This manual has been prepared to introduce the basic components of a set of contract plans to assist in the interpretation of the contract plans.

Contract Plans Reading Manual

July 2024

TDOT

OBJECTIVES

To become familiar with:

- Roadway Index
- Basic sheet layout
- Specific features/items per type of sheet
- Tools/resources to assist in contract plans reading

INTRODUCTION

Contract plans are developed to provide a pictorial view of the existing facilities and proposed improvements on a particular portion of roadway. Contract plans convey information about the project that is necessary to both bid the project and to construct the project.

Contract plans vary depending on the size and the scope of the project. This manual has been prepared to introduce the basic components of a set of contract plans to assist in the interpretation of the contract plans.

GENERAL INFORMATION

It is helpful to become familiar with the abbreviations and symbologies that are typically used throughout contract plans. Refer to Standard Drawings RD-A-1 (Standard Abbreviations) and RD-L-1 (Standard Legend) for guidance in interpreting text, line styles, and symbols.

ROADWAY DESIGN CHECKLIST

A detailed checklist for plans at each phase of development (Preliminary, Right-of-Way, and Construction) is available at the following link:

TYPES OF PLAN SHEETS

There are different types of sheets in a set of contract plans. *Plan view* sheets show a bird's eye view of the project area. Examples include the Property Map sheet, the Proposed Layout sheet and the Present Layout sheet. *Profile* sheets show an elevation view along an alignment. *Cross-section* sheets show an elevation view across an alignment. Other types of sheets are *index sheets* which display the sheets in sequence for a plan set of a subset of a plan set. For example, the Bridge sheets and Utilities sheets may have their own index sheet. Some sheets will contain *Tabulated blocks* with estimated quantities and footnotes.

OTHER IMPORTANT RESOURCES

- TDOT Standard Specifications for Road and Bridge Construction (TDOT Spec Book)
- Manual on Uniform Traffic Control Devices (MUTCD)
- TDEC Erosion and Sediment Control Handbook
- See this website: http://www.tn.gov/tdot/topic/roadway-design-manuals-and-links TDOT Design Guidelines, TDOT Drainage Manual
- TDOT Standard Drawings See this website: http://www.tn.gov/tdot/topic/roadway-design-design-standards

APPENDICES

More information for discipline specific examples can be found in the following appendices at the end of this document.

- Right-of-Way Appendix
- Guardrail Appendix

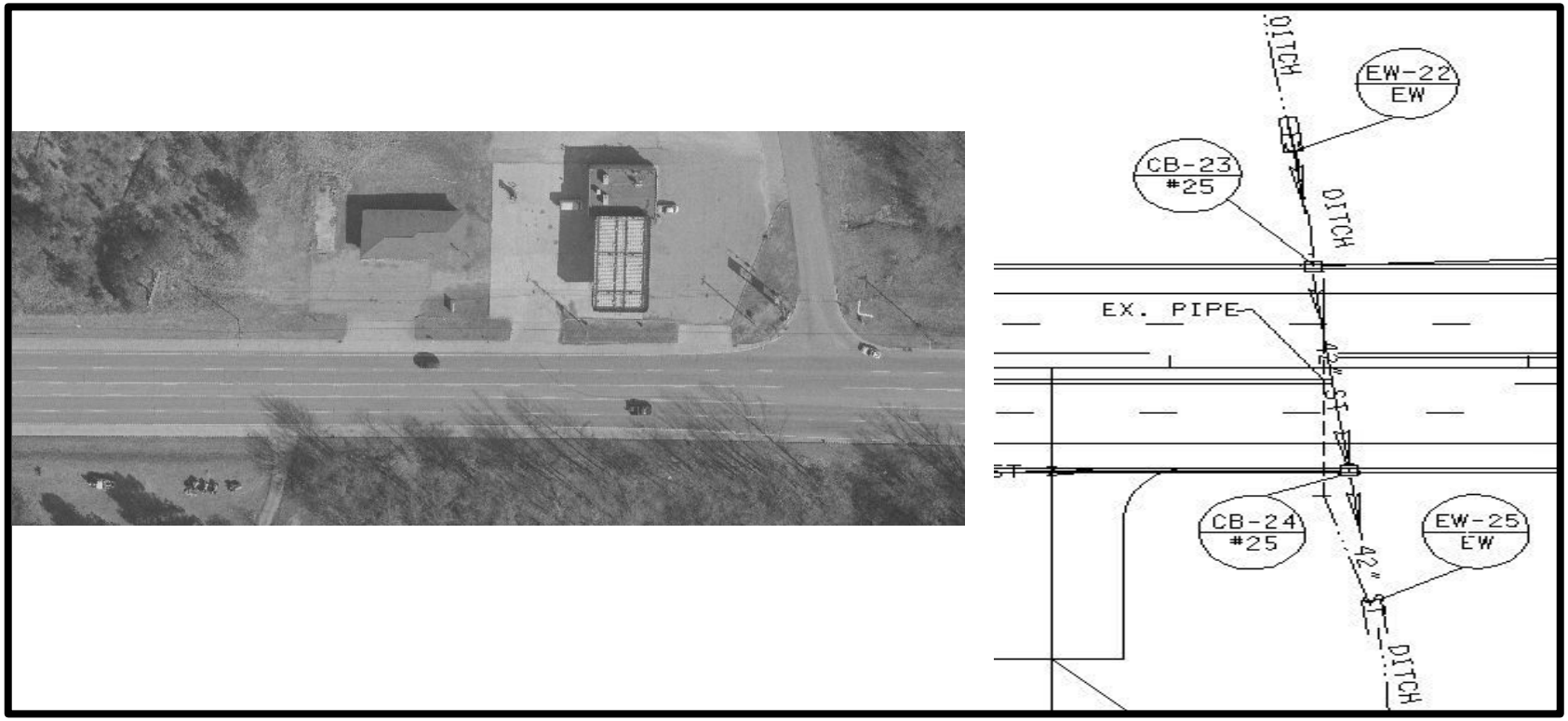
CONTRACT PLANS READING CLASS - VIDEOS

There have been videos created that goes through the Contract Plans Reading Class as a voiceover for your use as well. These can be found on the website at the following link: https://www.tn.gov/content/tn/tdot/roadway-design/training/roadway-design-training---tdot-classes/contract-plans-reading-class---videos.html

VIEWS

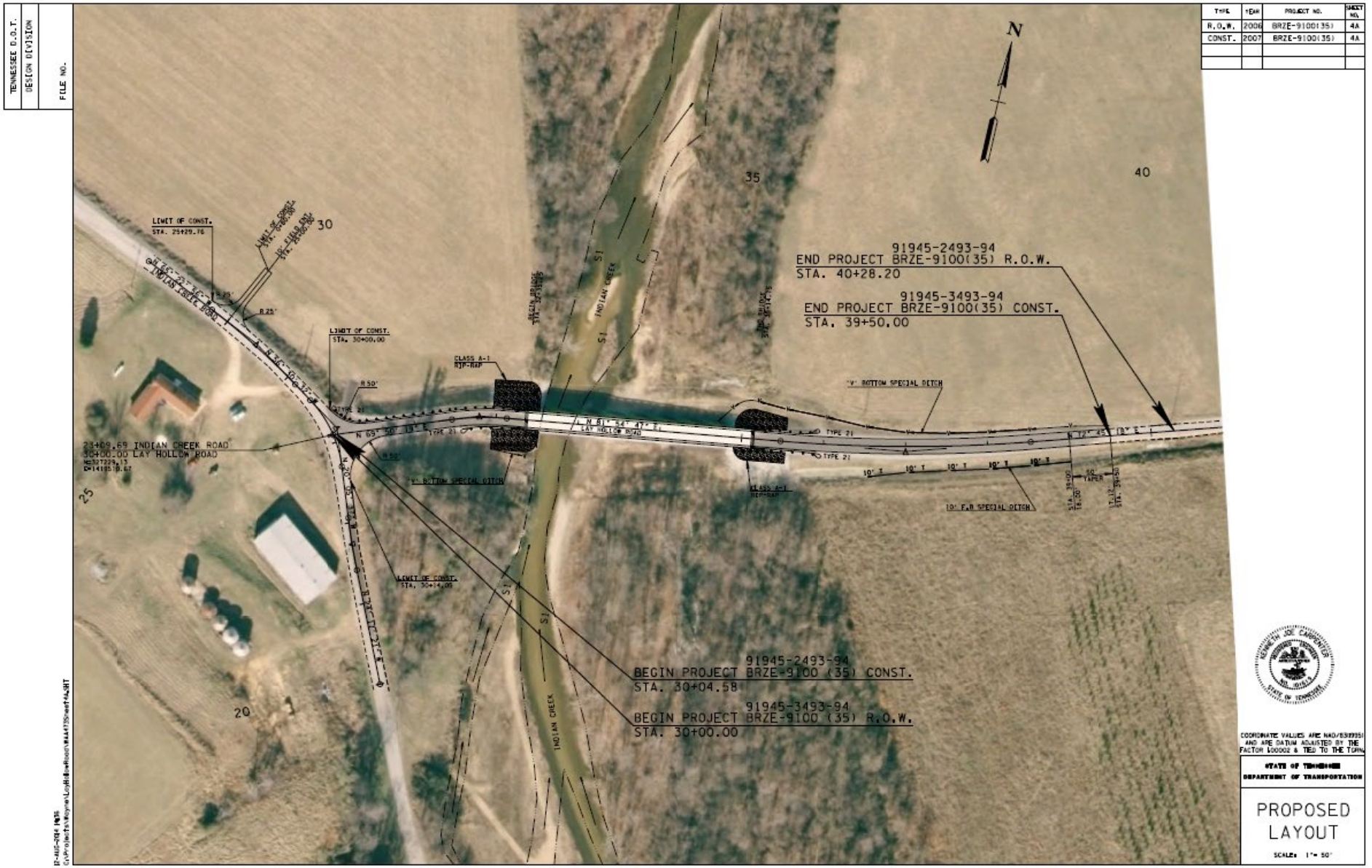
View is the way you look at or see the different items that are shown on a set of plans. Different views are drawing to give you clear and complete pictures of how the fence, pipe, ditch, etc. should be built or placed. There are three primary views – Plan, Profile and Cross-Section.

The view from the top is the **plan** view. This view looks like it is taken directly above the object.



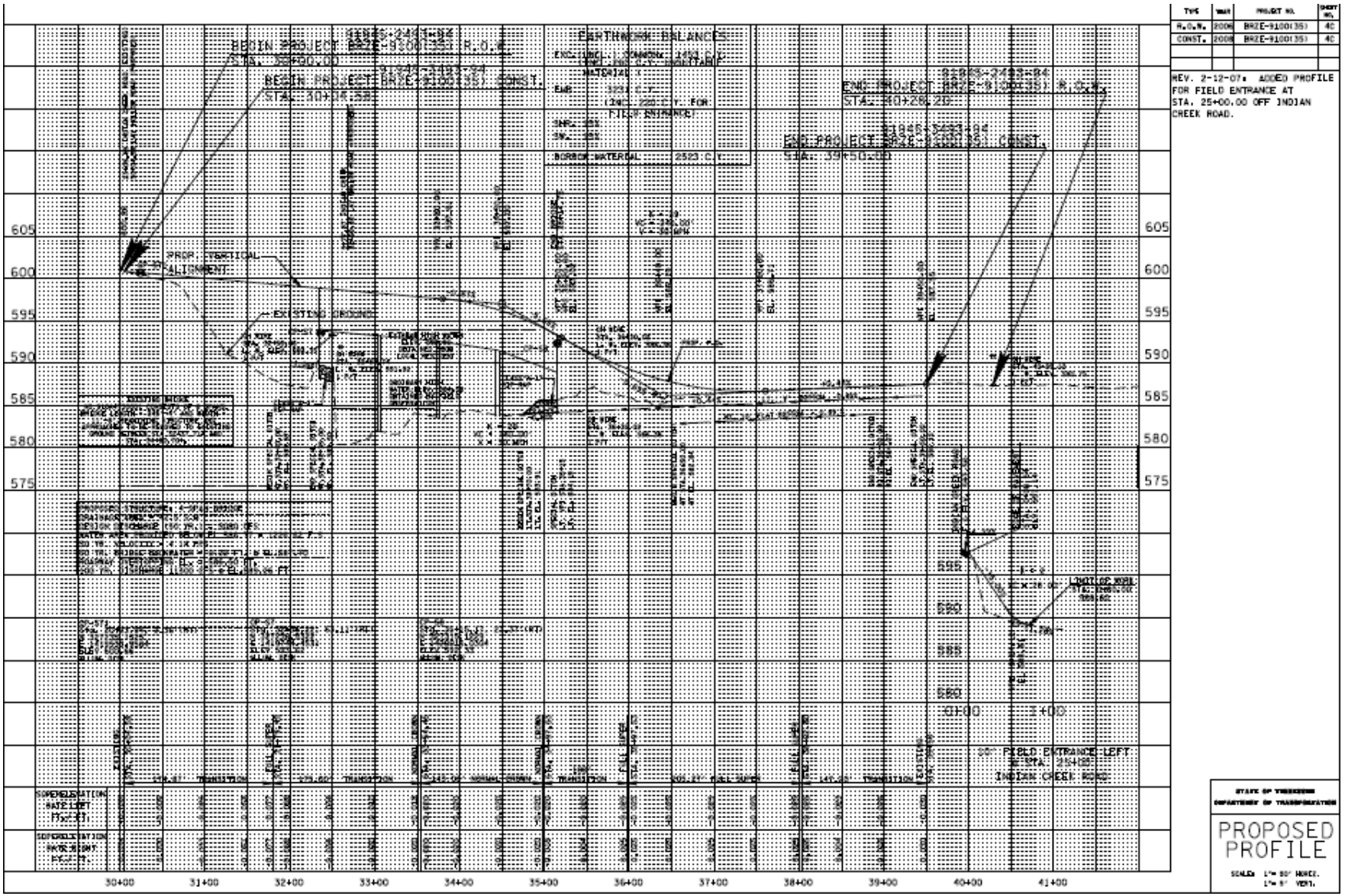
VIEWS

Plan view of the proposed layout superimposed on an aerial image.



VIEWS

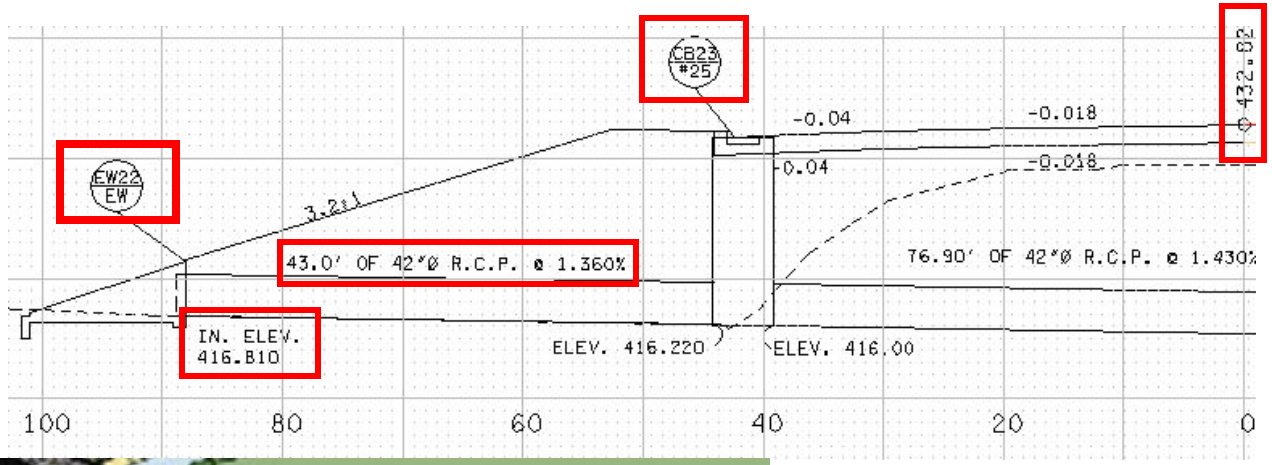
A view from the front or side is a profile view. A profile view shows the elevation of the object.

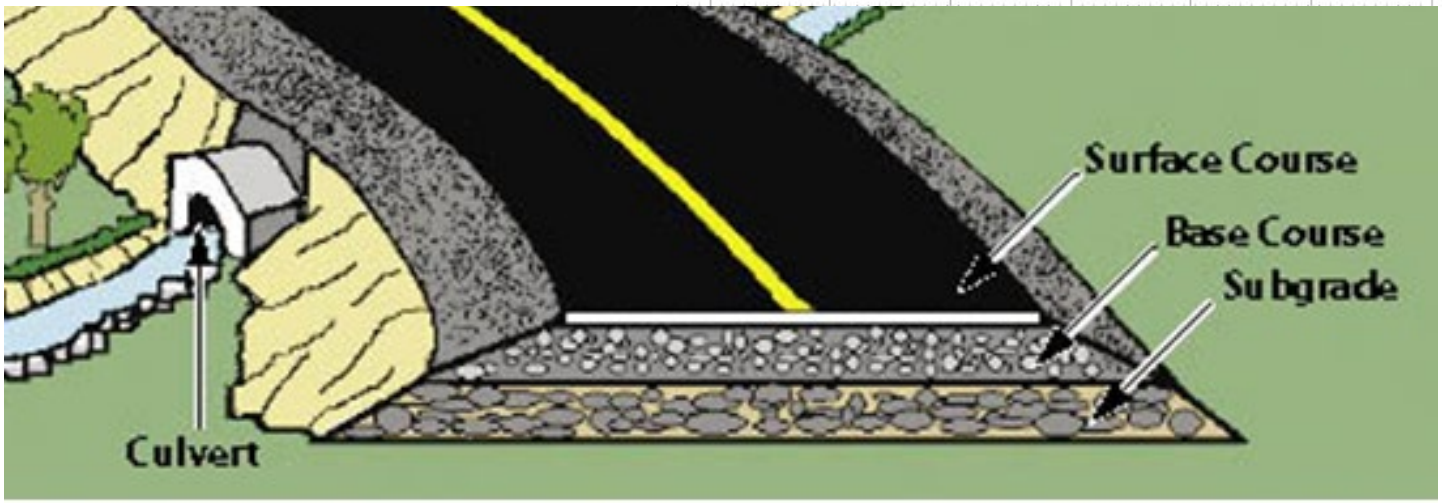


CROSS-SECTION VIEWS

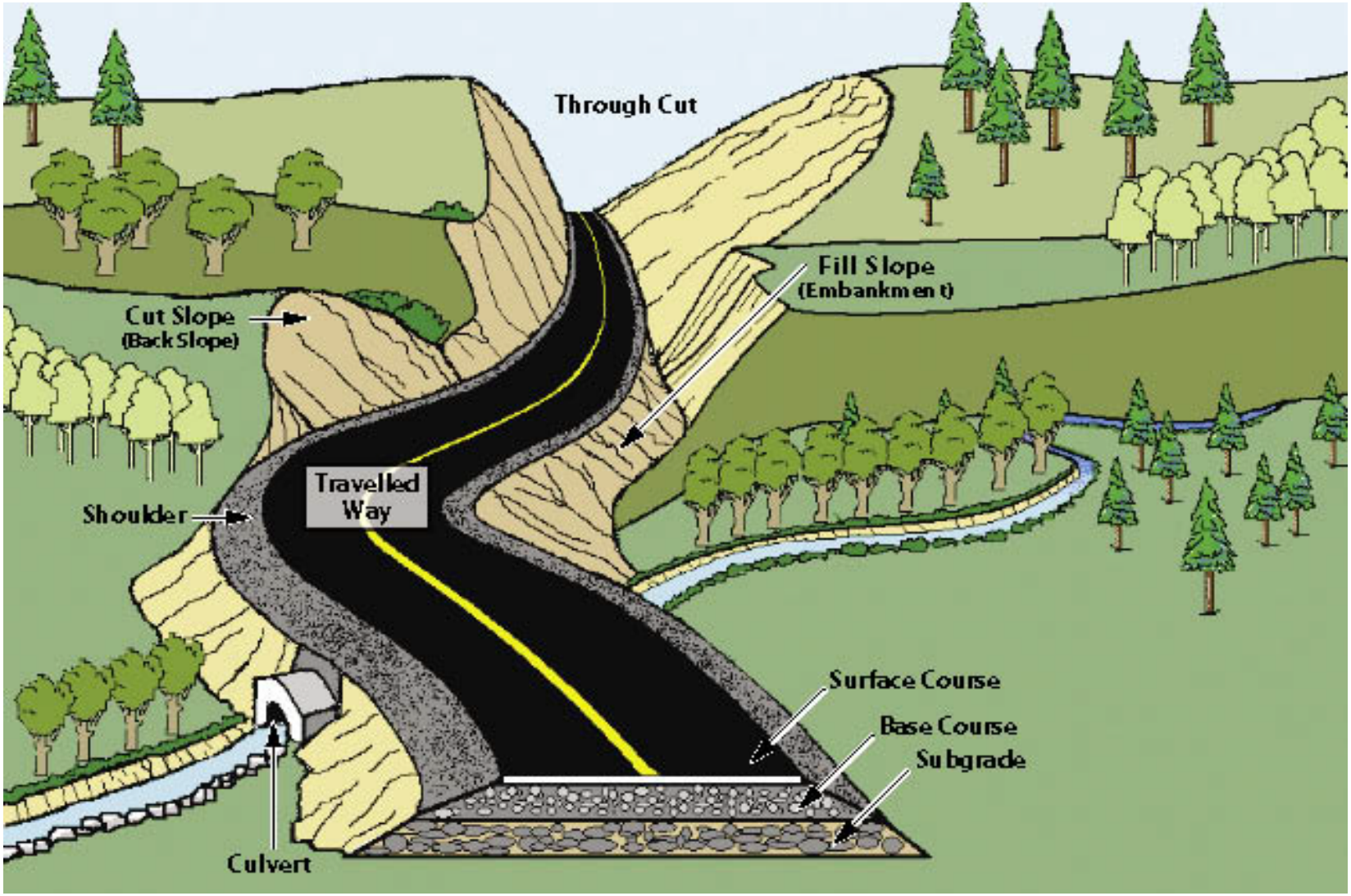
A cross-section view shows the inside of an object as if the object has been cut open. from the front or side is a profile view. A profile view shows the elevation of the object.

