackknife: 0 Cross Median: 0 Ran Off Road: 0
Crash Location	Road Conditions	
Along Roadway: 73 At Intersection: 0 Railroad Crossing: 0 Bridge: 0 Underpass: 0 Ramp: 0 Private Property: 0 Other: 0	Ice: 0 Snow or Slush: 0 Sand, Mud, Dirt or Oil: 0 Wet: 15 Dry: 55	
Manner of Collision	Light Conditions	Weather Conditions
Rear End: 48 Head On: 1 Rear-to-Side / Rear: 0 Angle: 1 Sideswipe Same Dir: 9 Sideswipe Opp Dir: 0 Unknown: 1	Dawn: 0 Daylight: 59 Dusk: 2 Dark / Lighted: 8 Dark / Not Lighted: 2 Not Indicated: 0	No Adverse Conditions: 63 Rain: 8 Sleet and Hail: 0 Snow: 0 Foggy: 0 Smog, Smoke: 0 Crosswind: 0
Fixed Objects		
Boulder: 0 Building: 0 Impact Attenuator: 0 Overhead Structure: 0 Bridge Pier/Abutment/End: 0 Bridge Rail: 0 Guardrail: 5 Cable Barrier: 0	Other Barrier: 0 Highway Traffic Sign Post 0 Overhead Sign Support: 0 Luminaire/Light Support: 0 Traffic Signal Support: 0 Utility Pole: 2 Other Post, Pole Supports: 0 Culvert: 0 Curb: 0	Ditch: 0 Embankment: 1 Fence: 0 Wall: 0 Mail Box: 0 Shrubbery: 0 Tree: 0 Fire Hydrant: 0 Other Fixed Object: 0



INFORMATION REGARDING EXISTING AND PROPOSED OVERHEAD
AND GROUND MOUNTED SIGNS IS LOCATED ON THE PROPOSED SIGNING
AND MARKING ROLL PLOT INCLUDED IN THE RFP DOCUMENT.

ORDINATES ARE NAD/83(1995),
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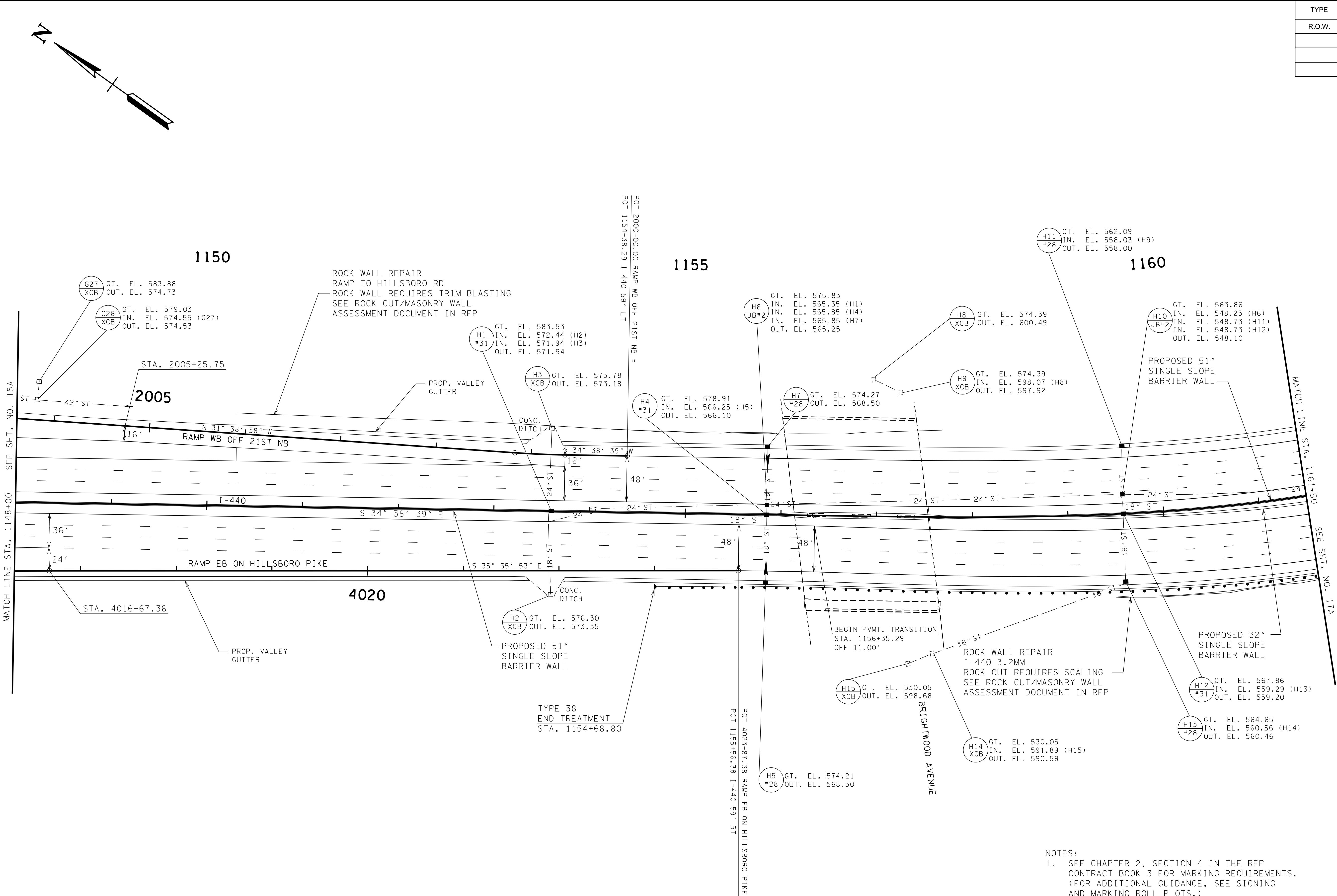
**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