Example: If you cut the road from curb to curb at the middle of the proposed 42” pipe, the result would be the culvert cross-section shown. The culvert begins with water going into EW-22 (inlet endwall) at the invert elevation of 416.810. EW-22 is connected to CB-23 (catch basin) with 43’ of 42” RCP (reinforced concrete pipe) at a slope of -1.36%. the finished grade elevation at the horizontal centerline of the road is at 432.82’.



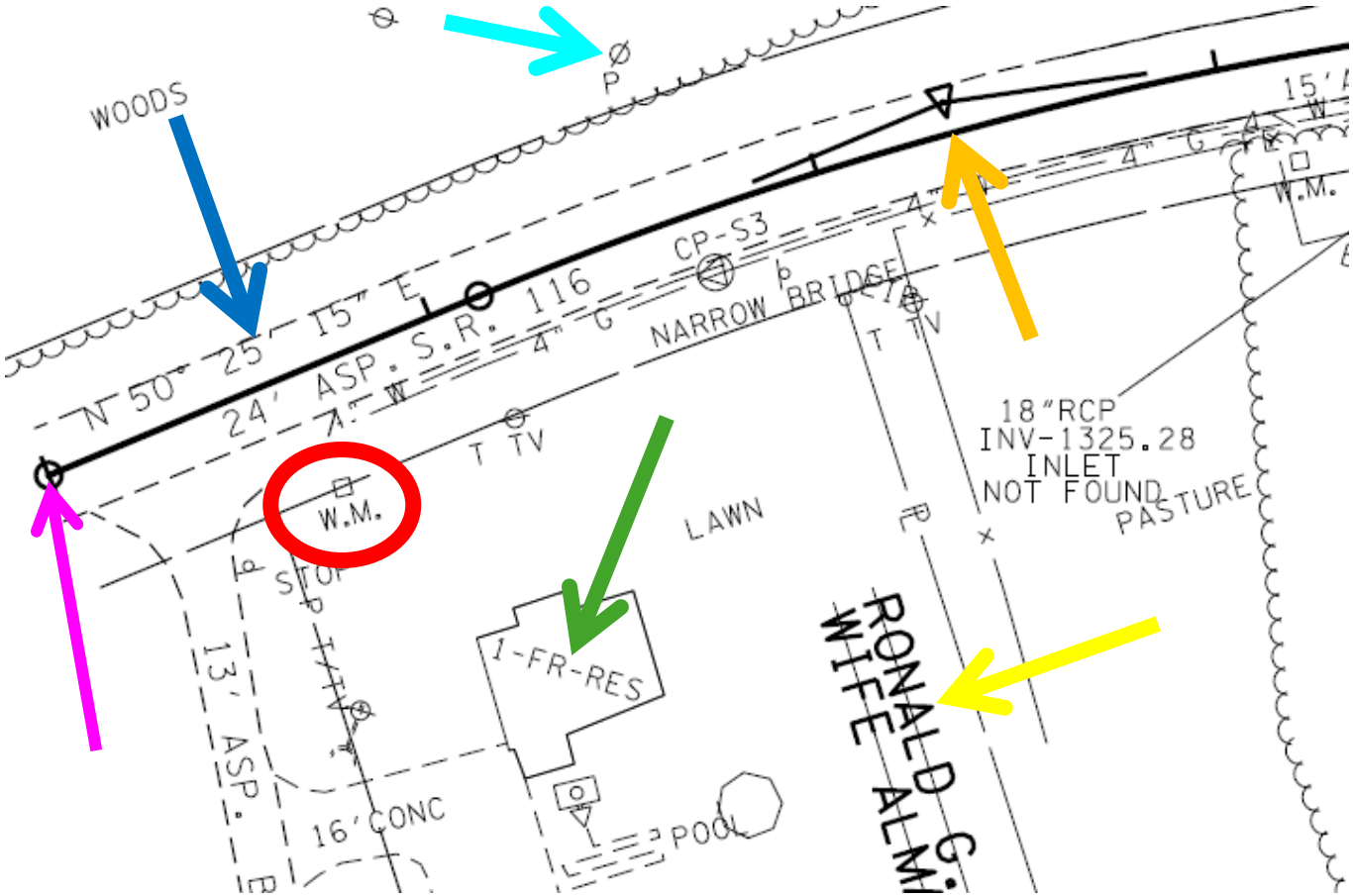


PLAN, PROFILE, AND CROSS-SECTION VIEWS ARE USED TOGETHER TO VIEW THE PROPOSED ROAD THREE DIMENSIONALLY



PLANS ARE COMPOSED OF THE FOLLOWING

1. Text
2. Abbreviations
3. Symbols
4. Shapes
5. Points
6. Lines
7. Curves
8. Centerline



STANDARD ABBREVIATIONS ARE FOUND IN ROADWAY STANDARD DRAWINGS RD-A-1 AND RD-A-2

STANDARD ABBREVIATION

A

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABUT.	ABUTMENT
AC.	ACRE
AC	ASPHALT CEMENT
ACCEL.	ACCELERATION
ACS	ASPHALTIC CONCRETE SURFACE
ADA	AMERICAN with DISABILITIES ACT
ADL	AVERAGE DAILY LOADING
ADT	AVERAGE DAILY TRAFFIC
AFAD	AUTOMATED FLAGGER ASSISTANCE DEVICE
AGG.	AGGREGATE
AH.	AHEAD
ALUM.	ALUMINUM
APPR.	APPROACH
APPROX.	APPROXIMATE
ASPH.	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE.	AVENUE
AVG.	AVERAGE

B

B	BRICK
BAR.	BARRIER
BAL.	BALANCE
BCOMP	BITUMINOUS COATED CORRUGATED METAL PIPE
BEG.	BEGINNING
B.G.	BELOW GRADE
BK.	BACK
BIT.	BITUMINOUS
BL.	BLOCK
BLDG.	BUILDING
BLVD.	BOULEVARD
B.M.	BENCH MARK
BN.	BARN
BOR.	BORROW
BOTT.	BOTTOM
BR.	BRIDGE
BTWN.	BETWEEN
BUS.	BUSINESS

C

C	CABLE UTILITY
CATV	CABLE TV
C.A.	CONTROLLED ACCESS
CALC.	CALCULATED
C.B.	CATCH BASIN
C.C.	CENTER TO CENTER
CFS	CUBIC FEET PER SECOND
C&G	CURB AND GUTTER
CH.	CHANNEL
CH. CH.	CHANNEL CHANGE
CHNLK.	CHAIN-LINK
C.I.P.	CAST IRON PIPE
C.I.S.	CONSTRUCTION IDENTIFICATION SIGN
CK.	CREEK
CL.	CLASS
℄	CENTER LINE
CM	CORRUGATED METAL
CMP	CORRUGATED METAL PIPE
CMPA	CORRUGATED METAL PIPE ARCH
CO.	COUNTY or COMPANY
COM.	COMMON
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CP	CONTROL POINT
CR.	CRUSHED
C.R.S.I.	CONCRETE REINFORCING STEEL INSTITUTE
C.S.	CURVE TO SPIRAL
CT.	COURT
CULV.	CULVERT
C.Y.	CUBIC YARD

D

D	DEGREE OF CURVATURE ON CURVE WITHOUT SPIRALS
D.A.	DRAINAGE AREA
DBST	DOUBLE BITUMINOUS SURFACE TREATMENT
DBYL	DOUBLE BROKEN YELLOW LINE
DECEL	DECELERATION
D_S	DEGREE OF CURVATURE ON A CURVE WITH SPIRALS
DHV	DESIGN HOURLY VOLUME
D.I.	DROP INLET
DIA.	DIAMETER
DIV.	DIVERSON
DR.	DRIVE
DRG.	DRAINAGE
DSYL	DOUBLE SOLID YELLOW LINE
DSWL	DOUBLE SOLID WHITE LINE
DUC.	DUCTILE IRON
DWG.	DRAWING
DWL	DOTTED WHITE LINE
DYL	DOTTED YELLOW LINE

E

E	EAST or EAST COORDINATE
E	EXTERNAL DISTANCE ON CURVE WITH NO SPIRALS
EBL	EASTBOUND LANE
ECM	EXISTING CONCRETE MONUMENT
ECP	EXISTING CORNER POST
E.I.P.	EXISTING IRON PIN
EL. or ELEV.	ELEVATION
ELONG.	ELONGATED
EBM.	EMBANKMENT
ENGR.	ENGINEER
ENT.	ENTRANCE
E.P.	EDGE OF PAVEMENT
EQ.	EQUATION
E_S	EXTERNAL DISTANCE ON A CURVE WITH SPIRALS
E.S.	EDGE OF SHOULDER
ESMT.	EASEMENT
E.W.	END WALL
EX.	EXISTING
EXC.	EXCAVATION
EXCL	EXCLUDING
EXT.	EXTENSION

F

F	FRAME
F.A.	FEDERAL AID
FAP	FEDERAL AID PRIMARY
FAS	FEDERAL AID SECONDARY
FED.	FEDERAL
F.G.	FINISHED GRADE
F.H.W.A.	FEDERAL HIGHWAY ADMINISTRATION
FIN.	FINISHED
FL.EL.	FLOOR ELEVATION
F.L.	FLOW LINE
FLG.	FLANGE
FMS	FORCE MAIN SEWER
FOC	FIBER OPTIC CABLE
F.P.	FIRE PLUG
FR.RD.	FRONTAGE ROAD
FT.	FOOT OR FEET
F/F	FOOT PER FOOT
FUT.	FUTURE

G

G	GAS (PUMP or UTILITY)
GA.	GAUGE
GAL.	GALLON
GALV.	GALVANIZED
GAR.	GARAGE
G.M.	GAS METER
GNSS	GLOBAL NAVIGATION SATELLITE SYSTEM
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GLOBAL POSITIONING SYSTEM
GR.	GRADE or GRADED or GRAVEL
G.R.	GUARD RAIL
GRAN.	GRANULAR
GREEN BOOK	A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS
GT.	GRATE
G.V.	GAS VALVE
GW	GUY WIRE

H

H.C.M.	HIGHWAY CAPACITY MANUAL
HD.	HEAD
HDPE	HIGH DENSITY POLYETHYLENE
HO	HORIZONTAL OVAL
HOCPC	HORIZONTAL OVAL CONCRETE PIPE CULVERT
HORIZ.	HORIZONTAL
HSE.	HOUSE
HT.	HEIGHT
H.W.	HIGH WATER
HWY	HIGHWAY
H.S.	HIGH STRENGTH

I

I	INTERSTATE
I.D.	INSIDE DIAMETER
IN.	INLET
INCL.	INCLUDE
INV.	INVERT
I.P.	IRON PIN
ITS	INTELLIGENT TRANSPORTATION SYSTEM

J

JCT.	JUNCTION
JT.	JOINT

L

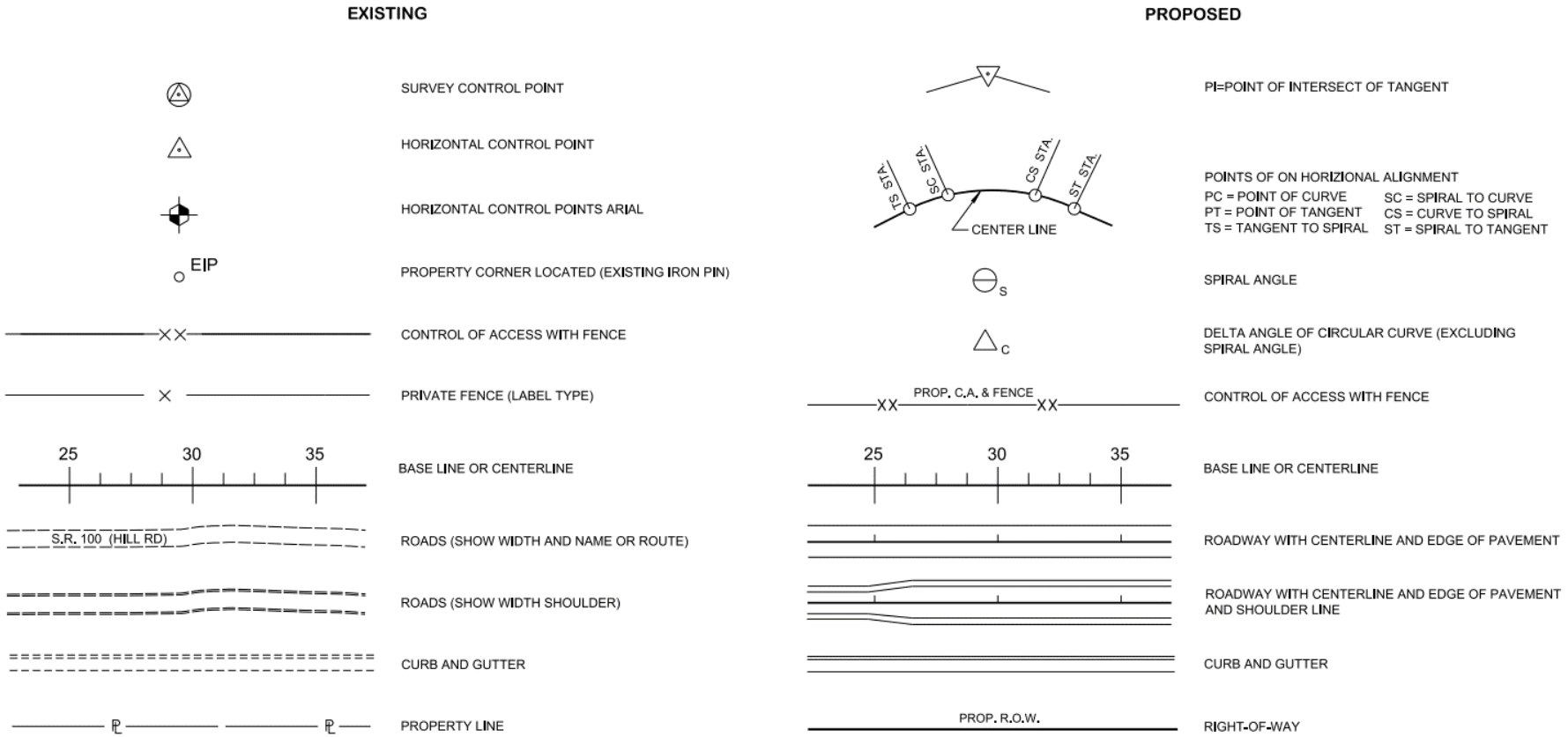
L	LENGTH OF CIRCULAR CURVE WITH NO SPIRALS
LN	LANE
L_C	LENGTH OF CIRCULAR CURVE BETWEEN SPIRALS
LB.	POUND
LB/FT	POUND PER FOOT
L.C.	LONG CHORD, DISTANCE BETWEEN P.C. AND P.T.
L.F.	LINEAR FEET
LGTH.	LENGTH
LIN.	LINEAR
LOC.	LOCATION
L.P.	LIGHT POLE
L_S	LENGTH OF SPIRAL
L.S.	LUMP SUM
L.T.	LONG TANGENT OF SPIRAL
LT.	LEFT

STANDARD LEGENDS ARE FOUND IN ROADWAY STANDARD DRAWINGS RD-L-1 THROUGH RD-L-8

TDOT has **eight** Standard Legend Sheets. Existing objects or lines are dashed. Proposed objects or lines are solid.

RD-L-1 **Standard Legend**
RD-L-2 **Standard Legend for Utility Installation**
RD-L-3 **Standard Legend for Signalization and Lighting**
RD-L-4 **Standard Legend for Signalization and Lighting**
RD-L-5 **Standard Legend for EPSC**
RD-L-6 **Standard Legend for EPSC**
RD-L-7 **Standard Legend for EPSC**
RD-L-8 **Standard Legend for Natural Stream Design**

STANDARD LEGEND



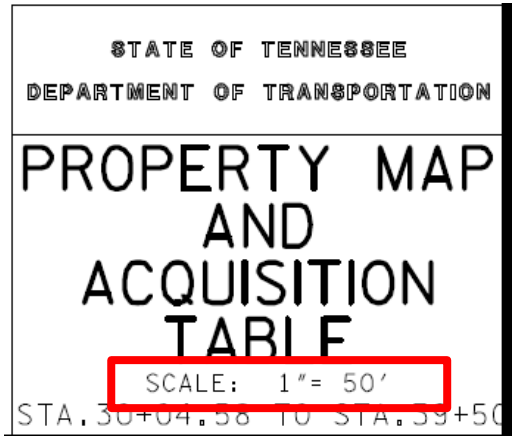
SCALES

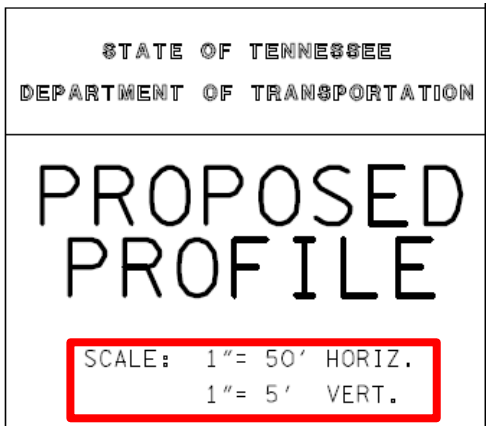
Most plan sheets are drawn according to scale. This means that graphics placed on plans are drawn an exact length to represent an exact distance on the ground or a dimension of real objects.

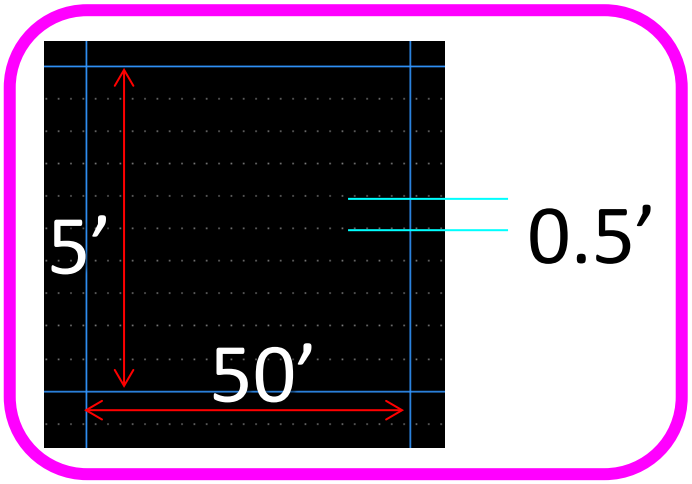
Plan Sheets are typically 1” = 50’. This means that every inch on the plan view represents fifth feed on the group **IF** the sheets were full size (34” x 22”) sheets. If the plans are printed to half-size (11’ x 17”), then 1” = 100’.

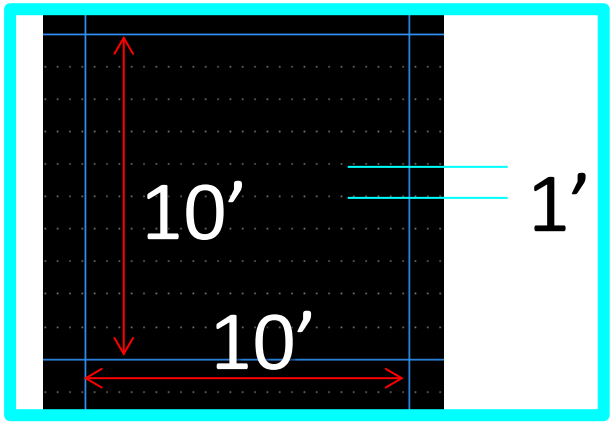
Profile Sheets are typically 1” = 50’ Horizontally and 1” = 5’ Vertically.

Cross-Section Sheets are 1” = 10’.