PRESENT LAYOUT

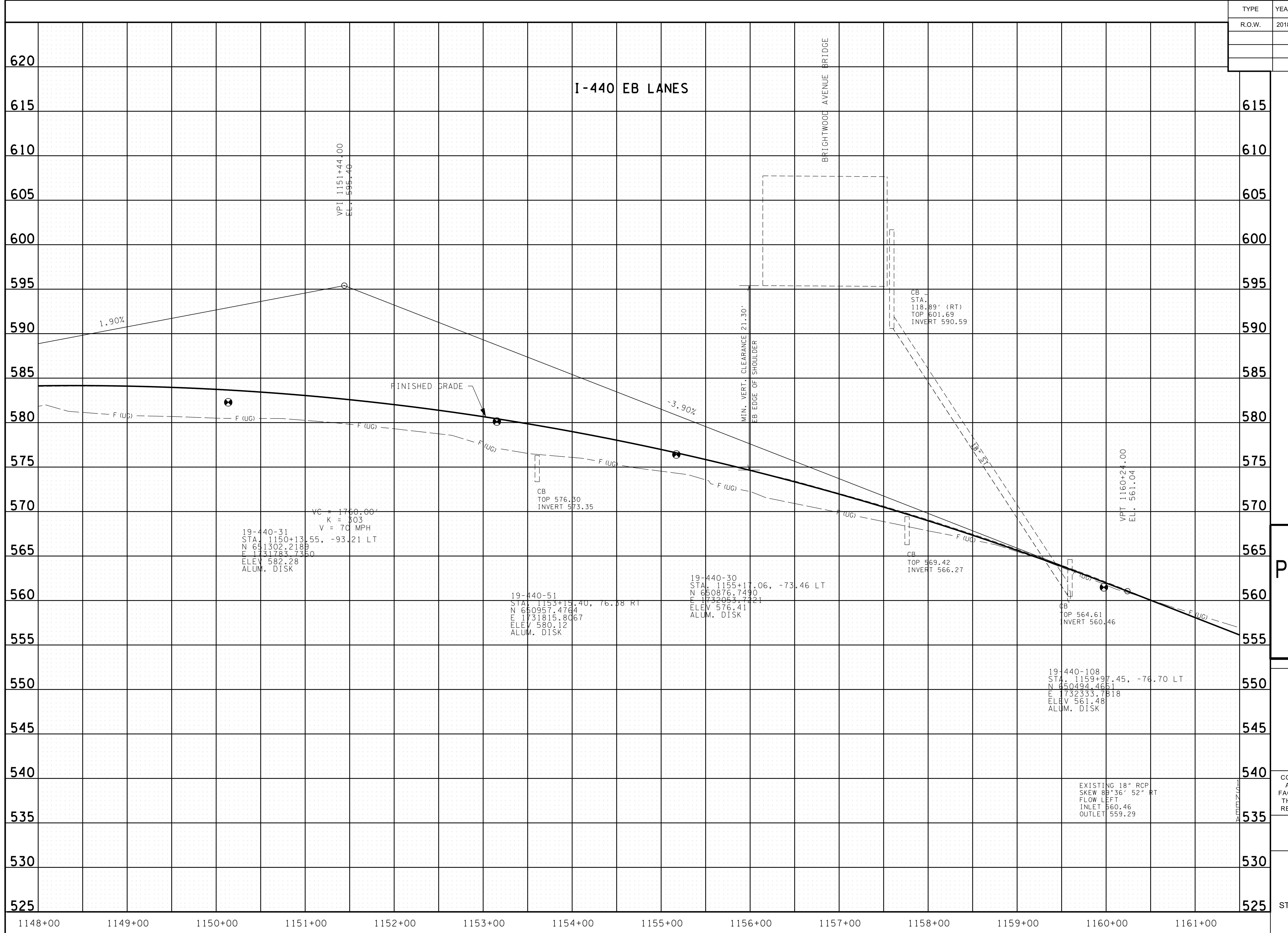
TA. 1148+00 TO STA. 1161+50

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	16A



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	16B



PRELIMINARY
PLANS

SEALED BY

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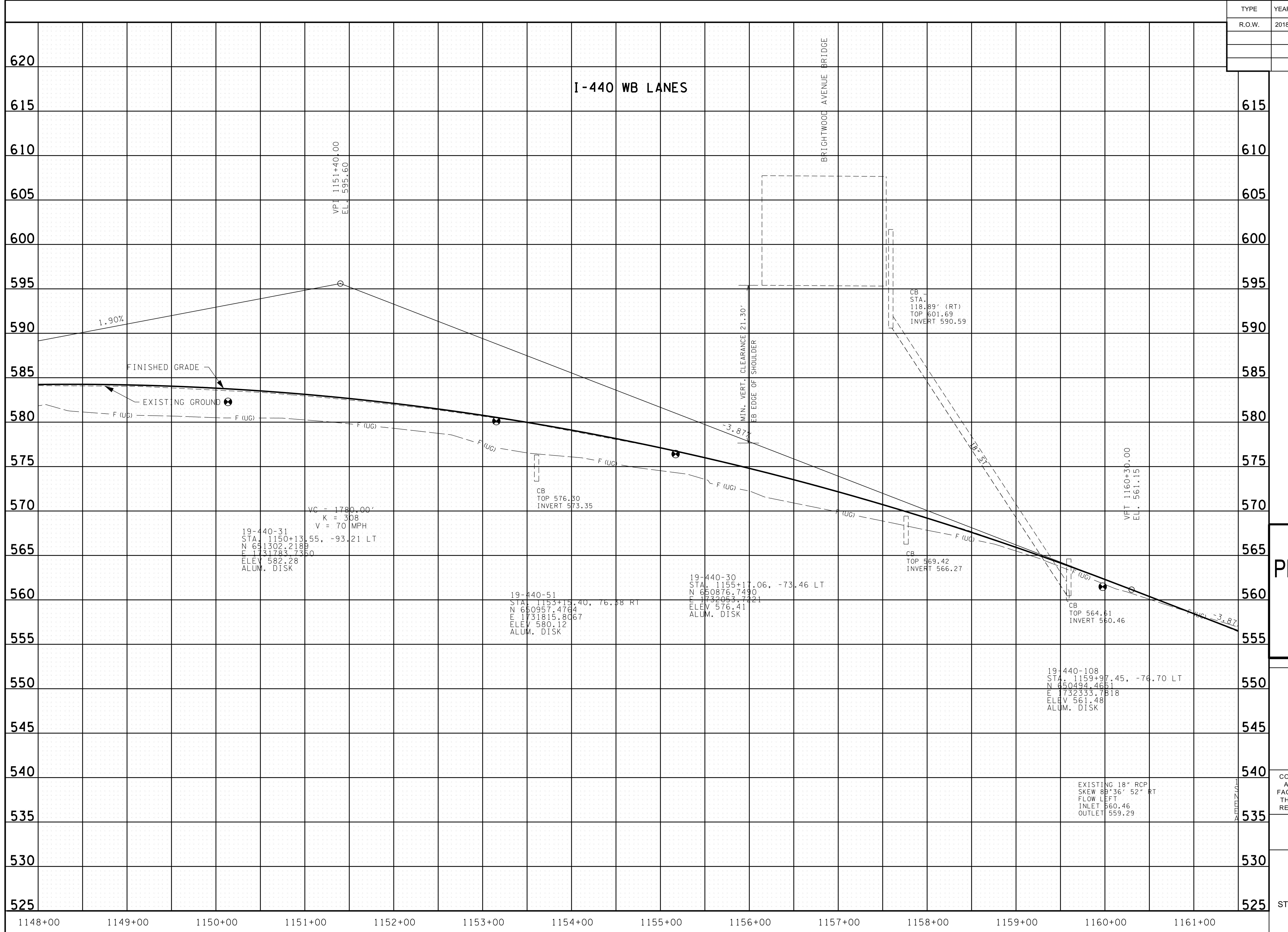
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 EB LANES

STA. 1148+00 TO STA. 1161+50

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	16C



PRELIMINARY PLANS

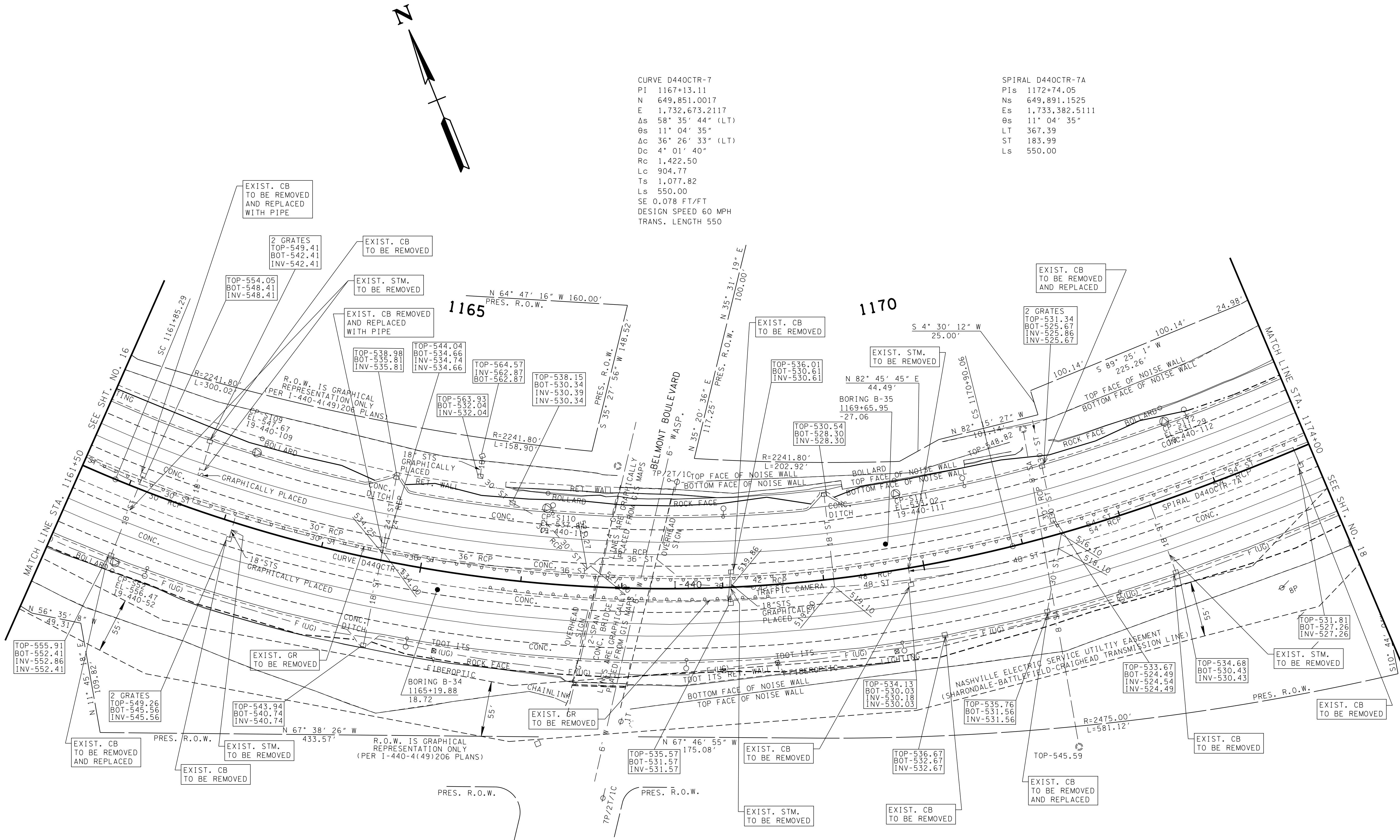
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 WB LANES