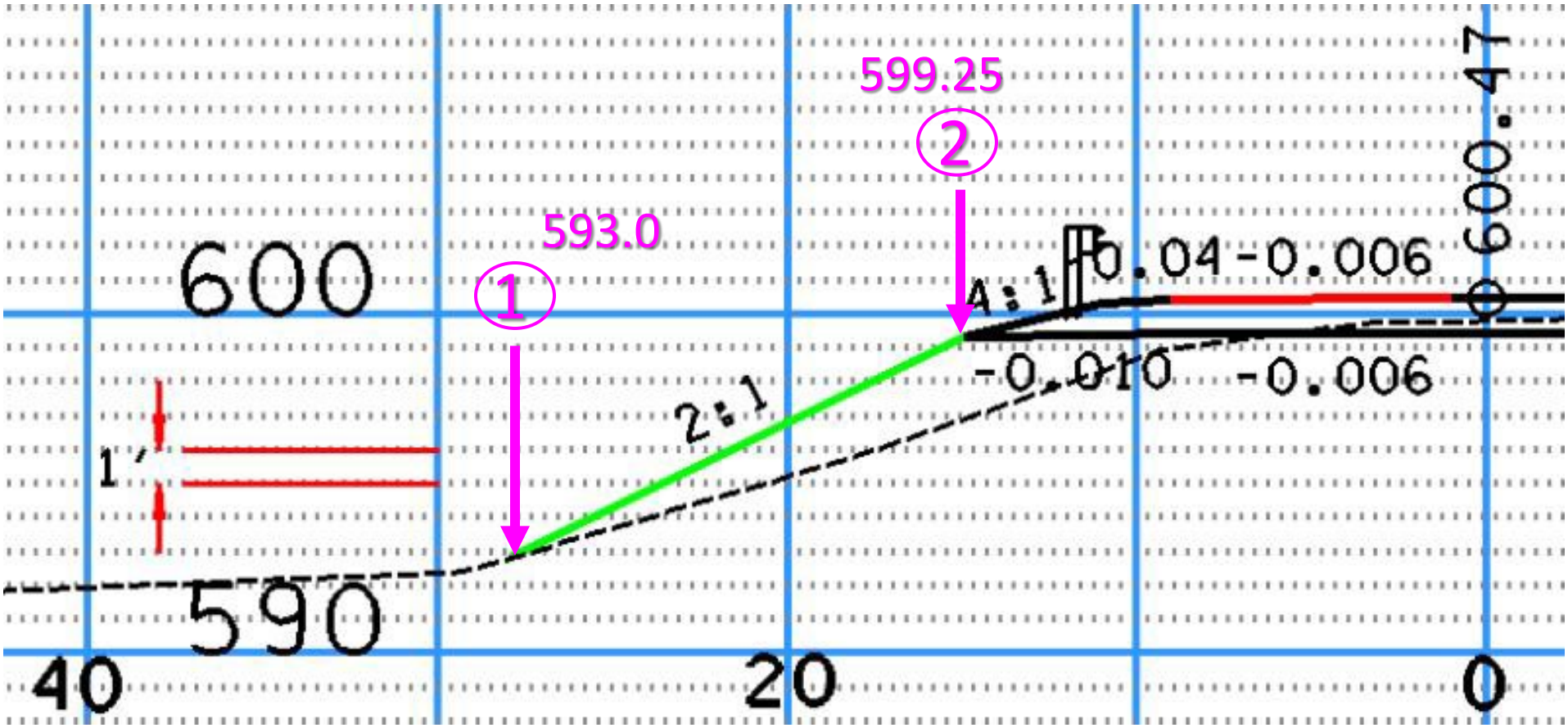






SCALE EXAMPLE

Using the scale of 1” = 10’, what are the approximate elevations of Points 1 and 2?



ANSWER 1 – 593’
ANSWER 2 – 599’

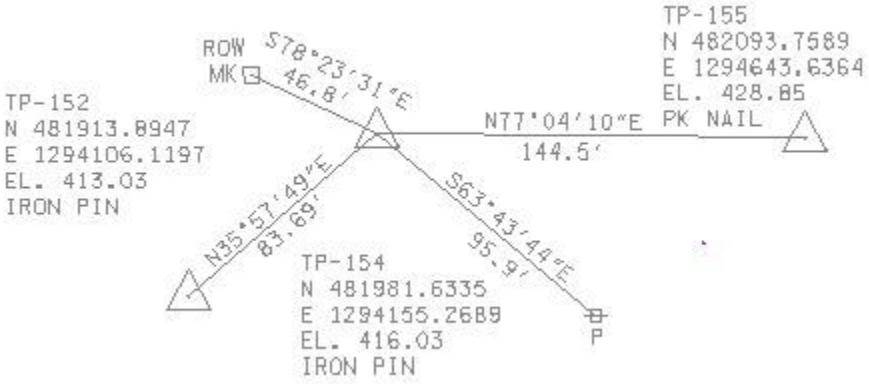
LAND SURVEY DATA

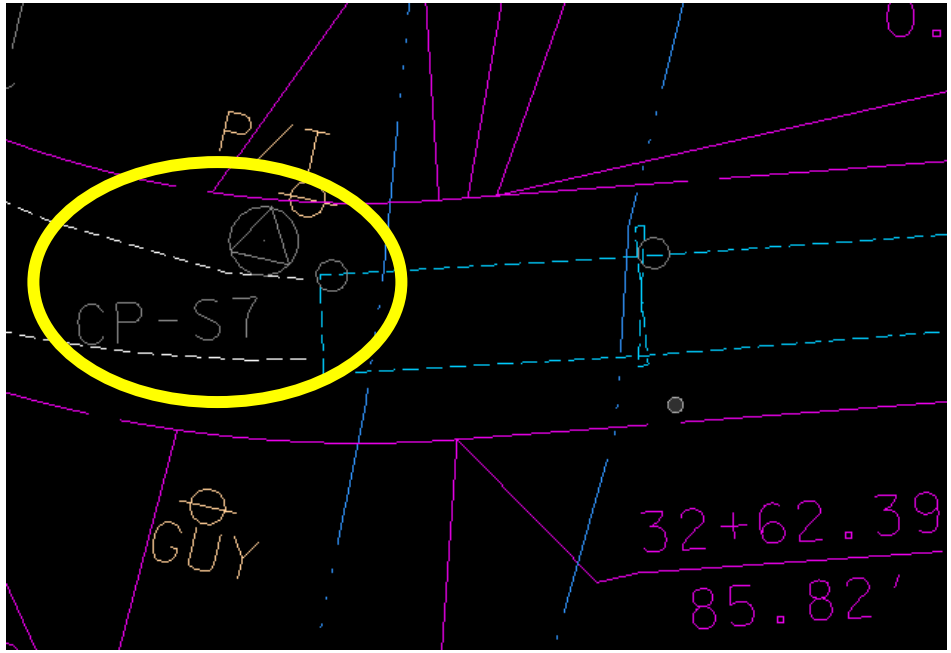
Much of the information shown on the plan sheets is based on surveys made in the field by the Geodetics Field Crews. Benchmarks (B.M.) represent points of known elevation and the location for that point. The benchmark elevation is usually referenced from mean sea level. Benchmarks are markers, such as posts, stakes or concrete monuments. Most surveys start from permanent benchmarks, which are usually concrete monuments. Benchmarks are usually established every 1000 ft along the project and near all major structure sites and major intersections.

A survey control point is a point on the ground or a permanent structure with known horizontal and vertical coordinates. Control Points are shown on the plan view along with the survey information and may be GPS or Traverse Points (TP).

SURVEY CONTROL POINT

HORIZONTAL CONTROL POINT



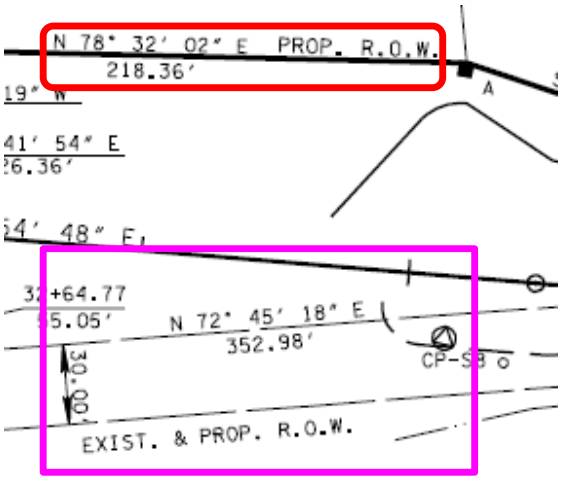


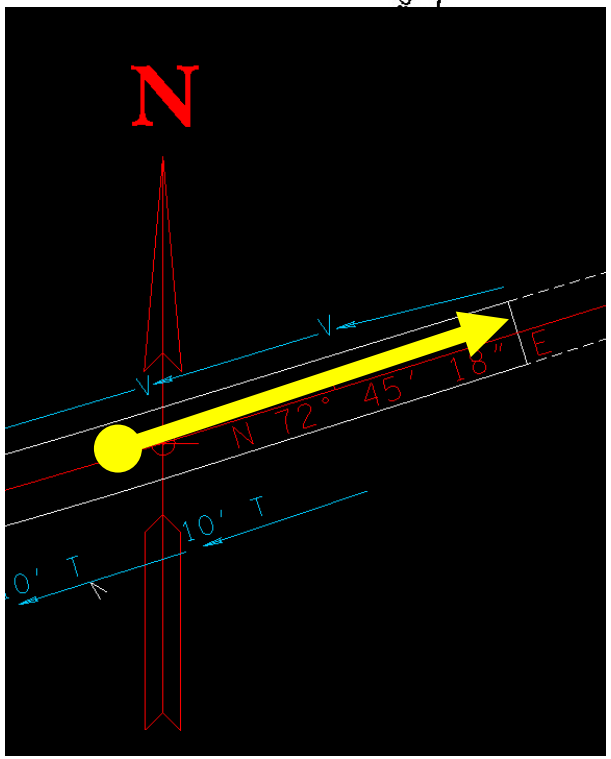
BEARINGS

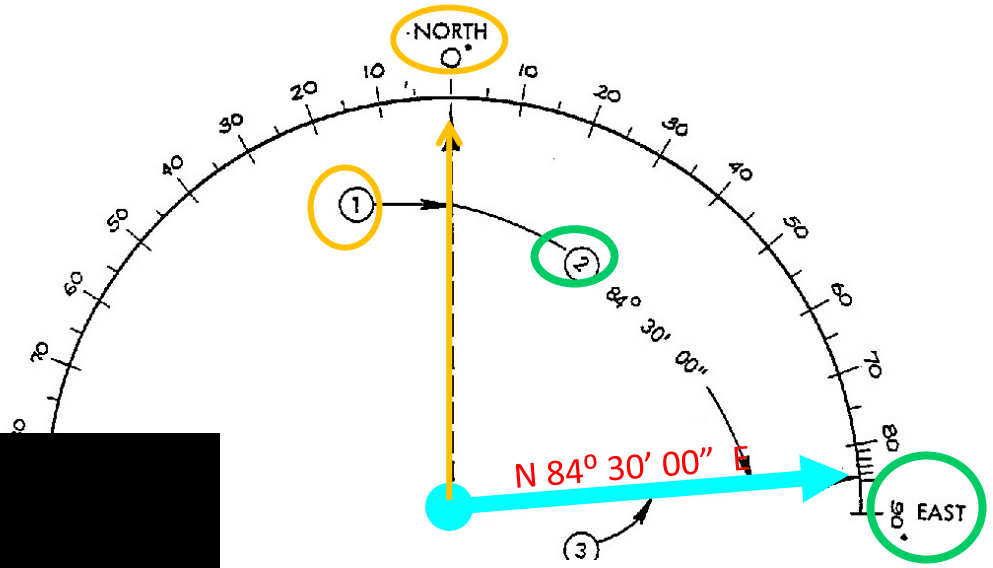
The direction of a surveyed line is described by a bearing. It is described in terms of degrees (°), minutes (') and seconds (") in relation to north or south. Bearings are shown for tangent (straight) sections of the road, property lines, and present/proposed ROW.

How is a bearing written to tell us directions? Example N 84°30'00" E

1. Face North (N)
2. Turn an angle 84°30'00" to the East.
3. You are now looking along a bearing of N 84°30'00" E.

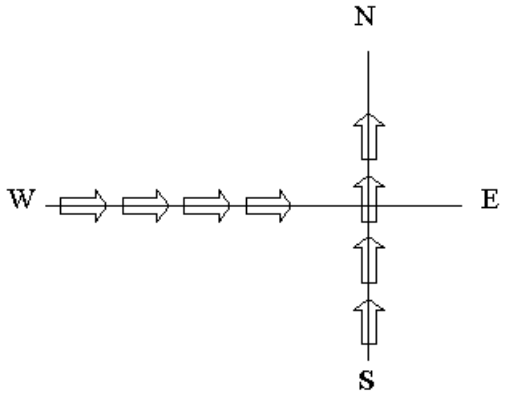


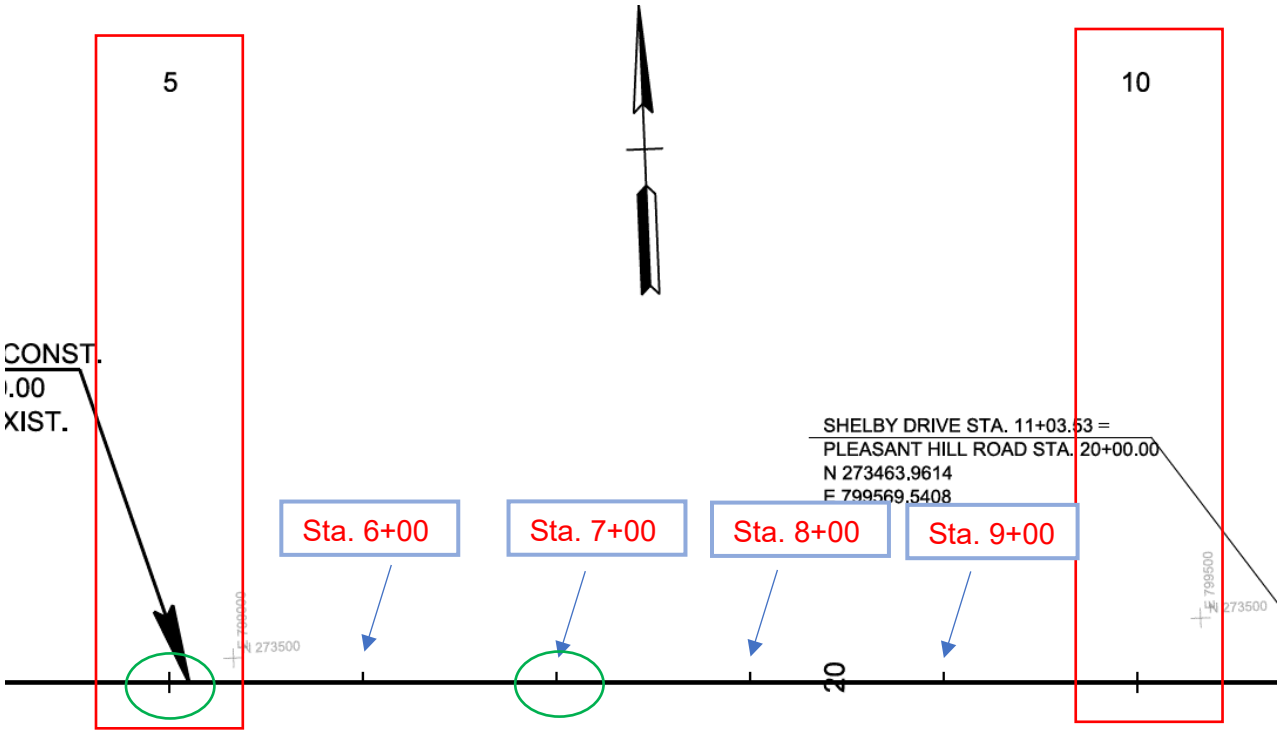




STATIONS

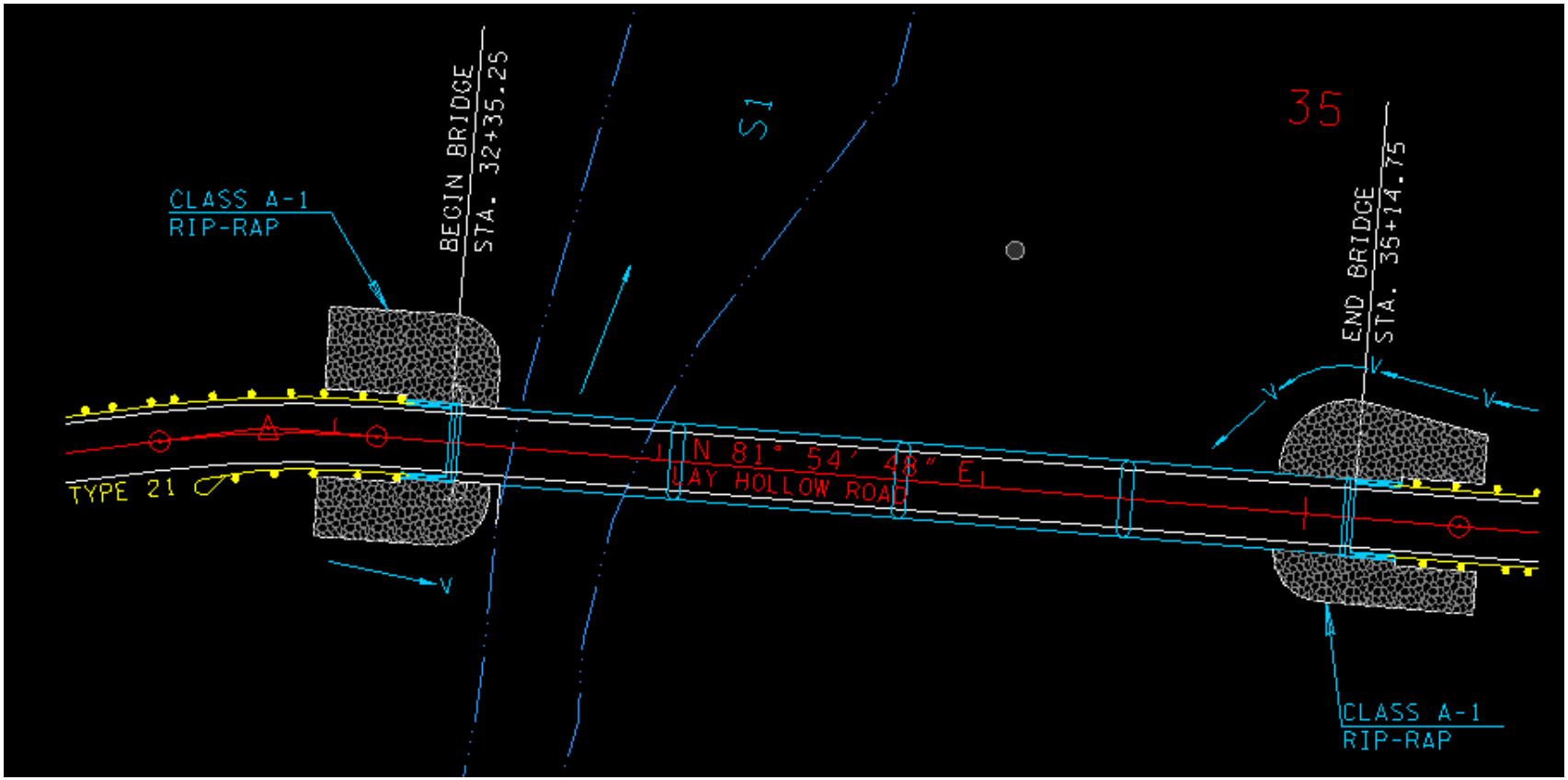
- Station is a term used for measuring distances and identifying points on the ground along a surveyed line.
- A station = 100 feet of distance. Example: Station 39+00.00 = 39 stations = 3900 feet
- Station numbers increase as you go from West to East or South to North or increasing log mile.
- Stations are shown on all layout, profiles, and cross-section sheets.
- Cross-roads are stationed left to right looking forward along the mainline centerline.
- At every 100’ station interval, there is a short tick that only extends to the left of the centerline.
- At every 500’ station interval, there is a long tick which extends to the left and right of the centerline.





STATIONS EXAMPLE

Find the length of the bridge.



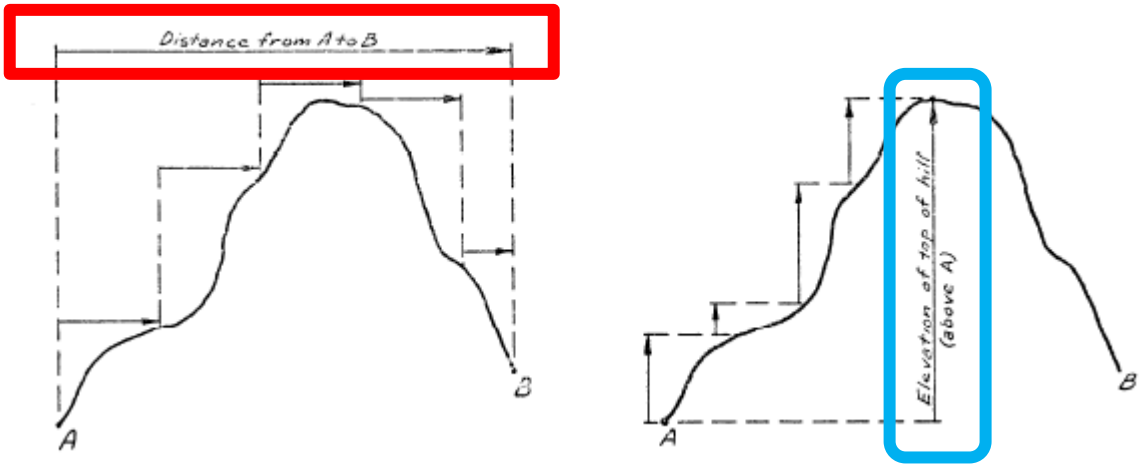
Begin Bridge Station is 32+35.25 = 3235.25’
End Bridge Station is 35+14.75 = 3514.75’

Subtract the smaller station from the larger station = 3514.75-3235.25
Difference is 279.50’. This is the length of the bridge.

DISTANCE SHOWN ON PLANS

Distances are never measured along the slope of the ground.

Distances are measured **horizontally** on plan view and **vertically** on profile view.

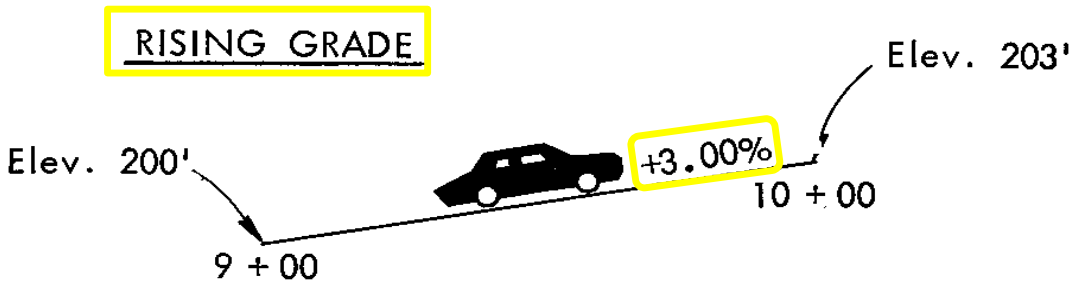


GRADES

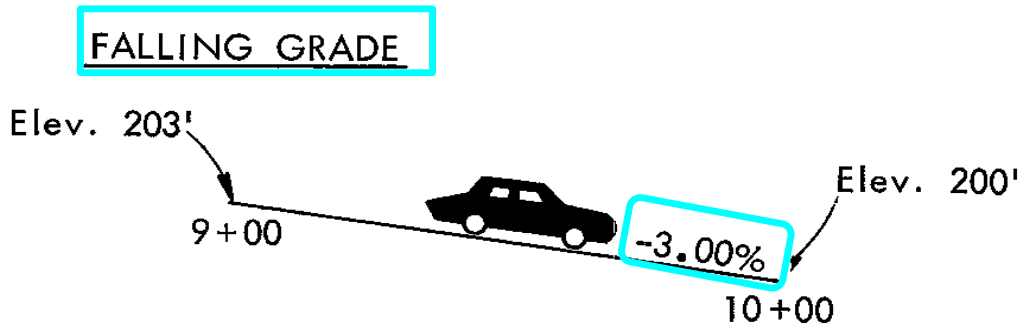
(+) in front of percent of an Up Grade

(-) in front of percent of an Down Grade

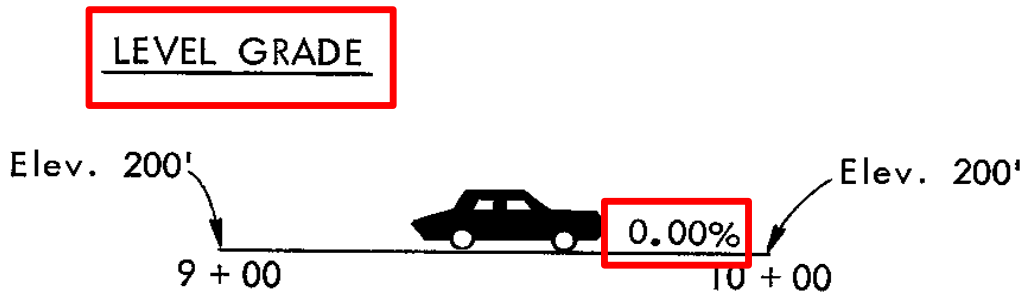
( ) No plus or minus sign in front of Level Grade (0.00%)



The roadway rises 3' in 100' of horizontal travel. The grade is +3.00%.



The roadway falls 3' in 100' of horizontal travel. The grade is -3.00%.

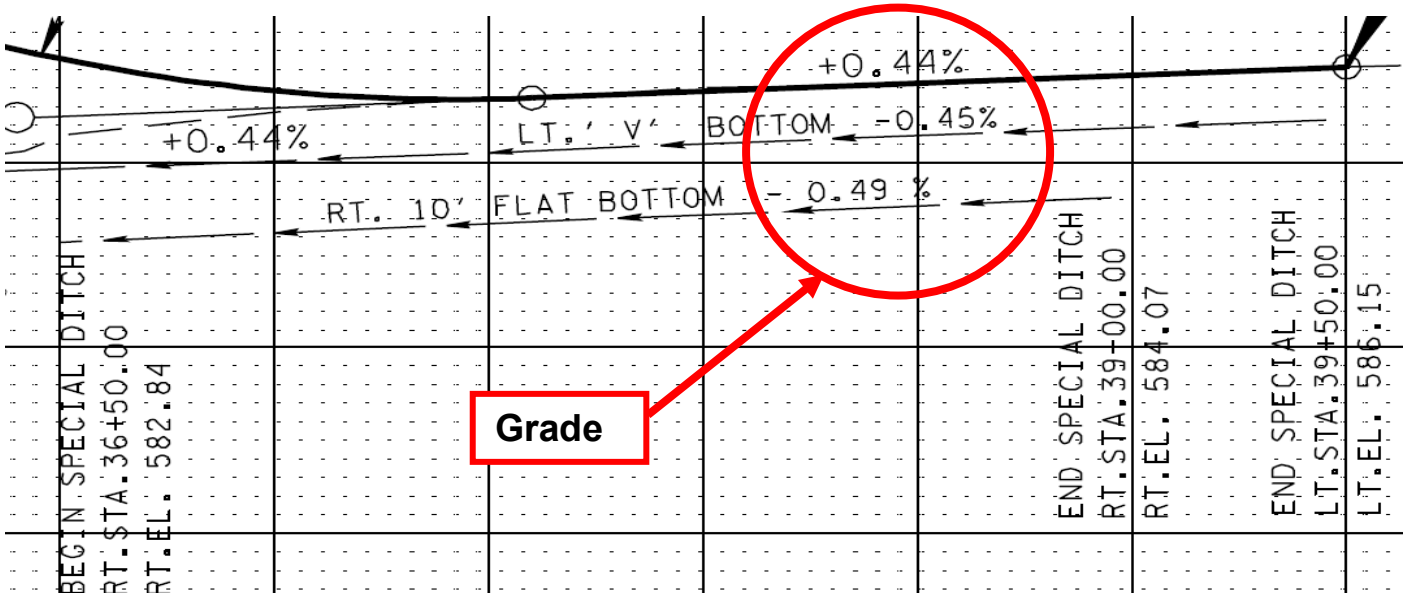


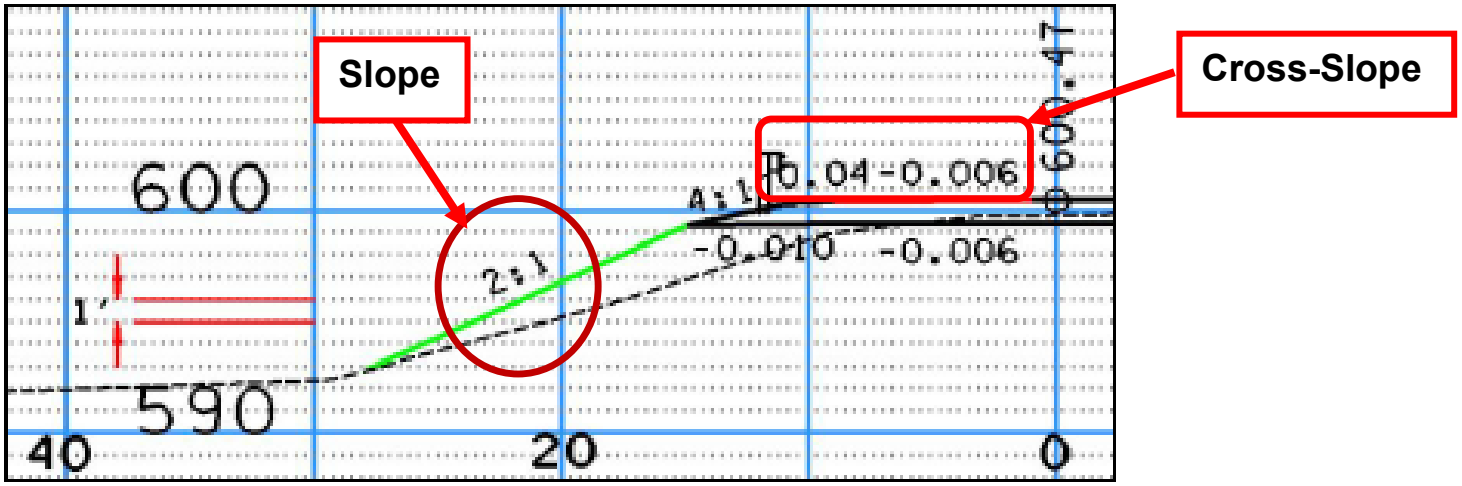
The roadway does not rise or fall. It is level. The grade is 0.00%.

HOW DO WE EXPRESS THE RISE AND FALL OF THE GROUND?

It is expressed in one of three ways:

- Grade in %
- Slope as a ratio
- Cross-Slope in ft/ft

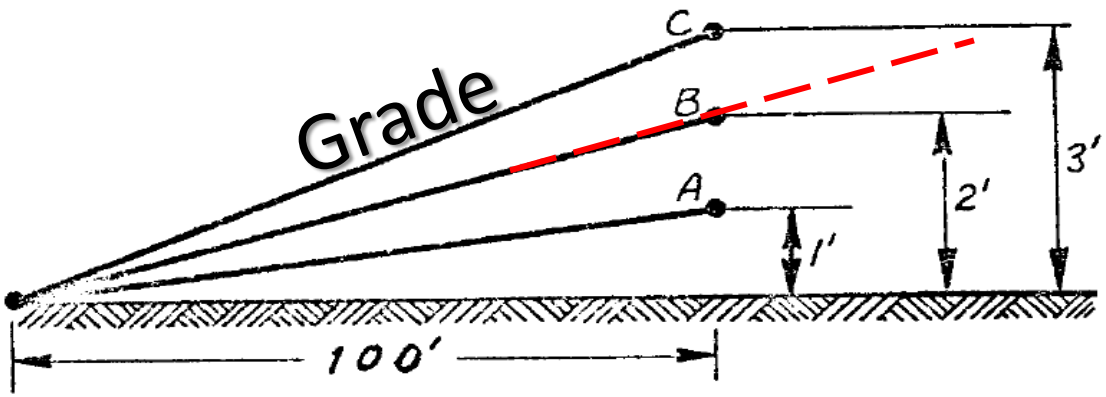




GRADES

Grades are written as percent of vertical rise or fall based on horizontal distance.

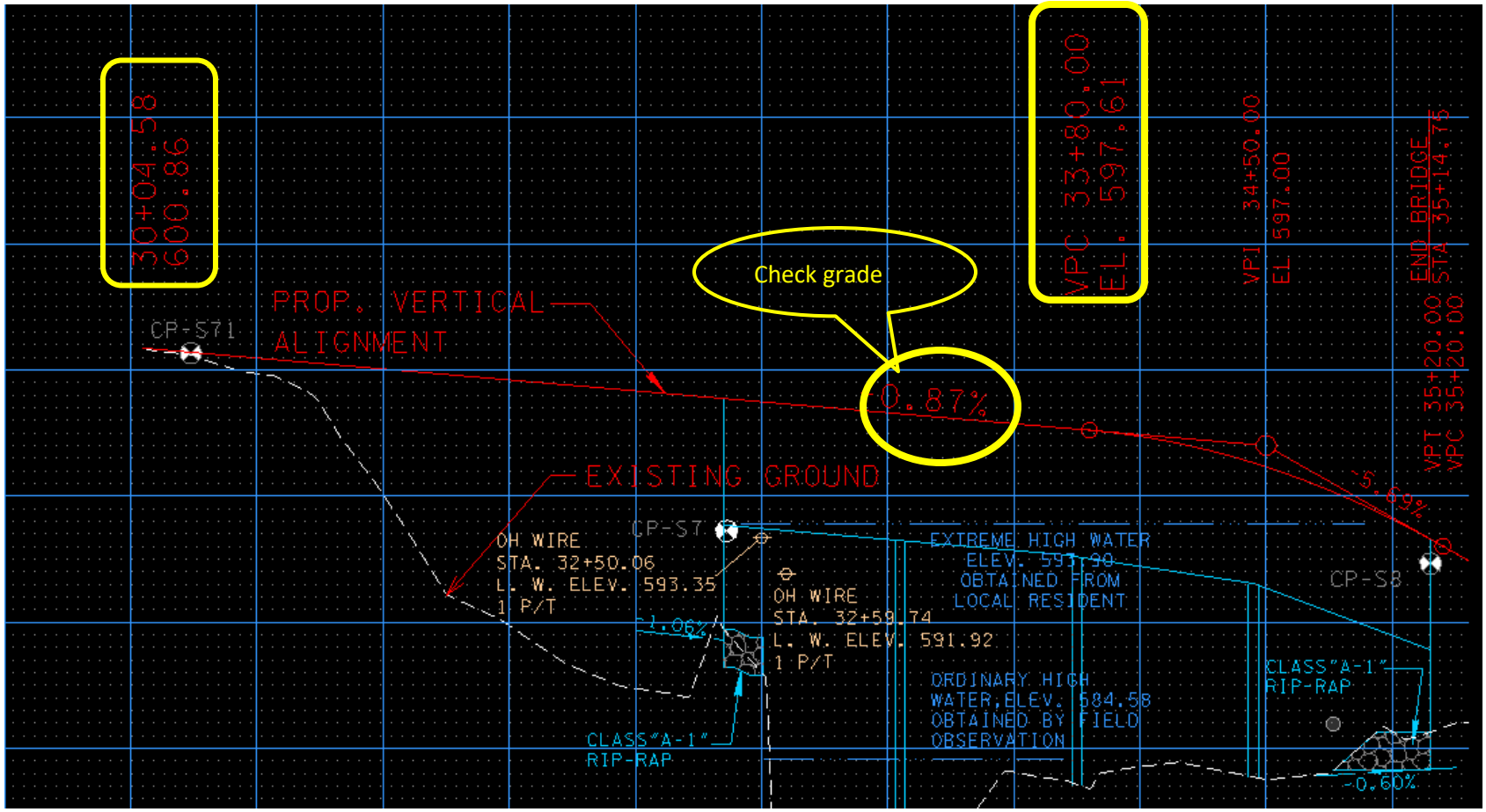
$$\% \text{ Grade} = \frac{\text{Vertical Distance}}{\text{Horizontal Distance}} \times 100$$



No matter how far you go the percentage of rise to distance is always the same.

Line A rises 1' vertically in 100' horizontal distance.
The grade is 1/100 or 0.01 or 1%.
Line B rises 2' vertically in 100' horizontal distance.
The grade is 2/100 or 0.02 or 2%.
Line C rises 3' vertically in 100' horizontal distance.
The grade is 3/100 or 0.03 or 3%.

$$\% \text{ Grade} = \frac{\text{Vertical Distance}}{\text{Horizontal Distance}} \times 100$$



$$\% \text{ Grade} = \frac{\text{Vertical Distance}}{\text{Horizontal Distance}} \times 100 = \frac{(597.61 - 600.86)}{(3380.00 - 3004.58)} \times 100 = \frac{-3.25}{375.42} \times 100 = -0.87\%$$

CROSS-SLOPES

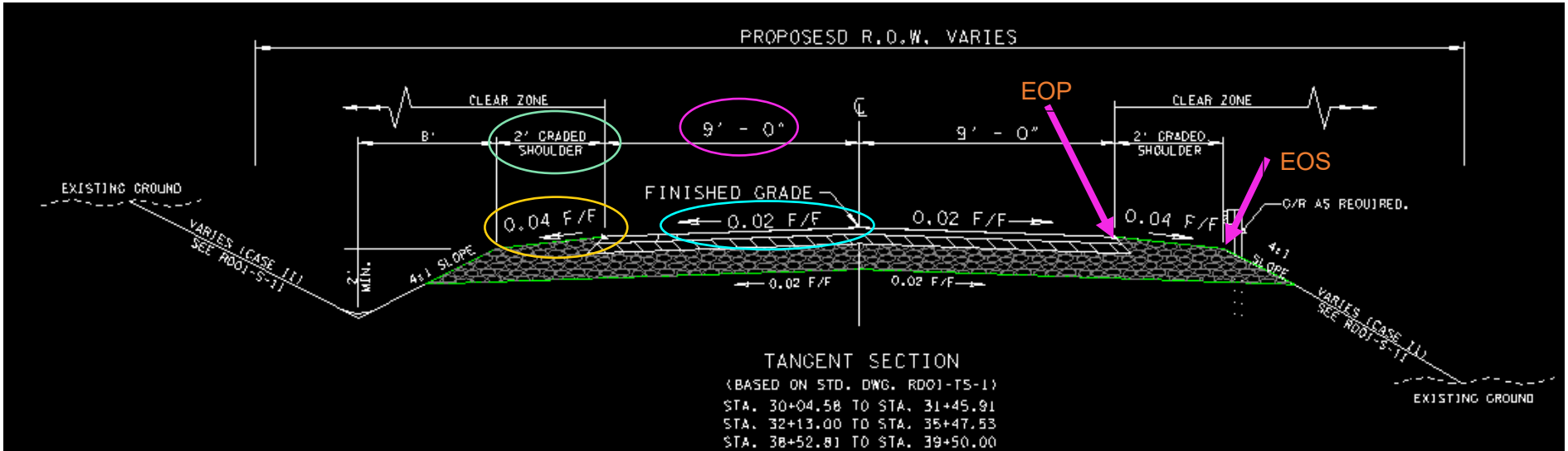
Cross-slopes are shown as foot per foot of slope away from the centerline. Cross-slopes allow water to drain from the pavement surface instead of ponding in the travel lane. A zero (or flat) cross-slope in a superelevated section could cause ponding and hydroplaning.

A cross-slope of 0.02 ft/ft means that the travel lane drops 0.02 feet vertically for each foot horizontally away from the centerline.

$$\text{Cross-Slope Rate} = \frac{\text{Vertical Distance}}{\text{Horizontal Distance}}$$

Example – Find the vertical distance change for the items below. Vertical Distance = Cross-Slope Rate x Horizontal Distance

What is the vertical distance from the centerline to the edge of pavement (EOP)? (0.02 ft/ft) x 9' = **0.18'** below the centerline elevation
What is the vertical distance from the centerline to the edge of shoulder (EOS)? (0.04 ft/ft) x 2' + elevation drop from EOP (0.18') = **0.26'** below the centerline elevation

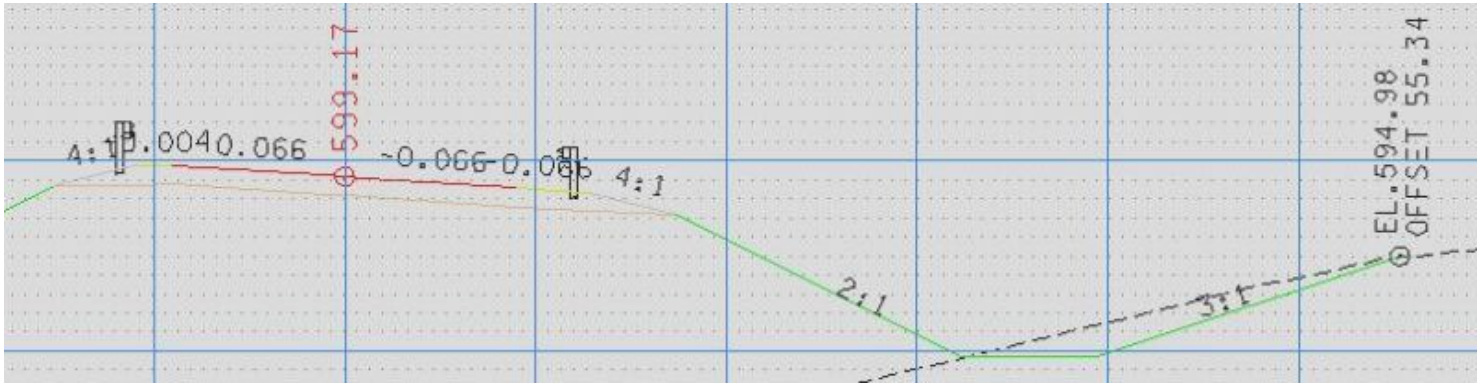


EDGE OF PAVEMENT ELEVATION EXAMPLE

Determine the Edge of Pavement (EOP) elevation. The EOP is the red line on the XS.

This XS is in a superelevated section of the road. You know this because the left side of the road is a positive cross-slope.

Finished Grade Elevation is **599.17'** as shown in XS
Lane widths are 9' – this comes from the typical section
599.17' – (9' X .066) = **598.576'** for the right edge of pavement
599.17' + (9' X .066) = **599.764'** for the left edge of pavement.



PLAN SHEET SETUP

Title Block: Title blocks are located in the bottom right corner of plan sheets. All plan sheets, except Title Sheets and Cross-Section Sheets, have a title block. The title block always includes the sheet name and may include datum adjustment factor and the corresponding scale and station range. The Title Sheets and Cross-Section Sheets do not have a title block because those sheets are easily identified.

Sheet Identification blocks: Sheet identification blocks are located in the top right corner of plan sheets. All plan sheets have a sheet identification block. The sheet identification block always includes the project number, project year, and sheet number. In addition, all plan sheets, except Title Sheets and Bridge Sheets, include a phase description (Preliminary, R.O.W., CONST., etc.). Note that project numbers can be used to identify the project type. There are four types of projects: Federal Aid, National Highway System, Surface Transportation System, and State and each have a unique project number configuration. See Appendix C.

Sheet Revisions: Sheet revisions are located below the sheet identification block and always include a revision date and revisions description.