STA. 1148+00 TO STA. 1161+00



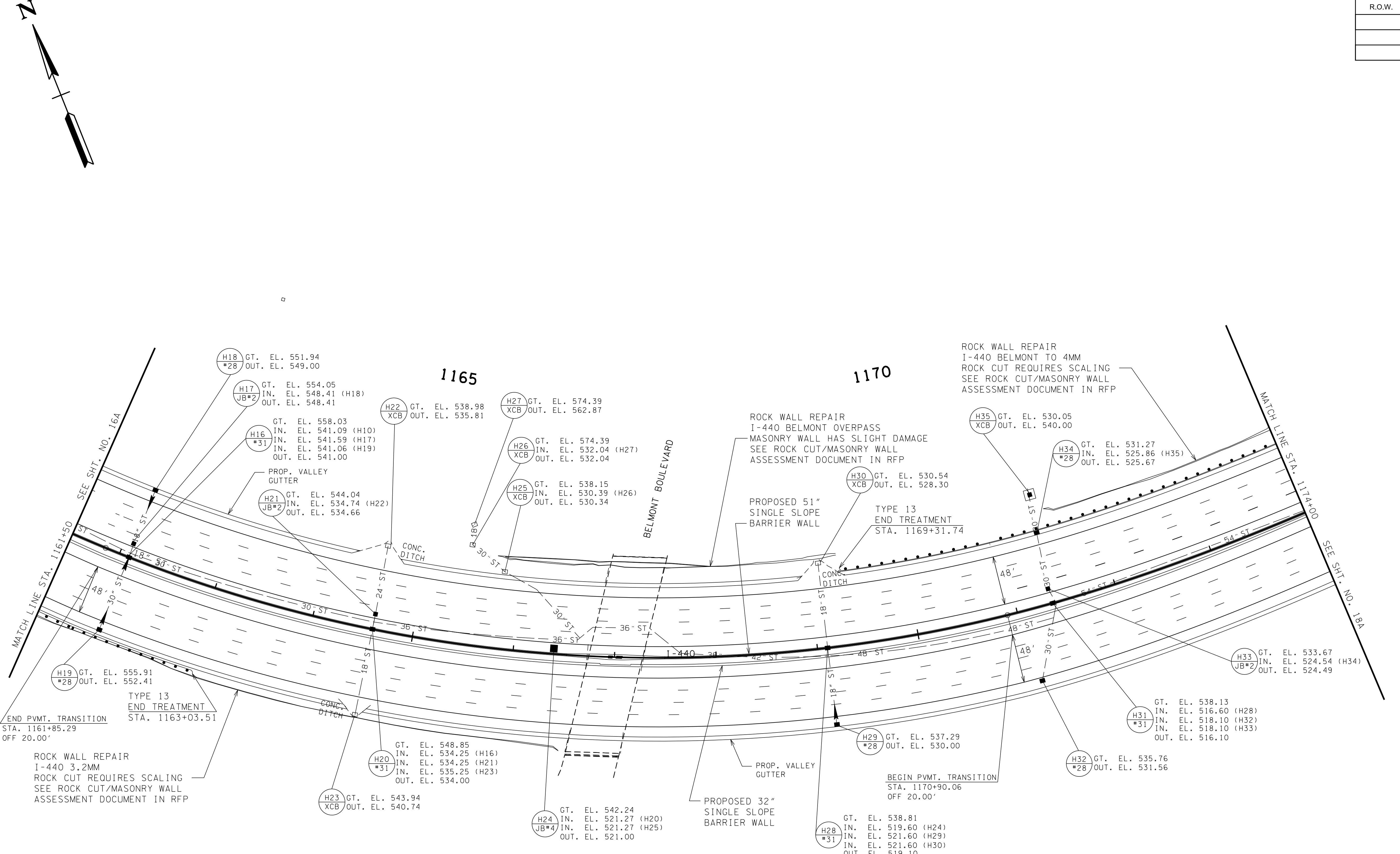
PRELIMINARY PLANS

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**STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION**