Sheet Numbers: See the Index of sheets for project sheet numbering. All sheets are numbered sequentially with sheet numbers from the title sheet to the final sheet. Sheet number 1 is always the Title sheet. Sheet 1A will always be the Index and Standard Drawing sheet. Sheet 2 will always be for bridge quantities.

Engineer's Seal: Each Sheet (except for cross-section sheets) will have the Professional Registered Engineer's signed seal displayed above the Title Block.

The following sections describe the separate plans sheets in the order they would appear in the contract plans. Again, each set of contract plans vary depending on the size and the scope of the project, therefore some sections may not be included in a specific set of contract plans.

SIDE SLOPES

Slope gives a measure of steepness for roadside embankments and excavation. They are written as a ration between **horizontal** and **vertical** distance (**H:V**).

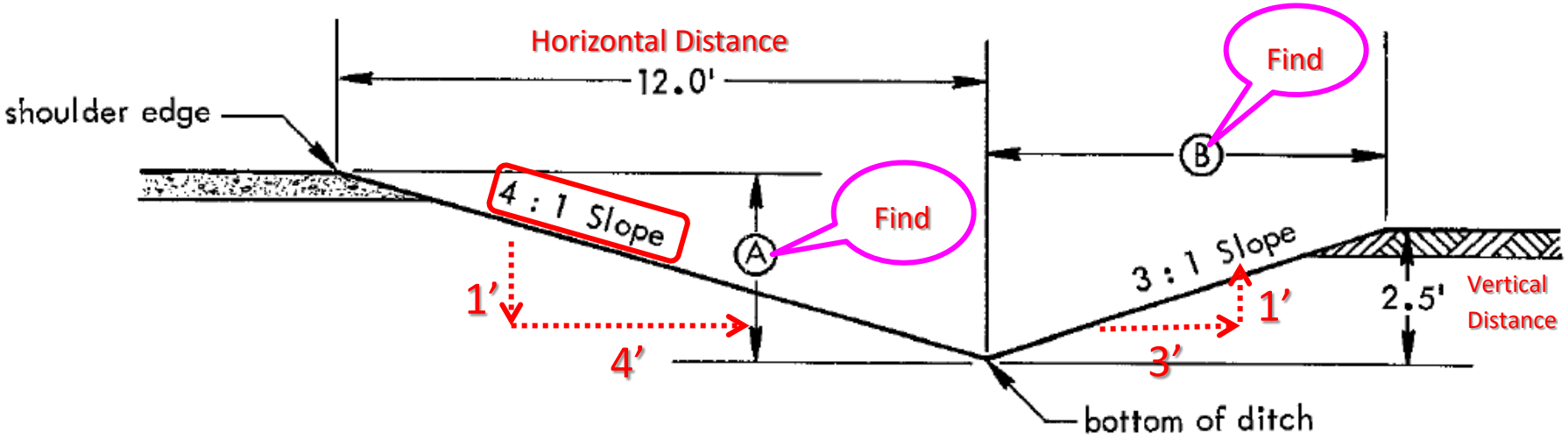
What does the **4:1** (read this as 4 to 1) slope mean? It means that for every 4 feet of horizontal distance away from the road, the elevation falls 1 foot.

- Slope Ratio = $\frac{H}{V} = \frac{\text{Horizontal Distance}}{\text{Vertical Distance}}$
- Vertical Distance = $\frac{\text{Horizontal Distance}}{H}$
- Horizontal Distance = Vertical Distance x H

V = 1 always

Vertical Distance (A) = 12 ÷ 4 = 3

Horizontal Distance (B) = 2.5 x 3 = 7.5



SHEET IDENTIFICATION BLOCKS

Sheet identification blocks appear in the upper right corners of all sheets except standard drawings. There are three different types of sheet blocks. They contain information that describes the sheet by:

- Project Number – Federal and/or State. The project number shown on plan sheets depends on the highest level of funding, with Federal funding being the highest.
- Phase
- Year
- Sheet Number

Title Sheet

TENN.	YEAR	SHEET NO.
	2008	1
FED. AID PROJ. NO.	BRZE-9100(35)	
STATE PROJ. NO.	91945-3493-94	

Plan Sheet

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2006	BRZE-9100(35)	4
CONST.	2008	BRZE-9100(35)	4

Bridge Plans

Project No.	Year	Sheet No.

PROJECT NUMBERS

Project numbers identify what type of project is being built.

1. Federal Aid
2. National Highway System
3. Surface Transportation Program
4. State

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2006	BRZE-9100(35)	4
CONST.	2008	BRZE-9100(35)	4

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2022	92953-2555-04	2B
PS&E	2024	92953-3555-04	2B

TENN.	YEAR	SHEET NO.
	2023	1
FED. AID PROJ. NO.	STP-135(25)	
STATE PROJ. NO.	44008-3232-14	

FEDERAL AID PROJECT NUMBERS

Federal-aid project numbers are shown if federal funding is used.

Example: **IM-65-2(33)98**

IM – Interstate Maintenance
65 – Route Number
2 – Section Number
33 – Job Sequence
98 – Mile-post Number at the beginning of the project

Other common letter prefixes for federal-aid project numbers are as follows:

- APD - Appalachia Development Highway System Projects
- BR and BRZ - Bridge Replacement projects (on-system and off-system routes, respectively)
- CMAQ – Congestion Mitigation Air Quality
- FH / PL - Forest Highway / Public Lands Projects.
- HPP – High Priority Projects
- HSIP –Highway Safety Improvement Program

NATIONAL HIGHWAY SYSTEM PROJECT NUMBERS

National Highway System (NHS) project numbers are shown if NHS funding is used. They are designated with the letters NH in the project number.

The National Highway System (NHS) is comprised of roads in the following:

- Interstate System
- Large percentage of urban and rural principal arterials
- Strategic Defense Highway Network (STRAHNET)

Example: **NH-15(83)**

NH – National Highway System
15 – Route Number

SURFACE TRANSPORTION PROGRAM

All projects with the Surface Transportation Program funding will include the letters STP in the project number. These include roads not functionally classified as a local or minor collector.

Example: **STP-20(29)**

STP – Surface Transportation Program
20 – Route Number

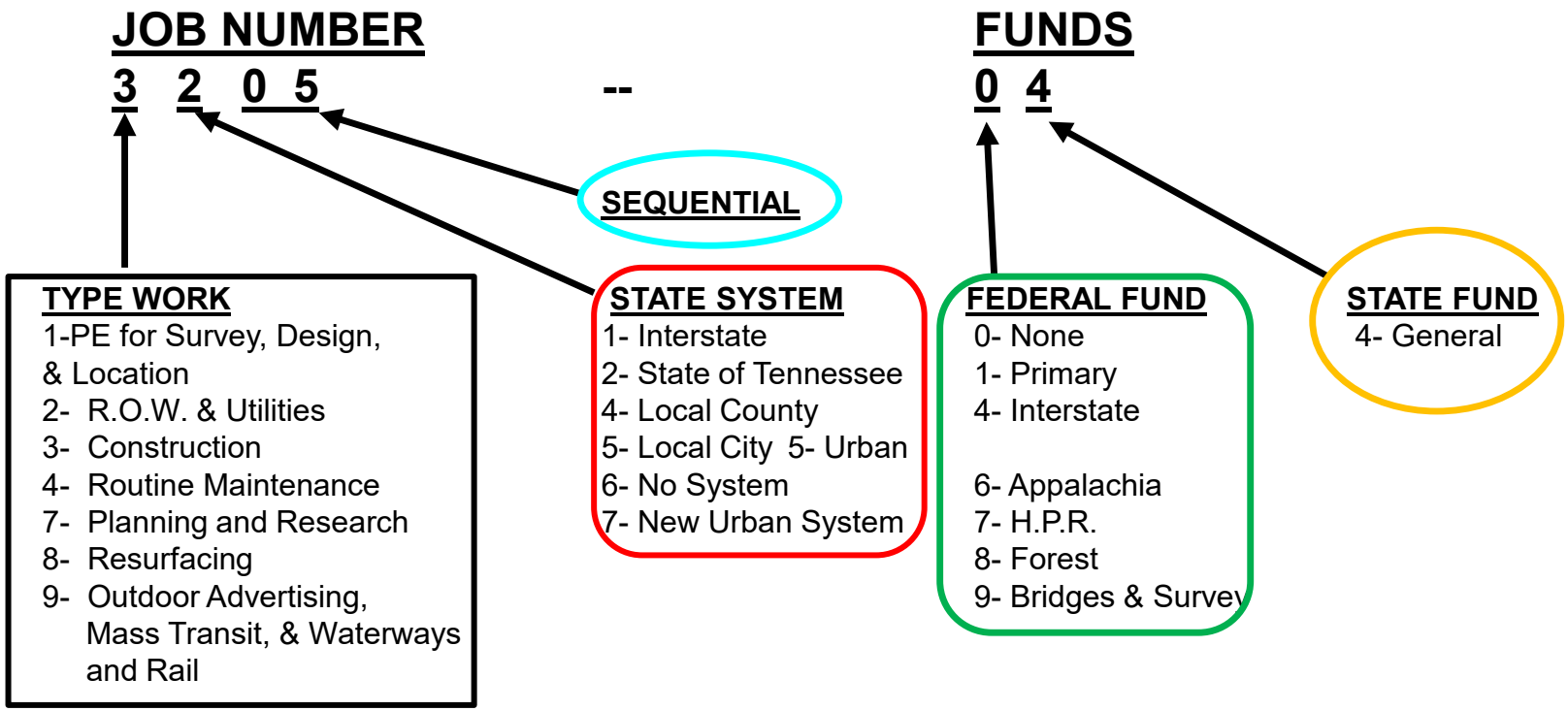
STATE PROJECT NUMBER

Most state project numbers are 11 digits.

Example: **91945-2493-94**

91 – Wayne County – the number goes by alphabetical order
945 – Digits assigned by the Control Section Maps
2 – Type of Work: ROW & Utilities
4 – State System: Local County
93 – Job Sequence Number
9 – Federal Fund: Bridges and Survey
4 – State Fund: General

JOB AND FUND NUMBER REFERENCE



Updated: 05/06/2019

THIS IS THE GENERAL INDEX. INDEXES SPECIFIC TO A PROJECT MAY NOT INCLUDE SOME OF THESE SHEETS.

CONSTRUCTION INDEX OF SHEETS

TITLE SHEET

The Title sheet is the first sheet in a set of highway contract plans and contains general information about the project. The following is a list of items that can be fount on the title sheet:

- County and State map with the project county highlighted
- County name
- Route and description
- Type of work (i.e grade, drain, bridge, pave, sign, lightening, construction, etc)
- Location map with route to be improved, local roads, streams, railroads and towns
- Begin/End project labeled with federal and state number – use Construction Project number, Northing/Easting coordinates
- Coverage of each preset layout sheet on map with construction sheet number identified
- Adjacent construction projects labeled
- Scale
- Roadway, bridge, box bridge and project length
- Lower left corner: Identification block with name of Supervisor 2, CE Manager 1 or Transportation Manager 2, Consultant firm and/or Designer (as applicable), PIN No., PE-D project number and label (design)
- Signatures in signature block – Chief Engineer and Commissioner
- Engineer's stamp
- "See Sheet 1A for index" added to index area
- Design traffic
- Equations and exclusions
- Survey date/update
- Road closure note
- Special notes
- North arrow

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

SUMNER COUNTY

BRIDGE OVER LITTLE TRAMMEL CREEK
L.M. 39.41

PRELIMINARY
BRIDGE REPLACEMENT
STATE HIGHWAY NO. 174 F.A.H.S. NO. __

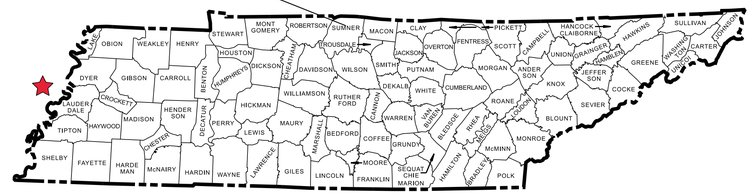
Index Of Sheets

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

TENN.	YEAR	SHEET NO.
		1
FED. AID PROJ. NO.		
STATE PROJ. NO.		

REV. / / :

PROJECT LOCATION
BRIDGE ID. # 83E00270011



EXCLUSIONS	
STATION TO STATION	LENGTH (FT.)
-	.
-	.
-	.
TOTAL=	.

ROAD TO BE CLOSED DURING CONSTRUCTION

PRELIMINARY FIELD REVIEW

BEGIN PROJECT NO. PRELIMINARY
STA. 0+00.00
N 0.0000 E 0.0000

END PROJECT NO. PRELIMINARY
STA. 0+00.00
N 0.0000 E 0.0000

DESIGN EXCEPTION APPROVED - -
1) [EXCEPTION DESCRIPTION]
[EXCEPTION DESCRIPTION]
2) [EXCEPTION DESCRIPTION]
[EXCEPTION DESCRIPTION]
3) [EXCEPTION DESCRIPTION]
[EXCEPTION DESCRIPTION]

SEALED BY

APPROVED:
WILL REID, CHIEF ENGINEER
DATE:
APPROVED:
HOWARD H. ELEY, COMMISSIONER

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, 2021 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT PROJECT MANAGER: JAMES KELLY, P.E.
DESIGNER : AMY LORENTZ CHECKED BY : WESLEY APPLE, P.E.
P.E. NO. 18004-1227-94 (DESIGN)
PIN NO. 124717.00

SCALE: 1"= 5280' 0 1 2 3 MILES

R.O.W. LENGTH	MILES
ROADWAY LENGTH	MILES
BRIDGE LENGTH	MILES
BOX BRIDGE LENGTH	MILES
BOX BRIDGE LENGTH	MILES ▲
PROJECT LENGTH	MILES

▲ Not included in the project length (Non Riding Surface).

SURVEY - -

TRAFFIC DATA	
ADT (2022)	790
ADT (2042)	1060
DHV (2042)	106
D	65-35
T (ADT)	8 %
T (DHV)	5 %
V	50 MPH

COORDINATES ARE NAD/83(1995) (____ ADJUSTMENT) ADJUSTED BY THE FACTOR OF _._____ AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 USING GEOID ___

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:
DIVISION ADMINISTRATOR DATE

5/15/2024 9:48:54 AM
C:\PROGRAMDATA\BENTLEY\OPENROADS DESIGNER CE 10.12\CONFIGURATION\WORKSPACES\TDOT_STANDARDS\WORKSETS\123456.00_WAI\DGN\TITLE SHEET.DGN

ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS

The Roadway Index and Standard Drawing sheet is the second sheet in a set of contract plans.

The Roadway Index is a list of the specific sheets in numerical order that are included in the set of contract plans. Refer to the Roadway Design Guidelines Chapter 1 for proper sequence of sheets.

Additional important information on this sheet:

Project Commitments - All Environmental Commitments (and any other commitments found in Project 360) are to be listed in a Project Commitments sheet and listed in the Index. If the project has no Project Commitments, then a note shall be added under the Index saying, "No Project Commitments sheet included in this set of plans."

The Standard Roadway Drawings is a list of drawings (title, revision date, description) that are necessary for the proper construction of the specific roadway improvement project. Chapter 10 of the Roadway Design Guidelines has a comprehensive list of all current standard drawings used by TDOT.

Standard Roadway Drawings are grouped under the following sections:

1. Roadway Design Standards
2. Culverts and Endwalls
3. Catch Basins and Manholes
4. Natural Stream Design
5. Roadway and Pavement Appurtenances
6. Safety Design and Fences
7. Design – Traffic Control

NOTE: To understand roadway plans, you need to first know standard legends and abbreviations used on the plans. Refer to Roadway Design Standard Drawings RD-A-1, RD-A-2, and RD-L-1 through RD-L-8.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	1A

ROADWAY INDEX

SHEET NAME	SHEET NO.
SIGNATURE SHEETS	ROADWAY-SIGN1
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1, 1A2
STANDARD STRUCTURE AND TRAFFIC OPERATIONS DRAWINGS	1A3
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2, 2-1, 2-2
ESTIMATED BOX BRIDGE QUANTITIES	2A, 2A1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1, 2B2
GENERAL NOTES	2C, 2C1
SPECIAL NOTES	2D, 2D1
TABULATED QUANTITIES	2E, 2E1
DETAIL SHEETS	2F, 2F1, 2F2
RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS	3
PROPERTY MAP(S) AND RIGHT-OF-WAY ACQUISITION TABLE(S)	3A – 3B
PRESENT LAYOUT(S)	4 – 10
RIGHT OF WAY DETAILS	4A – 10A
PROPOSED LAYOUT(S)	4B – 10B
PROPOSED PROFILE(S)	4C – 10C
RAMP PROFILE(S)	11 – 12
SIDE ROADS PROFILE(S) ①	13 – 14
PRIVATE DRIVE, BUSINESS, AND FIELD ENTRANCE PROFILE(S)	15 – 18
DRAINAGE MAP(S)	19 – 20
CULVERT SECTION(S)	21 – 22
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	23, 24, 25-27Z
ENVIRONMENTAL MITIGATION PLAN(S)	28, 28A, 28B
SIGNING AND PAVEMENT MARKING PLAN(S)	29 – 35
SIGN SCHEDULE SHEET(S)	36 – 39
MISCELLANEOUS SIGNING DETAILS	40 – 40Z
ROADWAY CROSS SECTIONS	41 – 95
SIDE ROAD CROSS SECTIONS	96 – 106
TRAFFIC CONTROL PLANS	T1 – T50Z
BRIDGED PLANS	B-1
GEOTECHNICAL PLANS	G-1
ITS PLANS	ITS-1
LIGHTING PLANS	L-1
NATURAL STREAM DESIGN PLAN INDEX	NS-1
RETAINING WALL DETAILS	R-1
SIGNAL PLANS	SIG-1
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INDEX	S-1
UTILITIES INDEX	U1–1

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

STANDARD ROADWAY DRAWINGS

DWG.	REV.	DESCRIPTION
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	03-16-17	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	03-16-17	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	09-15-17	STANDARD LEGEND FOR NATURAL STREAM DESIGN
RD01-SE-3	10-15-02	RURAL SUPERELEVATION DETAILS
RD11-S-11		DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD11-S-11A		ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
ROADWAY AND PAVEMENT APPURTENANCES		
RP-VC-10		VERTICAL CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS
SAFETY DESIGN AND FENCES		
S-CZ-1		CLEAR ZONE CRITERIA
S-PL-1		SAFETY PLAN AT ROADSIDE HAZARDS
S-PL-2	10-10-16	SAFETY PLAN AT SIDEROADS OR PRIVATE DRIVES
S-PL-6	10-10-16	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-GR31-1	03-28-17	W-BEAM GUARDRAIL
S-GRS-2	07-05-17	SPECIAL CASE: GUARDRAIL ATTACHMENT TO CONCRETE
S-GRT-2	03-28-17	TYPE 38 GUARDRAIL TERMINAL
S-GRT-2P	07-05-17	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-F-1	05-24-12	HIGH VISIBILITY FENCE
S-RP-2	02-08-16	STANDARD CONCRETE RIGHT-OF-WAY MARKERS
DESIGN - TRAFFIC CONTROL		
T-M-1	07-05-17	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	08-02-18	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-16	08-02-18	ASPHALT SHOULDER RUMBLE STRIPE INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES
T-PBR-1	03-16-17	INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-2	03-16-17	DETAIL FOR FLEXIBLE DELINEATORS
T-WZ-32	03-05-17	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-33	05-27-98	TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-34	09-01-05	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-35	04-02-12	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-2	08-01-12	SEDIMENT FILTER BAG
EC-STR-3B	03-16-17	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-37	06-10-14	SEDIMENT TUBE
EC-STR-6	05-06-16	ROCK CHECK DAM
EC-STR-6A	05-06-16	ENHANCED ROCK CHECK DAM
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-30A		INSTREAM DIVERSION (WITH TRAFFIC)
EC-STR-31	08-01-12	TEMPORARY DIVERSION CHANNEL
EC-STR-32	08-01-12	TEMPORARY DIVERSION CULVERTS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS

STANDARD STRUCTURES DRAWINGS

The Standard Structures Drawings sheet contains the list of standard Structures drawings (number, revision date, title) that are relevant to the project. Refer to the Structures Division for the list of standard structures drawings.

Standard Structures Drawings are grouped under the following sections:

1) New Structures
2) LRFD Box Culverts
3) Bridge Repairs

STANDARD TRAFFIC OPERATIONS DRAWINGS

Similar to the Standard Roadway Drawings sheet, the Standard Traffic Operations Drawings sheets contain the list of standard traffic operations (number, revision date, title) that are relevant to the project. Refer to the Traffic Operations Division for the list of standard traffic operations drawings.

Standard Traffic Operations Drawings are grouped under the following sections:

1) Signs
2) Signals
3) Lighting and Utility Poles
4) Railroad Crossings

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST	2016	R-BR-STP-151(3)	1A2

STANDARD TRAFFIC OPERATIONS DRAWINGS

DWG.	REV.	DESCRIPTION
SIGNS		
T-S-8	07-15-91	HIGHWAY SHIELDS USED ON STATE NUMBERED ROUTES AND ARROWS
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-17	07-11-17	STANDARD GROUND MOUNTED SIGN USING
T-S-20	07-11-17	SIGN DETAILS
T-S-21	07-02-15	DETAILS FOR SIGNS MOUNTS ON CONCRETE MEDIAN BARRIERS
T-S-22	09-12-13	SIGN LAYOUT FOR HOV LANES
T-S-23A	07-11-17	MULTI-DIRECTIONAL SLIP BASE BREAKAWAY P-POST SIGN SUPPORT
T-S-23B	07-19-13	MULTI-DIRECTIONAL SLIP BASE BREAKAWAY STRUCTURAL PIPE SIGN SUPPORT
T-S-23C	07-02-15	BREAKAWAY POST SIGN SUPPORTS
T-S-24	08-02-13	DETAILS OF SIGN WITH SOLAR FLASHING ASSEMBLY

STANDARD STRUCTURE DRAWINGS

DWG.	REV.	DESCRIPTION
NEW STRUCTURES		
STD-10-1	04-08-05	MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS
LRFD BOX CULVERTS		
STD-17-1		INDEX OF DRAWINGS
STD-17-2		TERMINOLOGY
STD-17-3		GENERAL NOTES
STD-17-4		DESIGN SECTION LIMITS
STD-17-5		TYPICAL SECTION AND DETAILS
STD-17-6		TYPICAL ELEVATIONS
STD-17-7		CURB, RAIL & EDGE BEAM DETAILS - SKEW NOT LESS THAN 45 DEG.
STD-17-9		INTERIOR WALL END TREATMENTS
STD-17-10		TYPICAL WINGWALL DETAILS AND NOTES
STD-17-11		WINGWALL DIMENSIONS AND QUANTITIES
STD-17-15		WINGWALL & SPECIAL RETAINING WALL DESIGN SECTIONS
STD-17-16		WINGWALL DESIGN SECTION
STD-17-17	06-01-11	BACKFILL AND DRAINAGE DETAILS
STD-17-18		BACKFILL DETAILS
STD-17-23		SIDEWALK AND MISCELLANEOUS DETAILS
STD-17-24		WARPED SLOPE DETAIL
STD-17-28		END SECTION DETAILS
STD-17-160		SLAB BRIDGE, 3 BARRELS AT 14', CLEAR HTS. 8' - 11', 0 - 60' FILL

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DEPARTMENT OF TRANSPORTATION

STANDARD STRUCTURE AND TRAFFIC OPERATION DRAWINGS

10-MAY-2019 07:49
C:\Users\JJ09578\Documents\T&S 1.sht

PROJECT COMMITMENTS

Project commitments are intended to include commitments made during the development of the environmental document, to mitigate environmental impacts, to address issues related to the project design or Right-of-Way acquisition that the Department has agreed to during project planning and development. Commitments should not include items normally included as part of a set of construction plans, covered under standard specifications or other contract documents.

Project commitments can be found using TDOT Project 360 and are included on the Project Commitment sheet.

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISON	DESCRIPTION	STATION / LOCATION
EDHZ002	Environmental Division, Hazardous Materials	Bridge No. 16SR0550001, SR-55 over Rock Creek, LM 2.20 (16-SR55-2.20) has Asbestos-Containing Materials (ACM) in the joint filling material between the abutment and wing walls; approximately 375 square feet. To minimize the risk to construction workers, TDOT is committed to the removal of ACM from bridges that are being demolished, rehabilitated or repaired. The State of Tennessee asbestos accreditation requirements (TCA 1200-01-20) mandates that ACM abatement work be performed by an accredited firm (contractor) using accredited abatement workers and supervisors.	Sta. 118+00.00/ Bridge No. 16SR0550001
EDHZ003	Environmental Division, Hazardous Materials	Abatement of this material should be accomplished per SP202ACM Special Provision Regarding Removal of Asbestos Containing Materials. ACM abatement should be completed prior to any demolition activities. Prior to the demolition or rehabilitation of any structure (bridge or building), the contractor is required to submit the National Emission Standards for Hazardous Air Pollutants standard 10 day notice of demolition to the TDEC Division of Air Pollution Control (Standard Specifications for Road and Bridge Construction (January 1, 2015) Sections 107.08 D and 202.03).	Sta. 118+00.00/ Bridge No. 16SR0550001
EDHZ004	Environmental Division, Hazardous Materials	In a letter dated 21 June 2019 from TDEC DUST, the following is required: "If soils are excavated and removed from the UST site for use at another location, then the Division of Solid Waste Management must be contacted regarding the proper disposal and/or use of those soils."	415 Wilson Avenue
EDHS001	Environmental Division, Historic	The Historic Properties (Coca-Cola Building and Oakwood Cemetery) shall not be used as a staging area for construction.	Sta. 132+84.76 SR-55
EDHS004	Environmental Division, Historic	In order to fulfill the conditions under Section 4(f), any work completed on various tracts within the National Register Boundary of the Coca-Cola Building and Oakwood Cemetery will have the following conditions met: 1. The duration of the occupancy will be less than the time needed for construction of the project and there will be no change in ownership. 2. The scope of the work would be minor resulting in minimal changes to the property. 3. No significant features of the property would be adversely affected. 4. The occupied segments of the property would be returned to their as-found conditions or better.	Sta. 132+84.76 SR-55
ETR2001	Environmental Tech Office, Region 2	To minimize impacts to the State Deemed-In-Need-of-Management species, Flame Chub -Hemitremia flammea (2005), TWRA requests fish sweeps on West Fork Rock Creek immediately prior to in-stream construction and relocating the species to suitable habitat upstream of a barrier.	West Fork Rock Creek
EDPO001	Enviromental Division, Policy	The following environmental commitments are being made in regard to Frazier McEwen Park and the Rock Creek Greenway and are in compliance with the approved April 2023 Determination of Section 4(f) De Minimis Use: 1) The Rock Creek Greenway, located within Frazier McEwen Park in the project limits, will remain open throughout the duration of construction. A pedestrian detour route will be put in place prior to the closure of the Rock Creek Greenway, on either side of the SR-55 bridge, to avoid access disruption and allow the greenway to continuously remain open. 2) The segment of the Rock Creek Greenway beneath the SR-55 bridge will be returned to the as-found condition or better following replacement of the bridge. 3) The permanent drainage easement and temporary construction easement areas will not impact Frazier McEwen Park access or operations. Following construction, Frazier McEwen Park will be returned to the as-found condition or better.	Rock Creek Greenway

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	1A
CONST.	2016	R-BR-STP-151(3)	1B

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISON	DESCRIPTION	STA. / LOCATION
EDHZ001	ENVIRONMENTAL DIVISION HAZARDOUS MATERIALS	An Asbestos-Containing Survey (ACM) was conducted on the Bridge # 56SR1510005, SR-151 over Salt Lick Creek, LM 2.47. 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. The contractor shall be responsible for submitting a notice to TDEC- Air Pollution Control Division 10 days in advance of any demolition.	ALL

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

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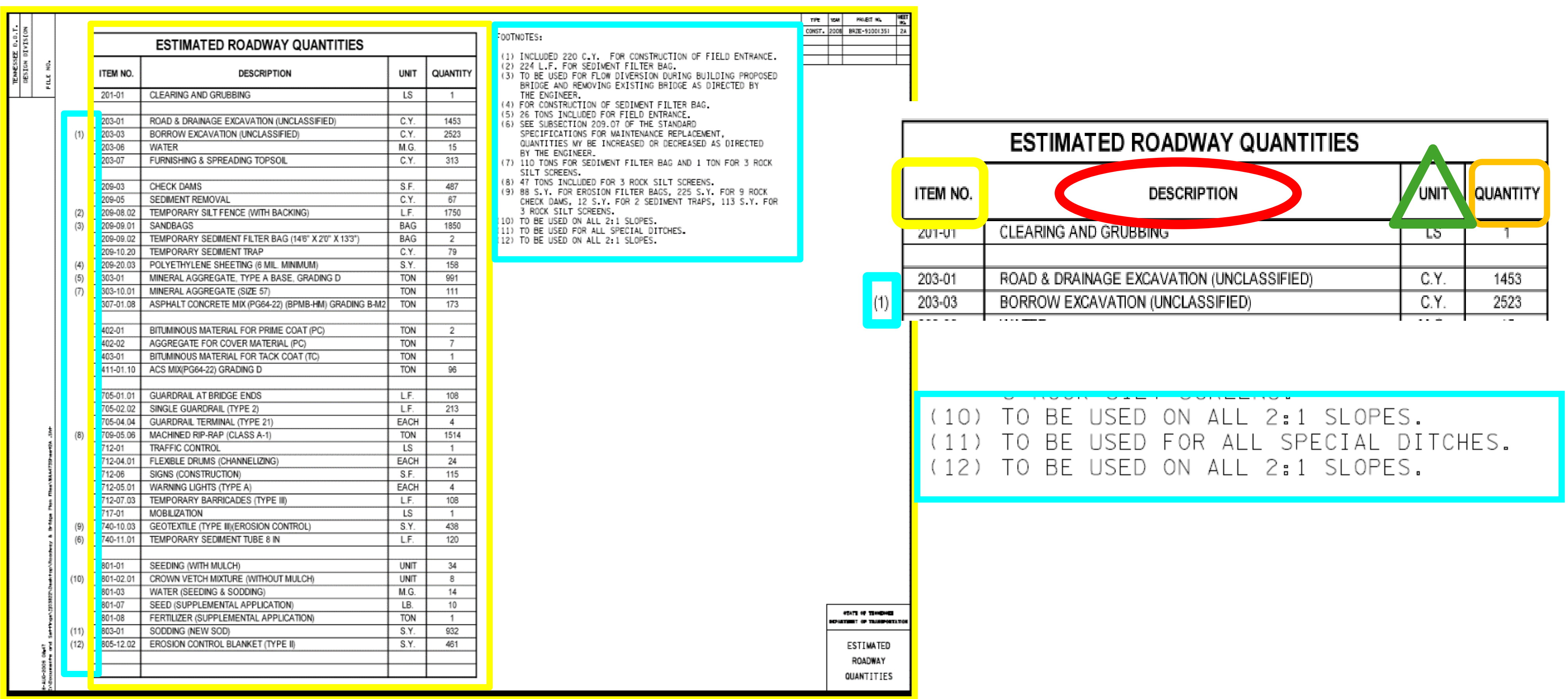
The Estimated Roadway Quantities sheet contains a table of the estimated quantities of the roadway items included in the contract plans. The table of estimated quantities contains:

- Item number – identifies a particular item of construction as referenced from the Specifications and Special Provisions
- Description – identifies the item to be used, usually just a short phrase
- Quantity – shows the estimated amount of each item to be used
- Unit – tells how the items is to be measured in the field for payment to the contractor
- Footnotes – clarifies how or where the item number or quantity is to be used

Quantities are used by the TDOT Estimating and Bid Analysis Office to prepare the engineer's estimate and by the contractors to prepare their bids to construction the project. The estimated quantities for roadway and bridge items are tabulated separately. If a project is located in more than one county, the estimated quantities will be tabulated separately by each county. It is important to remember that each of the quantities is an **estimate** of the items to be used in constructing the project. The contractor will be paid only for the actual quantities used in the construction of the project.



ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	201-01	CLEARING AND GRUBBING	LS	1
	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	1453
(1)	203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	2523
	203-06	WATER	M.G.	15
	203-07	FURNISHING & SPREADING TOPSOIL	C.Y.	313
	209-03	CHECK DAMS	S.F.	487
	209-05	SEDIMENT REMOVAL	C.Y.	67
(2)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	1750
(3)	209-09.01	SANDBAGS	BAG	1850
	209-09.02	TEMPORARY SEDIMENT FILTER BAG (14'6" X 2'0" X 13'3")	BAG	2
	209-10.20	TEMPORARY SEDIMENT TRAP	C.Y.	79
(4)	209-20.03	POLYETHYLENE SHEETING (6 MIL. MINIMUM)	S.Y.	158
(5)	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	991
(7)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	111
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	173
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	7
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	96
	705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	108
	705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	213
	705-04.04	GUARDRAIL TERMINAL (TYPE 21)	EACH	4
(8)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	1514
	712-01	TRAFFIC CONTROL	LS	1
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	24
	712-06	SIGNS (CONSTRUCTION)	S.F.	115
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	4
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	108
	717-01	MOBILIZATION	LS	1
(9)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	438
(6)	740-11.01	TEMPORARY SEDIMENT TUBE 8 IN	L.F.	120
	801-01	SEEDING (WITH MULCH)	UNIT	34
(10)	801-02.01	CROWN VETCH MIXTURE (WITHOUT MULCH)	UNIT	8
	801-03	WATER (SEEDING & SODDING)	M.G.	14
	801-07	SEED (SUPPLEMENTAL APPLICATION)	LB.	10
	801-08	FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	1
(11)	803-01	SODDING (NEW SOD)	S.Y.	932
(12)	805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	461

FOOTNOTES:

(1) INCLUDED 220 C.Y. FOR CONSTRUCTION OF FIELD ENTRANCE.
(2) 224 L.F. FOR SEDIMENT FILTER BAG.
(3) TO BE USED FOR FLOW DIVERSION DURING BUILDING PROPOSED BRIDGE AND REMOVING EXISTING BRIDGE AS DIRECTED BY THE ENGINEER.
(4) FOR CONSTRUCTION OF SEDIMENT FILTER BAG.
(5) 26 TONS INCLUDED FOR FIELD ENTRANCE.
(6) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT, QUANTITIES MY BE INCREASED OR DECREASED AS DIRECTED BY THE ENGINEER.
(7) 110 TONS FOR SEDIMENT FILTER BAG AND 1 TON FOR 3 ROCK SILT SCREENS.
(8) 47 TONS INCLUDED FOR 3 ROCK SILT SCREENS.
(9) 88 S.Y. FOR EROSION FILTER BAGS, 225 S.Y. FOR 9 ROCK CHECK DAMS, 12 S.Y. FOR 2 SEDIMENT TRAPS, 113 S.Y. FOR 3 ROCK SILT SCREENS.
(10) TO BE USED ON ALL 2:1 SLOPES.
(11) TO BE USED FOR ALL SPECIAL DITCHES.
(12) TO BE USED ON ALL 2:1 SLOPES.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

ESTIMATED ROADWAY QUANTITIES
ITEM NO. DESCRIPTION UNIT QUANTITY
201-01 CLEARING AND GRUBBING LS 1
203-01 ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED) C.Y. 1453
(1) 203-03 BORROW EXCAVATION (UNCLASSIFIED) C.Y. 2523
(10) TO BE USED ON ALL 2:1 SLOPES.
(11) TO BE USED FOR ALL SPECIAL DITCHES.
(12) TO BE USED ON ALL 2:1 SLOPES.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	2

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
	201-01	CLEARING AND GRUBBING	LS	1
	202-06.01	REMOVAL OF BUILDINGS (TRACT NO. 5)	LS	1
	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	1550
	203-01.11	PRESPLITTING OF ROCK EXCAVATION	S.Y.	133
	203-06	WATER	M.G.	1
	203-08	CHANNEL EXCAVATION (UNCLASSIFIED)	C.Y.	200
	204-08	FOUNDATION FILL MATERIAL	C.Y.	105
(2)	209-05	SEDIMENT REMOVAL	C.Y.	110
(2)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	600
(2)	209-08.07	ROCK CHECK DAM	EACH	4
(2)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	2
(2)	209-09.03	SEDIMENT FILTER BAG (15' X 15')	EACH	2
(7)(2)	209-65.04	TEMPORARY IN STREAM DIVERSION	L.F.	120
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	1032
(8)(2)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	14
(10)	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GD B-M2	TON	149
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	9
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1
(9)	411-01.07	ACS MIX(PG64-22) GRADING E	TON	30
(10)	411-01.10	ACS MIX(PG64-22) GRADING D	TON	70
	411-12.04	SCORING FOR RUMBLE STRIPE (NON-CONT) (4IN WIDTH)	L.M.	1
	705-01.04	METAL BEAM GUARD FENCE	L.F.	100
	705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	106
	705-04.07	TAN ENERGY ABSORBING TERM (NCHRP 350, TL3)	EACH	4
	705-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	13
	705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	2
(3)(2)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	300
	708-02.01	MARKERS (CONCRETE R.O.W. POSTS)	EACH	10
(5)(2)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	100
	709-05.08	MACHINED RIP-RAP (CLASS B)	TON	80
	712-01	TRAFFIC CONTROL	LS	1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	252
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	13
	712-06	SIGNS (CONSTRUCTION)	S.F.	345
	712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	2732
	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	24
	713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
	713-15.02	REMOVAL & RELOCATION OF SIGN & SUPPORT	EACH	1
	713-16.20	SIGNS (STOP)	EACH	1
	716-01.21	Snwplwble Pvmt Mrkrs (Bi-Dir)(1 Color)	EACH	20
	716-13.01	SPRAY THERMO PVMT MRKNG (60 mil) (4IN LINE)	L.M.	1
	717-01	MOBILIZATION	LS	1
	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1
(6)(2)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	322
(3)(2)	740-11.02	TEMPORARY SEDIMENT TUBE 12IN (FOR SLOPES)	L.F.	300
(1)(2)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	12
(1)(2)	801-03	WATER (SEEDING & SODDING)	M.G.	3
(4)(2)	803-01	SODDING (NEW SOD)	S.Y.	230

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
	202-04.51	REMOVAL OF STRUCTURES (Exist. Bridge Sta. 18+56.08)	LS	1
	303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	318
(11)	604-02.01	CLASS A CONCRETE (BOX BRIDGES)	C.Y.	139
(12)	604-02.02	STEEL BAR REINFORCEMENT (BOX BRIDGES)	LB.	32060

SINCE THE PROPOSED BRIDGE IS JUST A BOX CULVERT, THESE QUANTITIES ARE LISTED ON THE ESTIMATED ROADWAY QUANTITIES SHEET.

FOOTNOTES

(1) PROTECT SLOPES DURING CONSTRUCTION OF PROJECT.
(2) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT
(3) TO BE USED AS NEEDED BY THE PROJECT ENGINEER
(4) SOD TO BE USED ON ALL SLOPES
(5) RIP-RAP USED FOR TEMPORARY CONSTRUCTION EXITS
(6) INCLUDES 178 S.Y. FOR CONSTRUCTION EXITS AND 144 S.Y. FOR FILTER BAGS.
(7) USED TO DIVERT WATER WITHIN STREAM.
(8) FOR SEDIMENT FILTER BAGS
(9) FOR SHOULDERS AND SIDEWALK (PAVED WALKING PATH)
(10) FOR ROADWAY AND PARKING AREA
(11) INCLUDES 28 C.Y. OF CONCRETE FOR WINGWALLS AND 4 C.Y. FOR TYPE "B" CURB
(12) INCLUDES 3504 LBS OF REINF. STEEL FOR WINGWALLS

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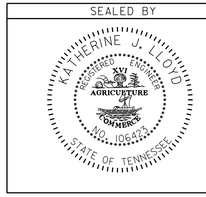

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

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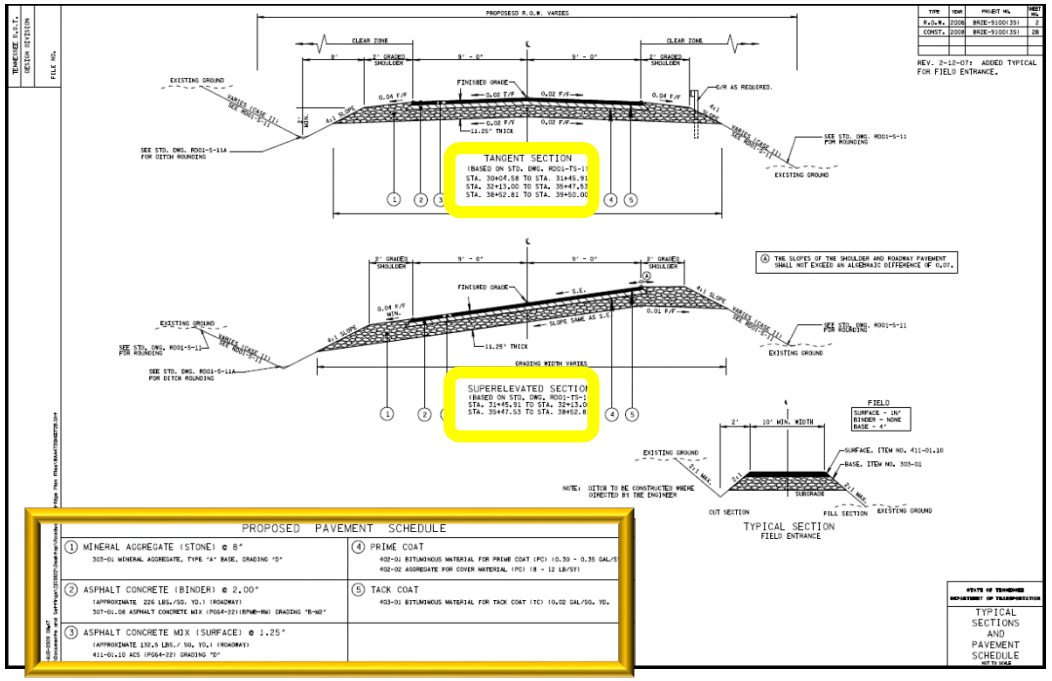
TYPICAL SECTIONS AND PAVING SCHEDULES

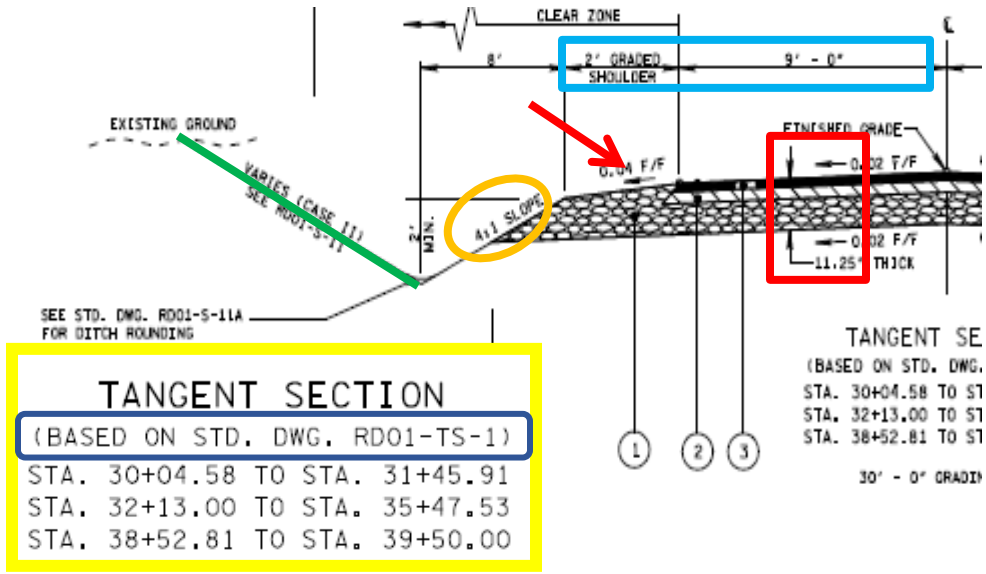
The Typical Sections and Paving Schedules sheet shows the typical cross sections of the mainline road to be built, as well as side roads, private drives, field entrances, business entrances, and haul roads. The proposed pavement schedule is also shown.