PRESENT LAYOUT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	17A



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

PROPOSED LAYOUT

STA. 1161+00 TO STA. 1174+00

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	17B

PRELIMINARY PLANS

SEALED BY

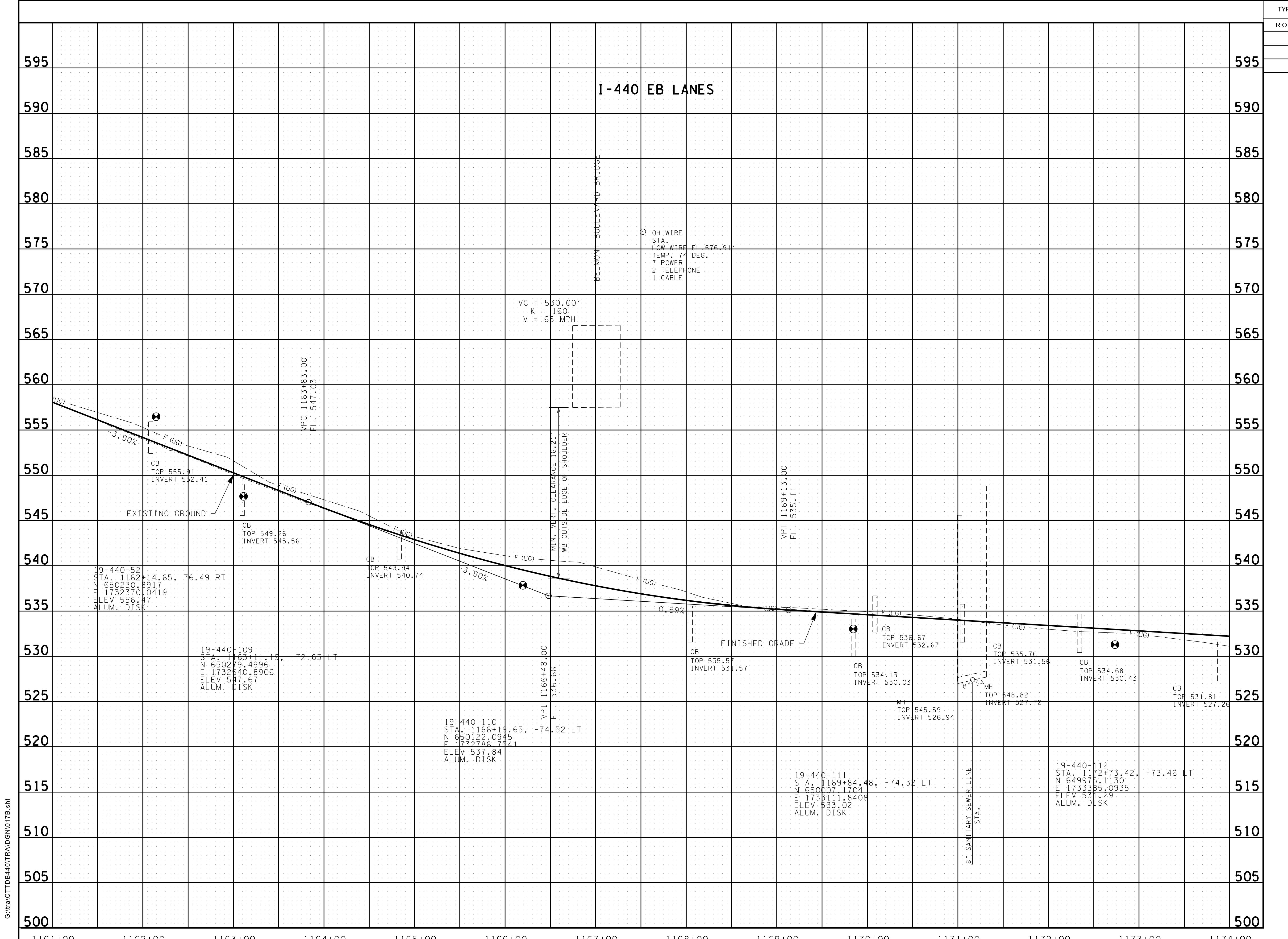
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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 EB LANES

STA. 1161+00 TO STA. 1174+00

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



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	17C

PRELIMINARY PLANS

SEALED BY

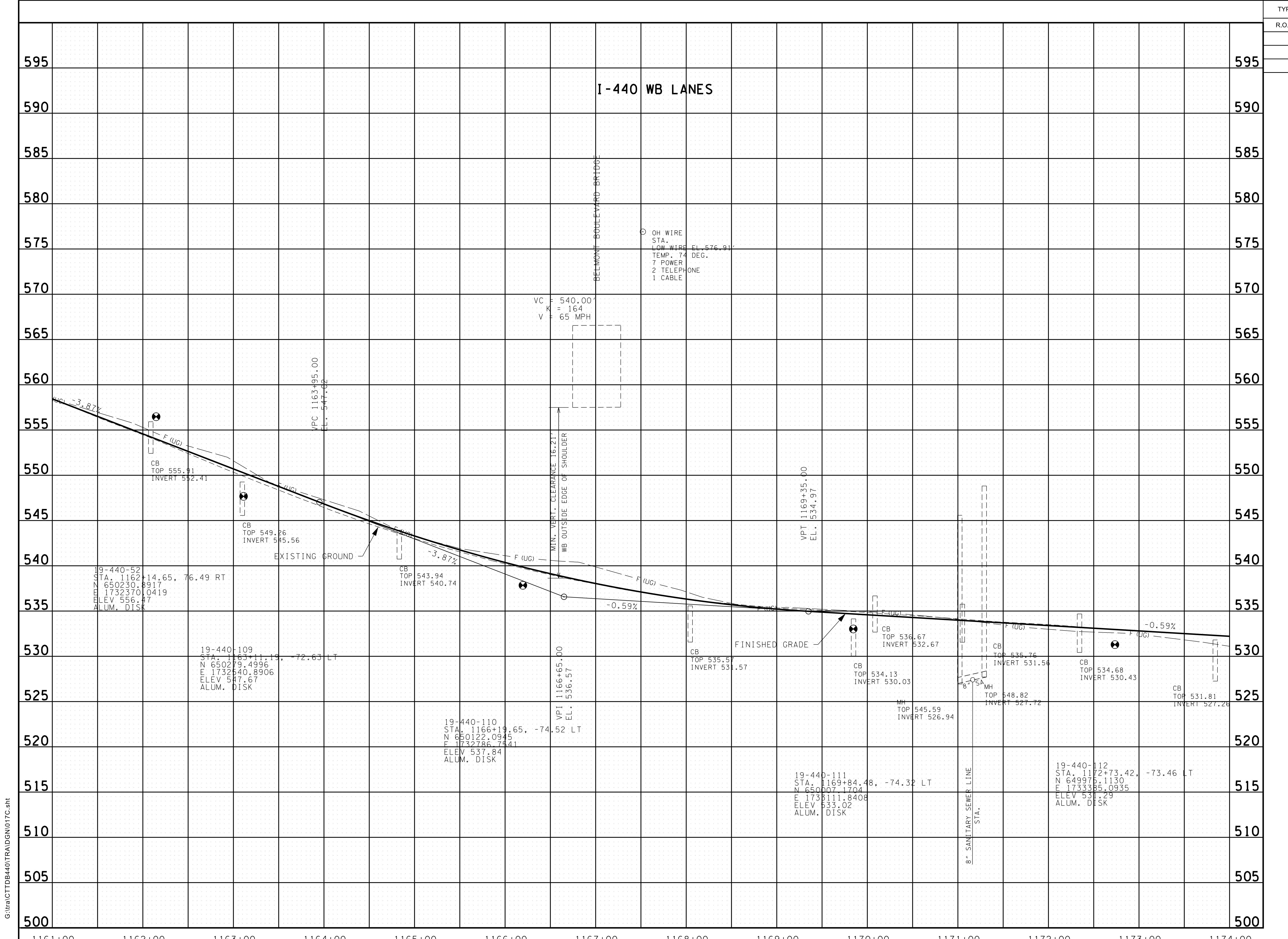
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STATE OF TENNESSEE
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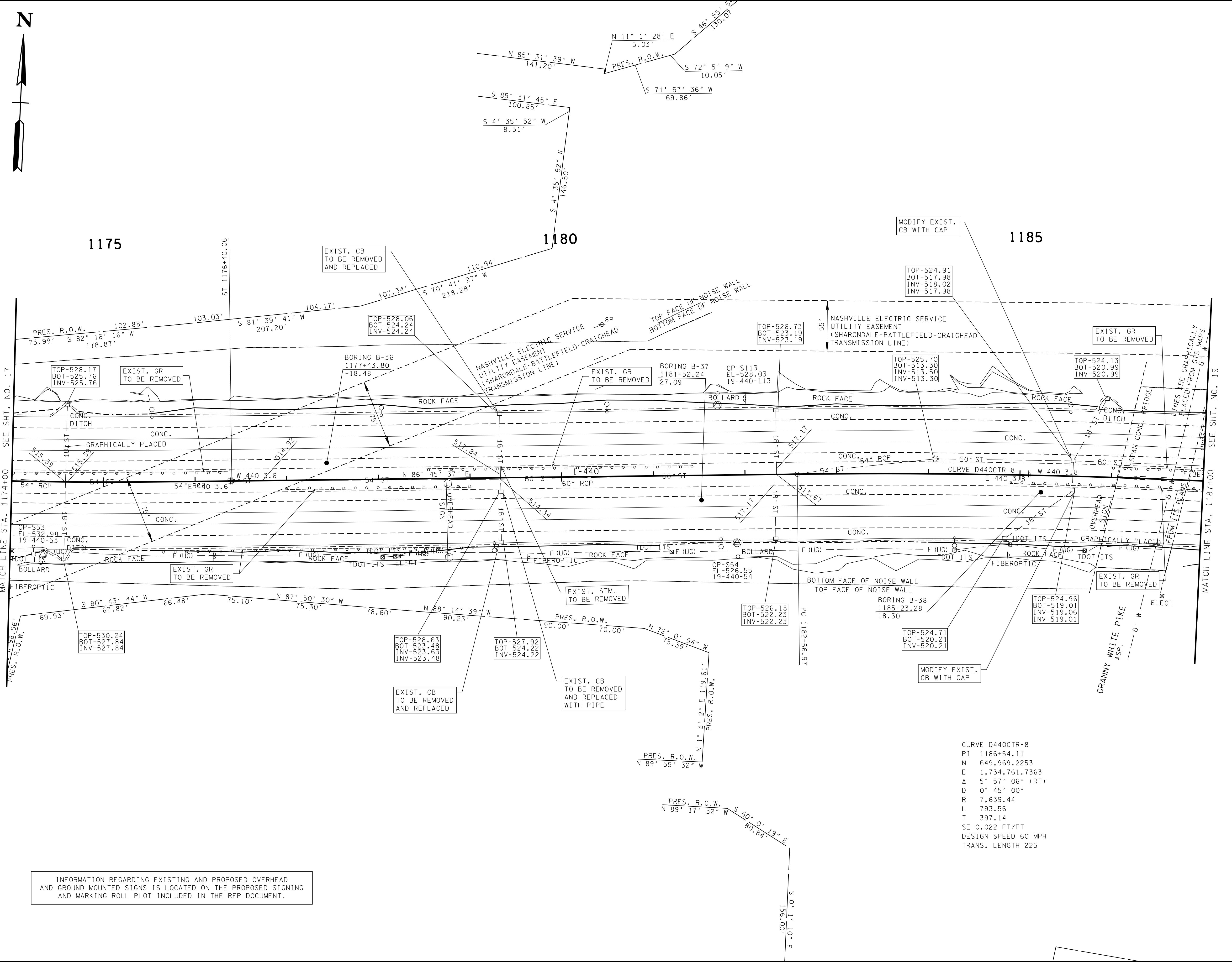
PROFILE
I-440 WB LANES