Typical cross sections may contain the following information:

- Width of travel lanes and shoulders
- Finished grade
- Cross slopes
- Side slopes
- Roadside ditches
- Curb, gutters, sidewalks
- Tangent sections and applicable station ranges
- Superelevated sections and applicable station ranges
- Proposed pavement materials, layers and layer thicknesses
- Underdrains

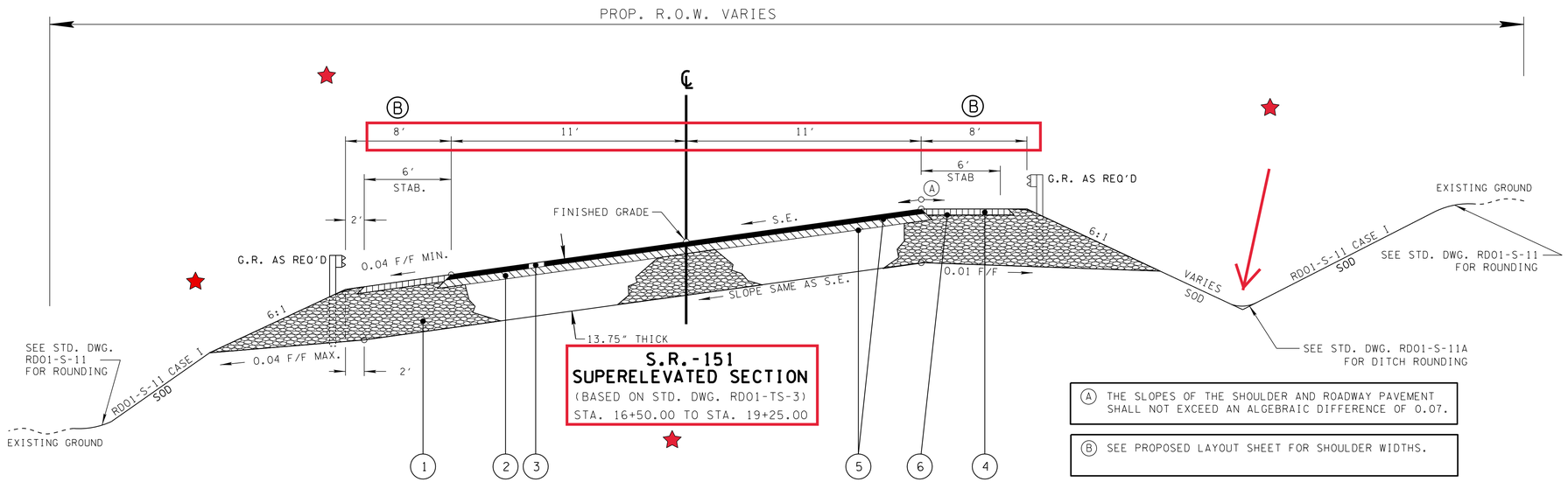
The proposed pavement schedule includes the pavement material code, name, thickness, item number and item number description. The proposed pavement schedule may also include approximate quantities and installation notes.





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

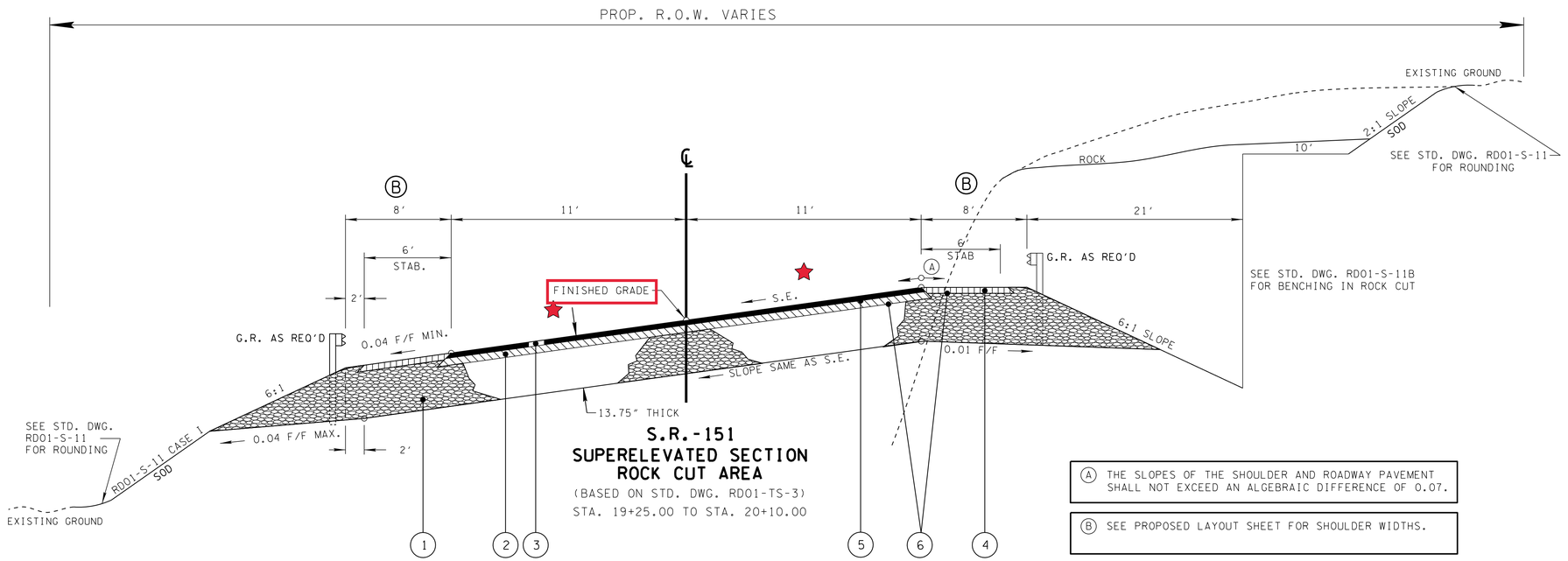
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	2
CONST.	2016	R-BR-STP-151(3)	2A



S.R.-151
SUPERELEVATED SECTION
(BASED ON STD. DWG. RD01-TS-3)
STA. 16+50.00 TO STA. 19+25.00

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

(B) SEE PROPOSED LAYOUT SHEET FOR SHOULDER WIDTHS.



S.R.-151
SUPERELEVATED SECTION
ROCK CUT AREA
(BASED ON STD. DWG. RD01-TS-3)
STA. 19+25.00 TO STA. 20+10.00

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

(B) SEE PROPOSED LAYOUT SHEET FOR SHOULDER WIDTHS.

★ PROPOSED PAVEMENT SCHEDULE

(1) MINERAL AGGREGATE BASE @ 10" THICK 303-01 MINERAL AGGREGATE, TYPE "A" BASE, (GRADING "D")	(4) SHOULDER SURFACE GRADING "E" @ 1.50" THICK 411-01.07 ASPHALT CONCRETE SHOULDER PG64-22 (GRADING "E")	(*)
(2) BINDER GRADING "B-M2" @ 2.5" THICK ★ 307-01.08 ASPHALT CONCRETE PG64-22 (GRADING "B-M2")	(5) TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) RATE 0.07 GAL./SY	(*)
(3) SURFACE GRADING "D" @ 1.25" THICK 411-01.10 ASPHALT CONCRETE SURFACE PG64-22 (GRADING "D")	(6) PRIME COAT 402-01 BITUMINOUS MATERIAL FOR PRIME COAT (PC) RATE 0.30-0.35 GAL./SY 402-02 AGGREGATE FOR COVER MATERIAL (PC) RATE 8-12 LB./SY.	(*)

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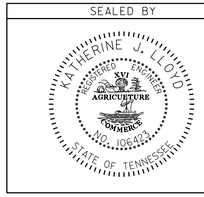

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND PAVEMENT SCHEDULE

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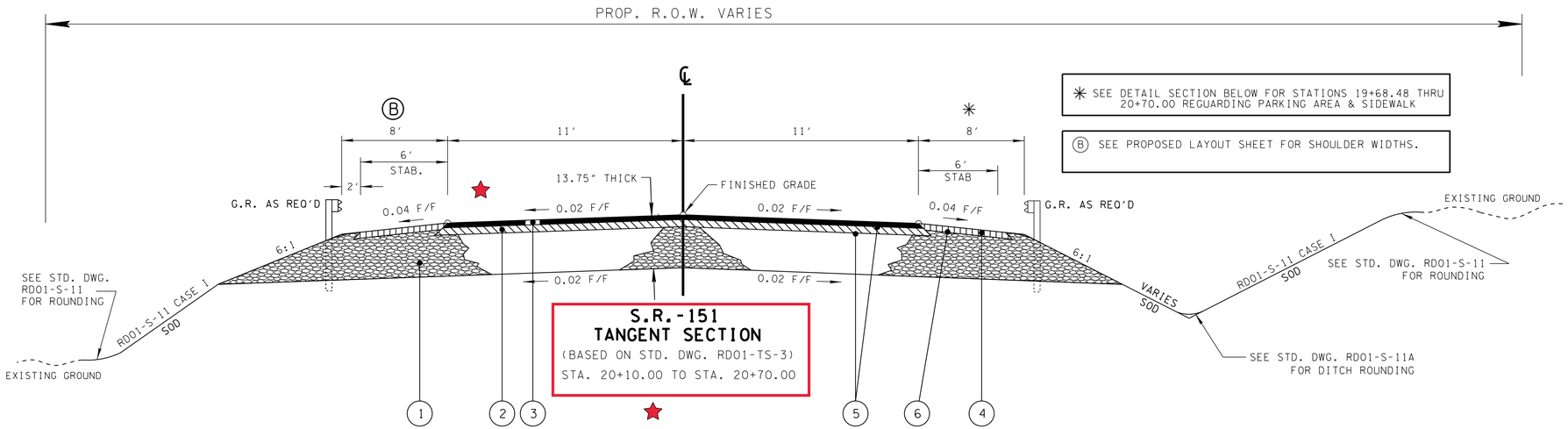
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

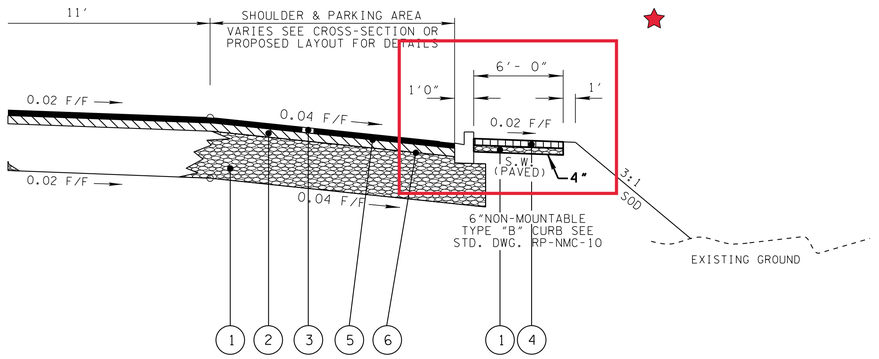
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	2A
CONST.	2016	R-BR-STP-151(3)	2B



✳ SEE DETAIL SECTION BELOW FOR STATIONS 19+68.48 THRU 20+70.00 REGUARDING PARKING AREA & SIDEWALK

Ⓑ SEE PROPOSED LAYOUT SHEET FOR SHOULDER WIDTHS.

S.R.-151
TANGENT SECTION
(BASED ON STD. DWG. RD01-TS-3)
STA. 20+10.00 TO STA. 20+70.00



S.R.-151
PARKING AREA DETAIL
STA. 19+60.00 TO STA. 20+70.00

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DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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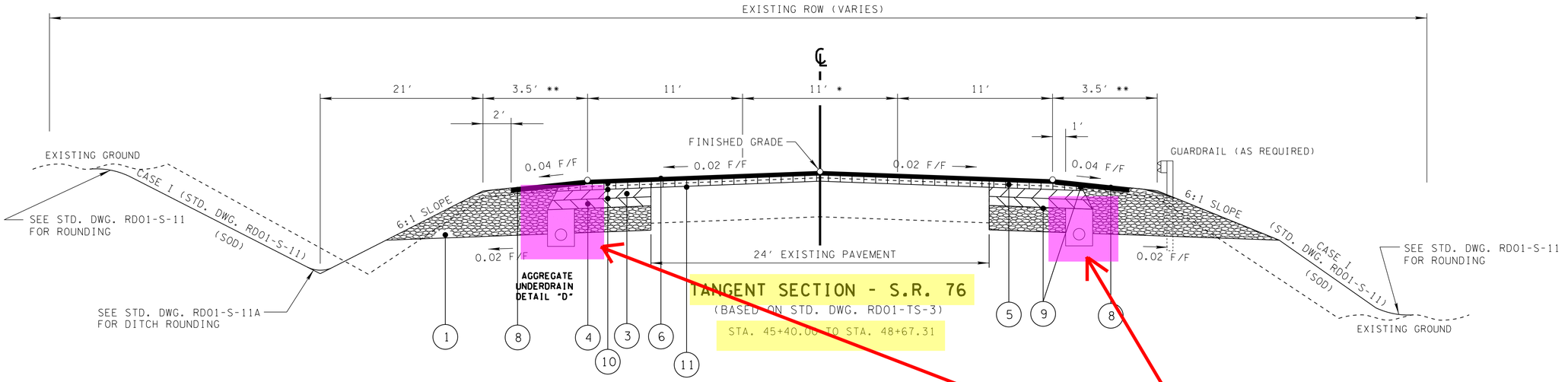
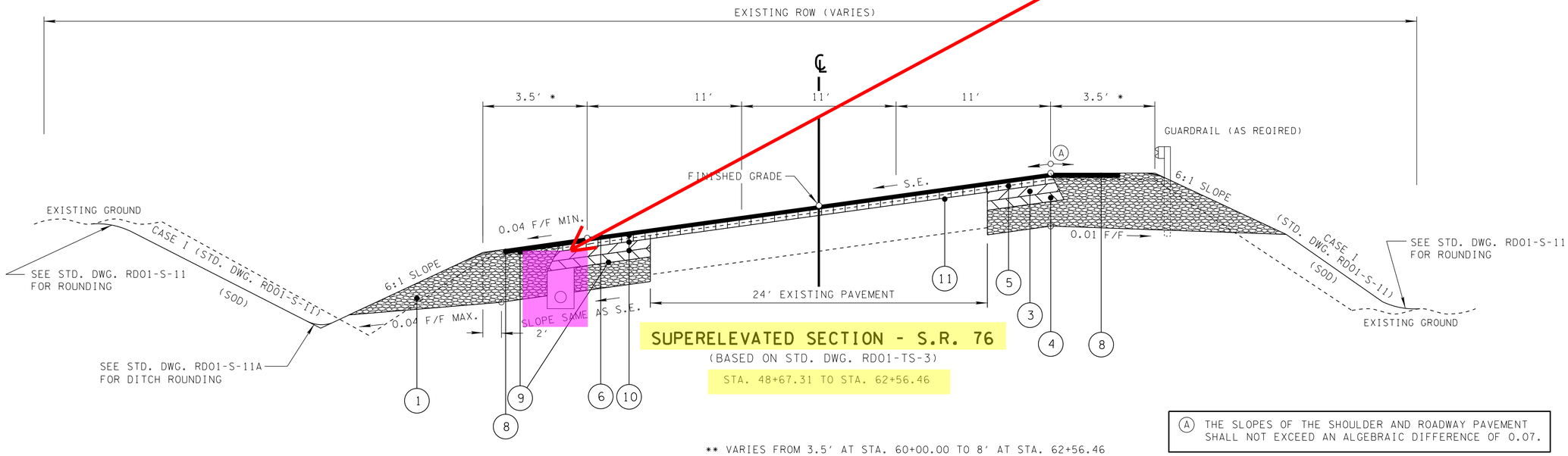
THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HSIP-76(96)	2
CONST.	2016	HSIP-76(96)	28



UNDERDRAINS



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

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ROBERT B. BRAUN REGISTERED ENGINEER AGRICULTURE COMMERCE STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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GENERAL NOTES AND SPECIAL NOTES

General Notes sheets contain notes that summarize the scope of work and describe the construction procedures that areapplicable to the project. General notes are grouped according to subject matter. Refer to Chapter 9 of Roadway Design Guidelines for a list of frequently used general notes. The following is a list of the subject matter groupings:

- Grading
- Seeding and Sodding
- Guardrail
- Drainage
- Utilities
- Fencing
- Miscellaneous
- Road Closure
- Right-of-Way
- Pavement Markings (Temporary and Final)
- Detours, Lane Shifts and Median Cross-overs
- Pavement (Paving, Resurfacing)
- Graded Solid Rock
- Riprap
- Signing
- Traffic Control Directing Signing
- Signalization
- Construction Work zone and Traffic Control
- Lighting
- Erosion Prevention and Sediment Control
- Disturbed Area
- Sediment Control
- Stream/Wetland
- Species
- Inspection/Maintenance/Repair
- Materials and Staging
- SWPPP, Permits, Plans, Records
- Litter, Debris, Waste, Petroleum

Special Notes sheets contains special notes that are provided by other TDOT Divisions such as Environmental and/or Construction and/or special notes provided by the City. Special notes are grouped according to subject matter. Refer to Chapter 9 of Roadway Design Guidelines for a list of frequently used special notes.

TYPE	YEAR	PROJECT NO.	SHEET NO.
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GENERAL NOTES

GRADING

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

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

(3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

SEEDING AND SODDING

(4) 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.

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 TEMPORARY BARRICADES OR DRUMS WITH TYPE “A” LIGHTS TO DELINEATE GUARDRAIL END AND A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL END TERMINAL.

DRAINAGE

(3) 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.

(4) CULVERT EXCAVATION FOR CONCRETE BOX OR SLAB TYPE CULVERTS OR BRIDGES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.

(5) 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).

(6) 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.

(7) 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.

MISCELLANEOUS

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

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

PAVEMENT MARKINGS

(10) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4” SPRAY THERMOPLASTIC (60 mil) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.01, SPRAY THERMO PVMT MRKNG (60 mil) (4IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY’S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

(11) 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.

(12) 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.

(13) 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.

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

(15) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT’S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT’S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER’S APPROVAL TO USE THEM.

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

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

EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

(18) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.

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

(20) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.

(21) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.

(22) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

SEDIMENT CONTROL

(23) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(24) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE/DURING A PRECIPITATION EVENT.

(25) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE 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 NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.

(26) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.

(27) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER’S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. 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.

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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NATURAL RESOURCES

(1) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

(2) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.

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

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

(5) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.

(6) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATER FLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.

(7) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.

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

(9) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

SPECIES

(10) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.

INSPECTION, MAINTENANCE & REPAIR

(11) THE TDOT CONSTRUCTION SUPERVISOR (OR THEIR DESIGNEE) AND THE CONTRACTOR'S RESPONSIBLE PARTY ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION SUPERVISOR OR THEIR DESIGNEE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

(12) TDOT CONSULTANTS AND CONTRACTOR STAFF RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES 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. TDOT STAFF AND SUPERVISORS RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE, AND/OR REPAIR OF EPSC MEASURES SHALL SUCCESSFULLY COMPLETE THE TDOT "FUNDAMENTALS OF EROSION AND SEDIMENT CONTROL" CLASS AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION.

(13) EPSC CONTROLS SHALL BE INSPECTED ACCORDING TO PERMIT REQUIREMENTS TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT.

(14) DISCHARGE POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE ROADWAY SEDIMENT TRACKING.

(15) UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24 HOUR TIMEFRAME, WRITTEN DOCUMENTATION SHALL BE PROVIDED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

(16) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES SHALL 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 STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

(17) THE EPSC PLAN SHALL BE UPDATED 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.

(18) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

EROSION PREVENTION

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

(20) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

(21) NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE TDOT RESPONSIBLE PARTY. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE BASIC EPSC DEVICES ON THE EPSC PLAN.