STA. 1161+00 TO STA. 1174+00

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



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	18



PRELIMINARY PLANS

SEALED BY

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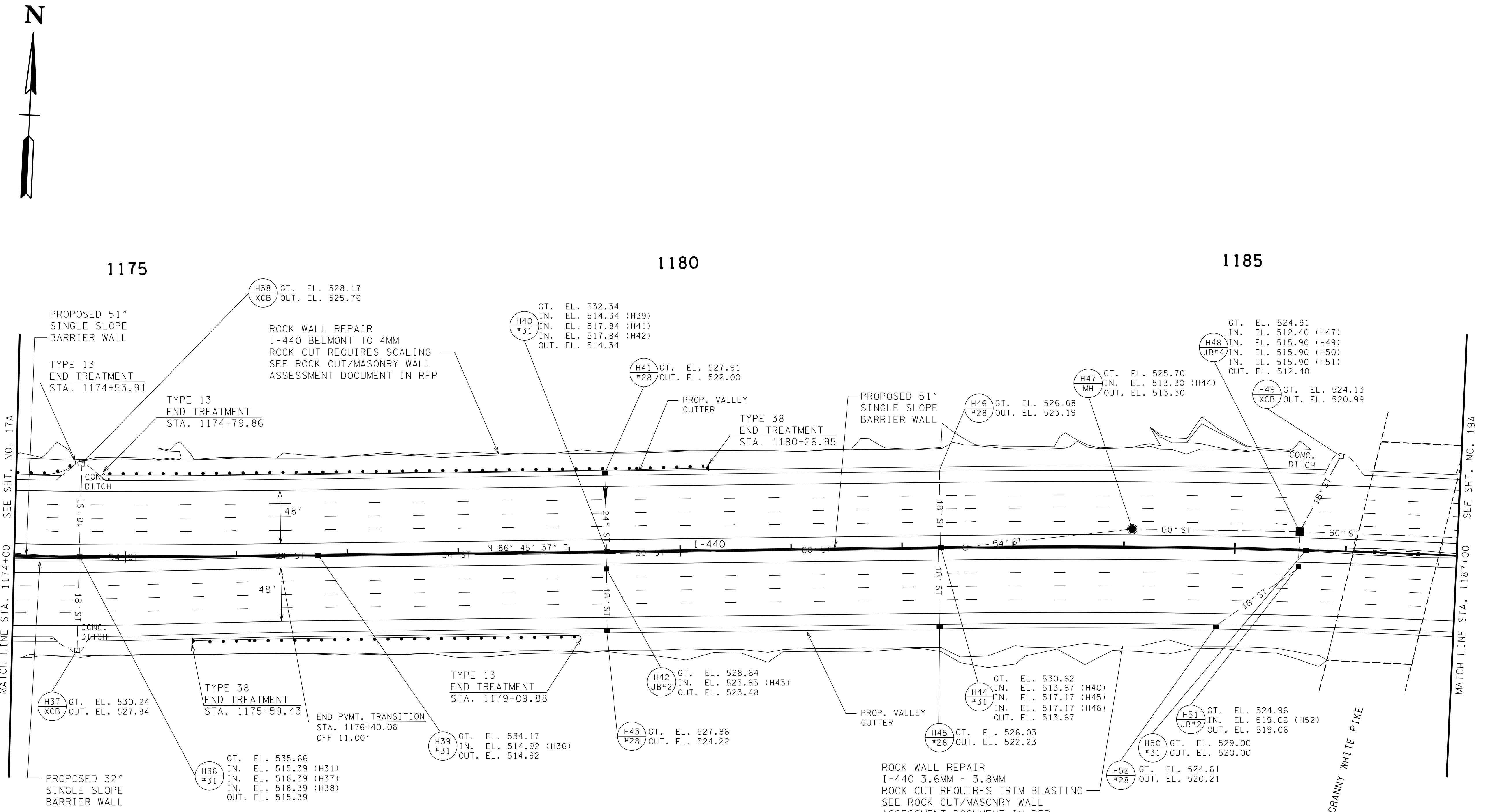
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PRESENT LAYOUT

STA. 1174+00 TO STA. 1187+00

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	18A



PRELIMINARY PLANS

SEALED BY

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STATE OF TENNESSEE
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TRANSPORTATION

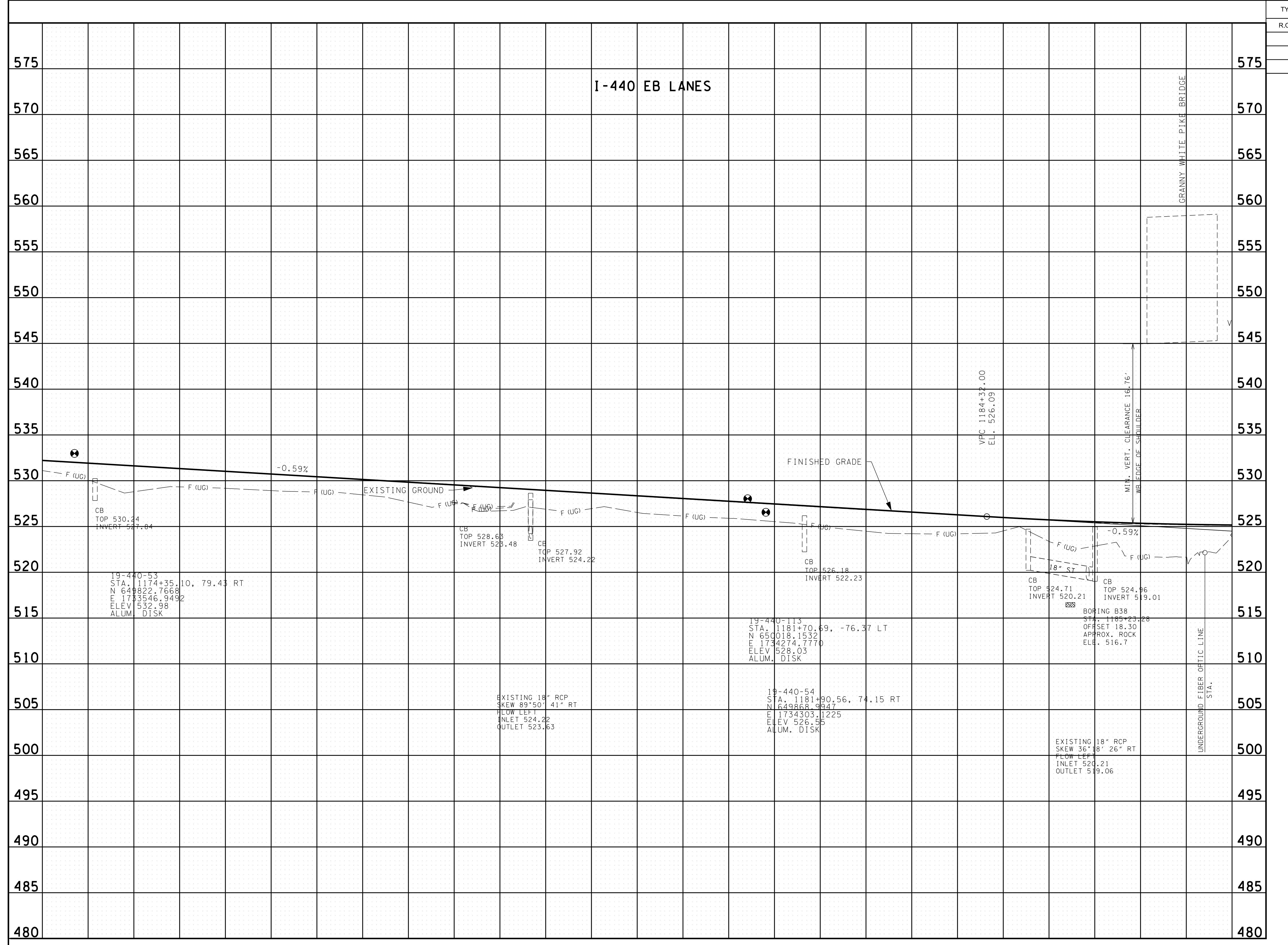
PROPOSED LAYOUT

STA. 1174+00 TO STA. 1187+00

SCALE: 1'=50'

- NOTES:
1. SEE CHAPTER 2, SECTION 4 IN THE RFP CONTRACT BOOK 3 FOR MARKING REQUIREMENTS. (FOR ADDITIONAL GUIDANCE, SEE SIGNING AND MARKING ROLL PLOTS.)
 2. SEE CHAPTER 2, SECTION 6 IN THE RFP FOR SIGNING REQUIREMENTS. (FOR ADDITIONAL GUIDANCE, SEE SIGNING AND MARKING ROLL PLOTS.)
 3. SEE CHAPTER 4 IN THE RFP CONTRACT BOOK 3 FOR LIGHTING REQUIREMENTS. (FOR ADDITIONAL GUIDANCE, SEE LIGHTING ROLL PLOTS.)
 4. SEE CHAPTER 5 IN THE RFP CONTRACT BOOK 3 FOR ITS REQUIREMENTS. (FOR ADDITIONAL GUIDANCE, SEE ITS ROLL PLOTS.)

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	18B



PRELIMINARY PLANS

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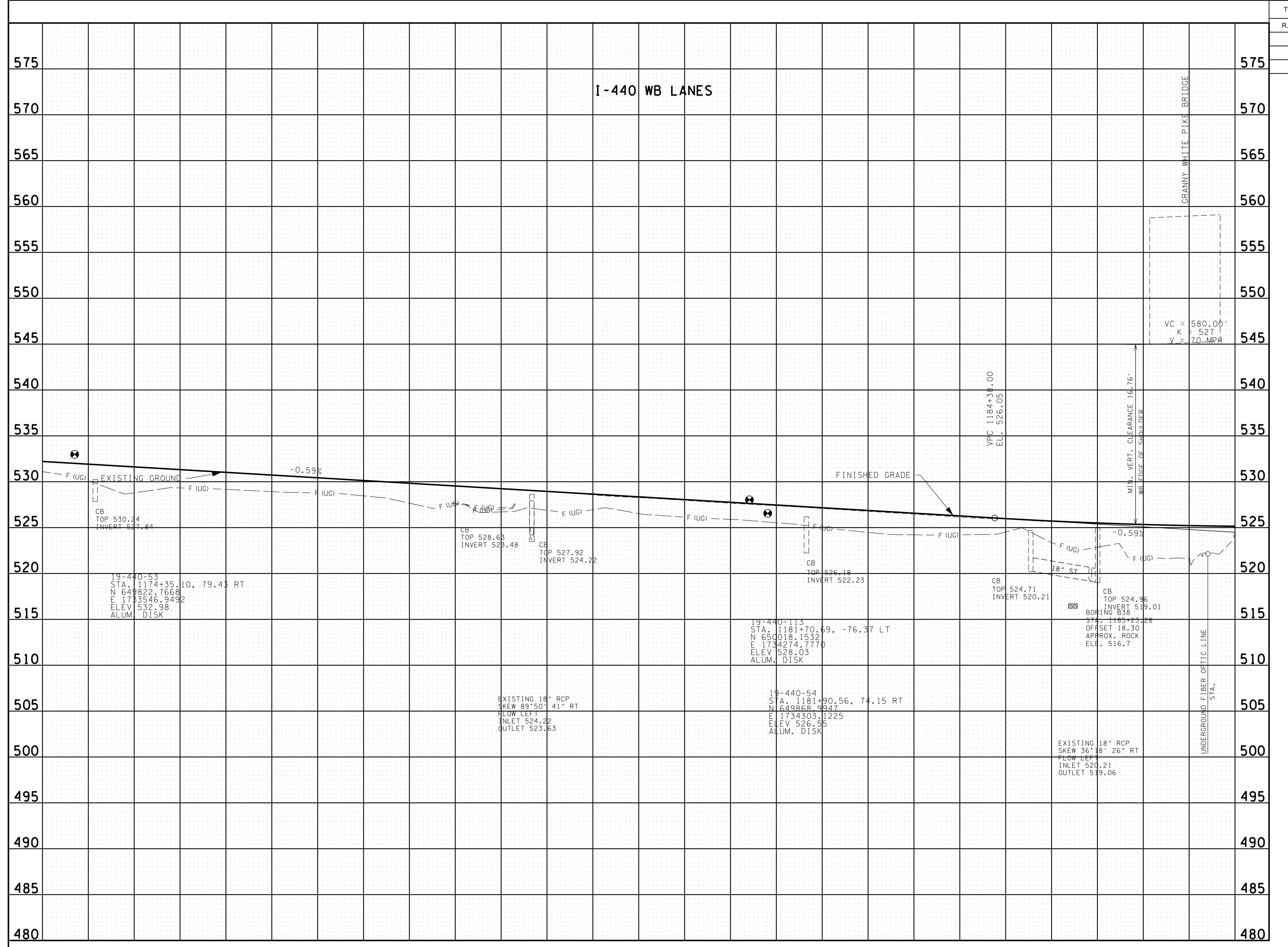
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 EB LANES

STA. 1174+00 TO STA. 1178+00

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2018	19014-1169-04	18C



PRELIMINARY PLANS

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STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

PROFILE
I-440 WB LANES

STA. 1174+00 TO STA. 1187+00

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