(22) TEMPORARY STABILIZATION SHALL BE INITIATED WITHIN 14 CALENDAR DAYS 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 MEASURES IN DISTURBED AREAS SHALL BE INITIATED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OF ANY PHASE OF CONSTRUCTION.

(23) STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT.

(24) PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.

(25) TEMPORARY OR PERMANENT STABILIZATION MUST BE FREE OF FINES (SILT AND CLAY SIZED PARTICLES). UNPACKED GRAVEL CONTAINING FINES OR CRUSHER-RUN WILL NOT BE CONSIDERED SUFFICIENT STABILIZATION.

(26) DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED.

PERMITS, PLANS & RECORDS

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

(28) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY. THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.

(29) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.

(30) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

(31) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

(32) THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER A CHANGE IN THE DESIGN OR CONSTRUCTION OF THE PROJECT OCCURS. THE STAGES DEPICTED IN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL PHASES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS PHASES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE PHASES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS WILL HAVE TO BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL

(33) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	2C2

(1) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.

(2) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

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

(4) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

(5) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.

(6) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.

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

(8) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

(9) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.

(10) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.

(11) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

SPILL PREVENTION, MANAGEMENT & NOTIFICATION

(12) ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE AND SPILLS.

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

(14) APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT SHALL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ONSITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

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

(16) THE CONTRACTOR'S RESPONSIBLE PARTY SHALL 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.

(17) IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION SHALL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR SHALL 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.

(18) FERTILIZERS SHALL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED. ONCE APPLIED, FERTILIZERS SHALL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER.

(19) IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

(20) 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.

(21) CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ONSITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE CONTAINERS WITH A COMBINED CAPACITY OF 1320 GALLONS OR MORE SHALL HAVE SECONDARY CONTAINMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN FOR THE BULK STORAGE AND BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ONSITE AND A COPY PROVIDED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO STORING 1320 GALLONS ON SITE.

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DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST	2016	R-BR-STP-151(3)	2E

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. 6-205.00

DEMOLITION

DEMOLITION OF BUILDINGS

(1) IF THE ASBESTOS SURVEY AND ABATEMENT IS NOT PART OF THE ON TRACT, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE TDOT HAZARDOUS MATERIALS OFFICE TO VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED FOR ANY BUILDING TO BE REMOVED. IN THE CASE THAT NO SURVEY HAS BEEN COMPLETED THE CONTRACTOR SHALL COORDINATE WITH THE HAZARDOUSE MATERIAL OFFICE IN SCHEDULING A SURVEY.

(2) ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT SHALL BE COMPLETED PRIOR TO ANY DEMOLITION ACTIVITIES FOR BUILDINGS INCLUDED IN THE PROJECT. ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.

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

DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

(4) 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).

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

(6) 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.

EROSION PREVENTION AND SEDIMENT CONTROL

ENVIRONMENTAL

(7) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

ECOLOGY

(8) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/U.S. OR SPECIES.

(9) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.

(10) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/U.S.

PROJECT COMMITMENTS

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

NPDES

(12) FOR TYPE 38 TERMINALS NEEDED ON THE PROJECT, USE THE EARTH PAD FOR TYPE 38 TERMINAL (RETROFIT) SHOWN ON STANDARD DRAWING S-GRT-2R. IF THE PROPOSED NUMBER OF EARTH PADS FOR TYPE 38 TERMINALS AS SHOWN ON STANDARD DRAWING S-GRT-2P EXCEEDS A QUANTITY OF 10, CONTACT THE TDOT REGIONAL ENVIRONMENTAL TECH OFFICE IMMEDIATELY TO DETERMINE IF A STORMWATER PERMIT WILL BE REQUIRED.

STREAM RELOCATION

(13) ONCE WATER IS DIVERTED INTO A NEWLY CONSTRUCTED AND STABILIZED RELOCATED STREAM / CHANNEL THE ECOLOGY SECTION MUST BE NOTIFIED. THE STREAM NAME, STREAM NUMBER, AND DATE THE WATER WAS DIVERTED INTO THE STREAM / CHANNEL IS TO BE SUPPLIED WITH THE NOTIFICATION.

ENVIRONMENTAL - PERMITS

(14) WO SPECIES OF FISH, THE SPLENDID DARTER AND THE BLACKFIN SUCKER ARE LISTED AS BEING PRESENT WITHIN FOUR MILES OF THE CONSTRUCTION AREA.

(15) COFFER DAMS MAY BE USED AS MIRGRATION BARRIERS AROUND IN STREAM AREAS UNDER CONSTRUCTION TO PREVENT THE FIST FROM RE-ENTERING THE CONSTRUCTION AREA.

(16) TWRA HAS REQUESTED THAT SWEEPS BE CONDUCTED PRIOR TO PLAVING COFFER DAMS IN THE STREAM AND THAT THE FISH BE RELOCATED UPSTREAM IN SUITABLE HABITAT

(17) TDOT BIOLOGISTS MUST BE NOTIFIED AT LEAST TWO WEEKS BEFORE THE IN-STREAM WORKS IS BEGUN SO THAT THEY CAN COORDINATE THE RELOCATION OF THESE FISH FROM THE FOOTPRINT OF THE CONSTRUCTION AREA.

(18) NOTIFY TDOT BIOLOGIST AND ED HARSSON WITH TWRA ED.HARSSON@TN.GOV IN ADVANCE FO THE PRE-CONSTRUCTION MEETING SO THAT THEY MAY ATTEND TO ADDRESS ECOLOFICAL ISSUES.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPECIAL NOTES

TABULATED QUANTITIES

The Tabulated Quantities sheet contains tables with more detailed information regarding specific items which are included in estimated quantities sheets. The more detailed information may include specific item location in both the contract plans set (sheet number) and in the project itself (begin/end station, offsets, RT/LT side, etc.), specific item type, specific item amount, referenced standard drawings, and additional notes.

The following is a list of tables that can be found in the Tabulated Quantities sheet:

- Grading quantities table (including balances)
- Ramp and side drain quantities table
- Pipe culvert, cross-drain, and endwall quantities table
- Box bridge quantities table
- Box culvert quantities table
- ROW marker quantities table
- Storm drainage quantities tables for catch basins, manholes, junction boxes, etc.
- Storm drainage pipe quantities table
- Guardrail quantities table
- Base and pavement quantities table
- Ditch quantities table
- Roadway approach quantities table

R.O.W. MARKERS

SHEET NO.	QUANTITIES			
	"A"	"B"	"C"	TOTALS
4A	4	3	2	9
				0
				0
				0
				0
TOTALS	4	3	2	9

SPECIAL DITCHES

ROAD	STATION		SLOPE			DETAIL SHEET NUMBER	TYPE
	FROM	TO	FORE (H/V)	BOTTOM WIDTH (FT.)	BACK (H/V)		
S.R. 116(LT)	16+90.28	18+00	4:1	N/A	4:1	4B	"V" BOTTOM
S.R. 116(RT)	16+68.11	18+00	4:1	N/A	4:1	4B	"V" BOTTOM

SLAB CULVERT TABULATION

STATION	LOCATION	SPAN	HEIGHT	LENGTH	SKEW	DRAINAGE AREA SQ. MLS	CLASS "A" CONC. CU. YD.	REINF. STEEL LBS.	CULVERT EXC. CU. YD.	DRAWING NO.	BACKFILLING ITEM 303-01.01 DWG. STD-10-1 TONS	FOUNDATION FILL MATERIAL CU. YD.
16+60	S.R. 116	26.4'	5'	55'	75^ LT	1.86	124	26860		STD-17-142	83	
TOTALS							124	26860	0		83	0

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	2F

ESTIMATED GRADING QUANTITIES

STATION TO STATION	ROAD & DRAINAGE EXC. (UNCL.)		BORROW EXCAVATION		CHANNEL EXC. C.Y.	EXCESS EXC. WASTE C.Y.	EMB. C.Y.
	COMMON - C.Y.	S. ROCK - C.Y.	UNCL. - C.Y.	S. ROCK - C.Y.			
16+50 - 20+70	1550	857			200	2353	287
TOTALS	**1550**	**857**		**0**	**200**	**2353**	**287**

SLAB BRIDGE TABULATION

STATION	LOCATION	SPAN	HEIGHT	LENGTH	SKEW	DRAINAGE AREA ACRES	CLASS "A" CONC. CU. YD.	REINF. STEEL LBS.	CULVERT EXC. CU. YD.	DRAWING NO.	BACKFILLING ITEM 303-01.01 DWG. STD-10-1 TONS	FOUNDATION FILL MATERIAL CU. YD.
18+56	S.R.-151	3 @ 14'	8'	44'	85 RT	4724	254	46157		STD-17-160		105
TOTALS							**254**	**46157**	**0**		**0**	**105**

REMOVAL OF STRUCTURES

SHEET NO.	STATION	LOCATION	DESCRIPTION	REMARKS
4	18+56.08	MAINLINE	38.52' 2 SPAN STEEL GIRDER BRIDGE	

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE LT	SIDE RT	STATION FROM	STATION TO	MEDAL BEAM GUARDRAIL 705-01.04 (L.F.)	SINGLE TYPE 2 705-02.02 (L.F.)	TYPE IN-LINE 705-04.05 (EACH)	TYPE 38 705-04.07 (EACH)	REMARKS
4B	S.R.151	X		17+55.00 +/-	19+55.00 +/-	50	50		2	
4B	S.R.151		X	15+64.81 +/-	17+36.69 +/-	50	56		2	
TOTALS						**100**	**106**	**0**	**4**	

R.O.W. MARKERS

SHEET NO.	QUANTITIES "A"	"B"	"C"	TOTALS
4A	4	2	4	**10**
				0
				0
				0
				0
TOTALS	**4**	**2**	**4**	**10**

PAVEMENT QUANTITIES

	LOCATION	PAY ITEMS 303-01 (TON)	307-01.01 (TON)	307-01.08 (TON)	402-01 (TON)	402-02 (TON)	403-01 (TON)	411-01.07 (TON)	411-01.10 (TON)
	MAINLINE	511.6		128.0	2.0	9.0	1.0		60.0
	SHLDS.	420.6						24.2	
	PARKING AREA	83.2		20.8					9.8
1	SIDEWALK	16.3						5.6	
	.								
	TOTALS	**1031.7**	**0.0**	**148.8**	**2.0**	**9.0**	**1.0**	**29.8**	**69.8**

1. PAVED WALKING PATH

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XV
AGRICULTURE
NO. 106472
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

03-OCT-2016 07:06
C:\PROJECTS\MACON\SR151SaltLickCreek\002F.SHT

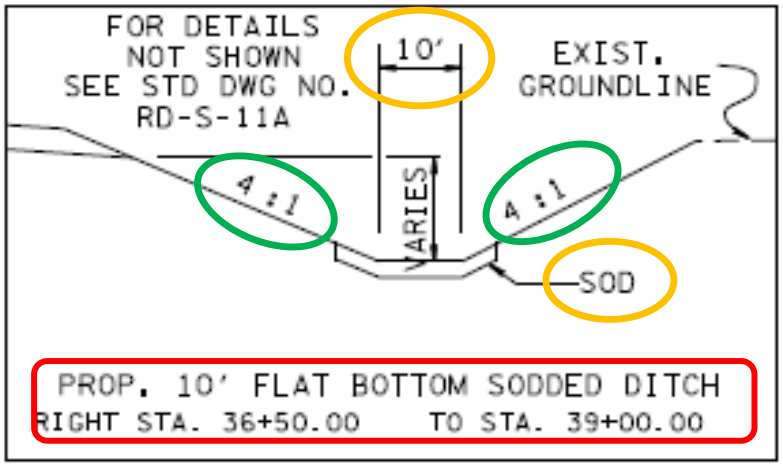
DETAILS SHEETS

Details sheet contains details that are not provided in TDOT standard drawings. They are for nonstandard items that may be particular to the project or to a specific location on the project.

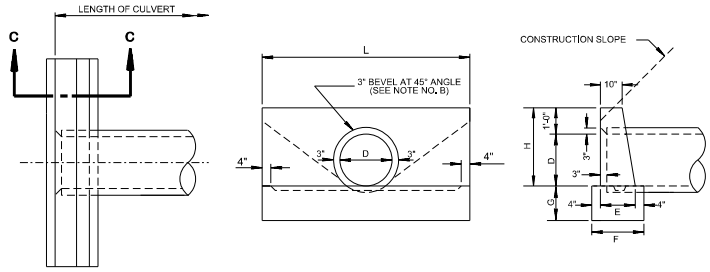
The following is a list of items that can be found in the Details sheet:

- Retaining wall layouts
- Interchange geometry
- Special structures
- Intersection geometry and contours
- Special ditches
- Intersection geometry and contours
- CCTV (Closed Circuit TV) equipment/items
- Electrical Pull Boxes and Cabinets
- Trenching Details
- RADAR Detection equipment/items

This is an example of a special ditch detail.



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	37455-2421-01	2F



PLAN FRONT ELEVATION SIDE ELEVATION

STRAIGHT TYPE CONCRETE ENDWALL

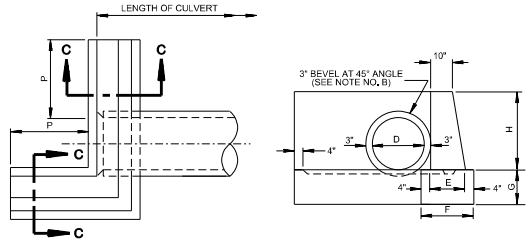
TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES FOR ONE STRAIGHT CONCRETE ENDWALL (SKEW 90°)

DIMENSIONS							CONCRETE IN ONE ENDWALL (C.Y.)			C.Y. FOR EACH ADDITIONAL LINE OF PIPE	C.Y. PER FOOT OF LENGTH "L"		
OPENING		WALL			FOOTING								
D	AREA	L	H	E	F	G	WALL	FOOTING	TOTAL		WALL	FOOTING	TOTAL
1'-6"	1.77	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"	0.51	0.53	1.04	0.39	0.096	0.089	0.185
2'-0"	3.14	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"	0.83	0.79	1.62	0.52	0.120	0.099	0.219
2'-6"	4.91	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"	1.29	1.21	2.50	0.74	0.151	0.121	0.272

ESTIMATED QUANTITIES FOR TWO STRAIGHT CONCRETE ENDWALLS WHEN PIPE IS SKEWED (CUBIC YARD)

D	SKEW											
	35°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
1'-6"	4.15	3.61	3.23	2.93	2.71	2.53	2.39	2.29	2.21	2.15	2.11	2.08
2'-0"	6.45	5.62	5.02	4.56	4.21	3.94	3.73	3.56	3.43	3.34	3.28	3.24
2'-6"	9.96	8.68	7.75	7.05	6.50	6.08	5.75	5.50	5.30	5.16	5.06	5.00

NOTE: WHEN PIPE IS ON A SKEW USE TWO STRAIGHT ENDWALLS AND MAKE "L" EQUAL TO "L" IN TABLE ABOVE DIVIDED BY SINE OF THE SKEW ANGLE.



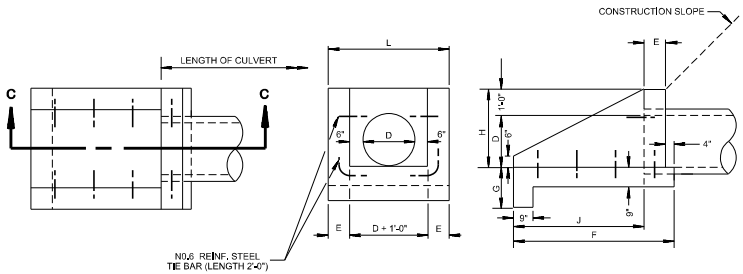
PLAN FRONT ELEVATION

" L " TYPE CONCRETE ENDWALL

ESTIMATED QUANTITIES - ONE "L" TYPE CONCRETE ENDWALL

DIAMETER	P	CONCRETE C.Y.
1'-6"	2'-3"	1.28
2'-0"	3'-0"	1.91
2'-6"	3'-9"	2.90

NOTE: DIMENSIONS NOT SHOWN ARE SAME AS FOR STRAIGHT ENDWALL

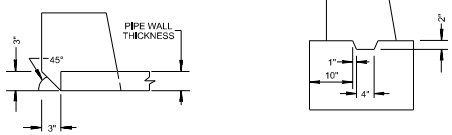


PLAN FRONT ELEVATION SIDE ELEVATION

" U " TYPE CONCRETE ENDWALL

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES FOR ONE "U" TYPE CONCRETE ENDWALL (SLOPE 1½ :1 AND 2 :1)

DIMENSIONS								CONCRETE IN ONE ENDWALL (C.Y.)			C.Y. FOR EACH ADDITIONAL LINE OF PIPE	C.Y. PER FOOT OF LENGTH "L"	REINFORCING STEEL LB.
OPENING		WALL			FOOTING								
D	AREA	L	H	E	J	F	G	WALL	FOOTING	TOTAL			
1'-6"	1.77	4'-0"	2'-6"	9"	4'-0"	5'-1"	1'-3"	0.61	0.62	1.23	0.554	0.225	20
2'-0"	3.14	4'-8"	3'-0"	10"	5'-0"	6'-2"	1'-6"	0.86	0.90	1.76	0.728	0.275	20
2'-6"	4.91	5'-2"	3'-6"	10"	6'-0"	7'-2"	1'-6"	1.12	1.14	2.26	0.996	0.328	20



DETAIL OF BEVEL

SECTION C- C
SHOWING CONSTRUCTION JOINT

GENERAL NOTES

A CONCRETE ENDWALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION, SECTION 611, AND/OR SPECIAL PROVISIONS

B ALL STRAIGHT AND " L " TYPE CONCRETE ENDWALLS ON INLET END OF PIPE, AND AT 90° SKEW SHALL BE BEVELED AT 3" AT 45° ANGLE. BEVEL WILL NOT BE REQUIRED WHEN ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF THE CONCRETE PIPE.

C WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED THE DISTANCE FROM CENTER TO CENTER OF PIPE SHALL BE D + 1'-0".

D PAYMENT FOR ENDWALLS WILL BE MADE AT ITEM NOS.:
611-07.01, CLASS "A" CONCRETE (PIPE ENDWALLS) PER C.Y.
611-07.02, STEEL BAR REINFORCING (PIPE ENDWALLS) PER LB.

R.O.W.

PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DETAIL SHEET

SHEET 1 OF 1

RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS

The Right-of-Way Notes, Utility notes ad Utility Owners sheet contains the right-of-way notes, utility notes and list of utility owners and their contact information. Refer to section 6 of the Roadway Design Guidelines for a list of frequently used right-of-way and utility notes. Refer to Figure 4-6 for the typical format for utility owner/contact information.

Current Right-of-Way/Utility Notes are found in Chapter 9 of the Roadway Design Guidelines.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(2)	3A
CONST.	2016	R-BR-STP-151(3)	3

RIGHT-OF-WAY

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

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

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

(7) 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.

(8) 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.

UTILITY

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

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

CABLE:
VERIZON
INVESTIGATION, 2400 N. GLANVILLE
RICHARDSON, TX 75082
CONTACT: DEAN BOYERS
OFFICE PHONE: 972 729 6322
Email: DEAN.BOYERS@VERISON.COM

ELECTRIC:
TRI-COUNTY ELECTRIC MEMBERSHIP CORP.
405 COLLEGE STREET
LAFAYETTE, TN 37083
CONTACT: STEVE LINVILLE
OFFICE PHONE: 615 688 2119
Email: SLINVILLE@TCEMC.ORG

TELEPHONE:
NORTH CENTRAL TELEPHONE
872 HWY 52 BYPASS EAST
LAYAYETTE, TN 37083
CONTACT: TROY DAVIS
OFFICE PHONE: 615 888 6058
Email: TRDAVIS@NCTC.COM

WATER:
CITY OF RED BOILING SPRINGS
361 LAFAYETTE ROAD, PO BOX 190
RED BOILING SPRINGS, TN 37150
CONTACT: CHAD OWENS
OFFICE PHONE: 615 699 2011
Email: CHADOWENS@NCTC.COM

CABLE:
COMCAST
2501 McGAVOCK PIKE
NASHVILLE, TN 27214
CONTACT: LARRY K. WILBURN
OFFICE PHONE: 615 244 7462 ext. 1115140
CELL PHONE: 615 295 9069
Email: LARRY_WINBURN@CABLE.COMCAST.COM

CABLE:
AT&T FIBER OPTIC CABLE
360 FEES MIL BUSINESS PKWY
CONYERS, GA 30013
CONTACT: SCOTT LOGEMAN
OFFICE PHONE: 770 335 8255
Email: SL1213@ATT.COM

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY
NOTES,
UTILITY NOTES
AND
UTILITY OWNERS

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PROPERTY MAP(S) AND ACQUISITION TABLES

The Property Map(s) and Right-of-Way Acquisition Tables sheet contains property map(s) and right-of-way acquisition tables. Property maps contain information pertaining to how tracts of property are affected by right-of-way acquisition. Property maps include the following information:

- Boundary lines on all properties involved
- Begin/end project labeled with Federal and State construction project numbers and Northing/Easting coordinates
- Tract numbers
- Existing and proposed right-of-way lines
- Proposed centerlines
- Major drainage features
- R.O.W Acquisition Table
- Disturbed Area Block
- North arrow
- Datum adjustment factor

Right-of-way acquisition tables contain additional detailed information pertaining to how tracts of a property are affected by right-of-way acquisition. Right-of-way acquisition tables include the following information for each tract:

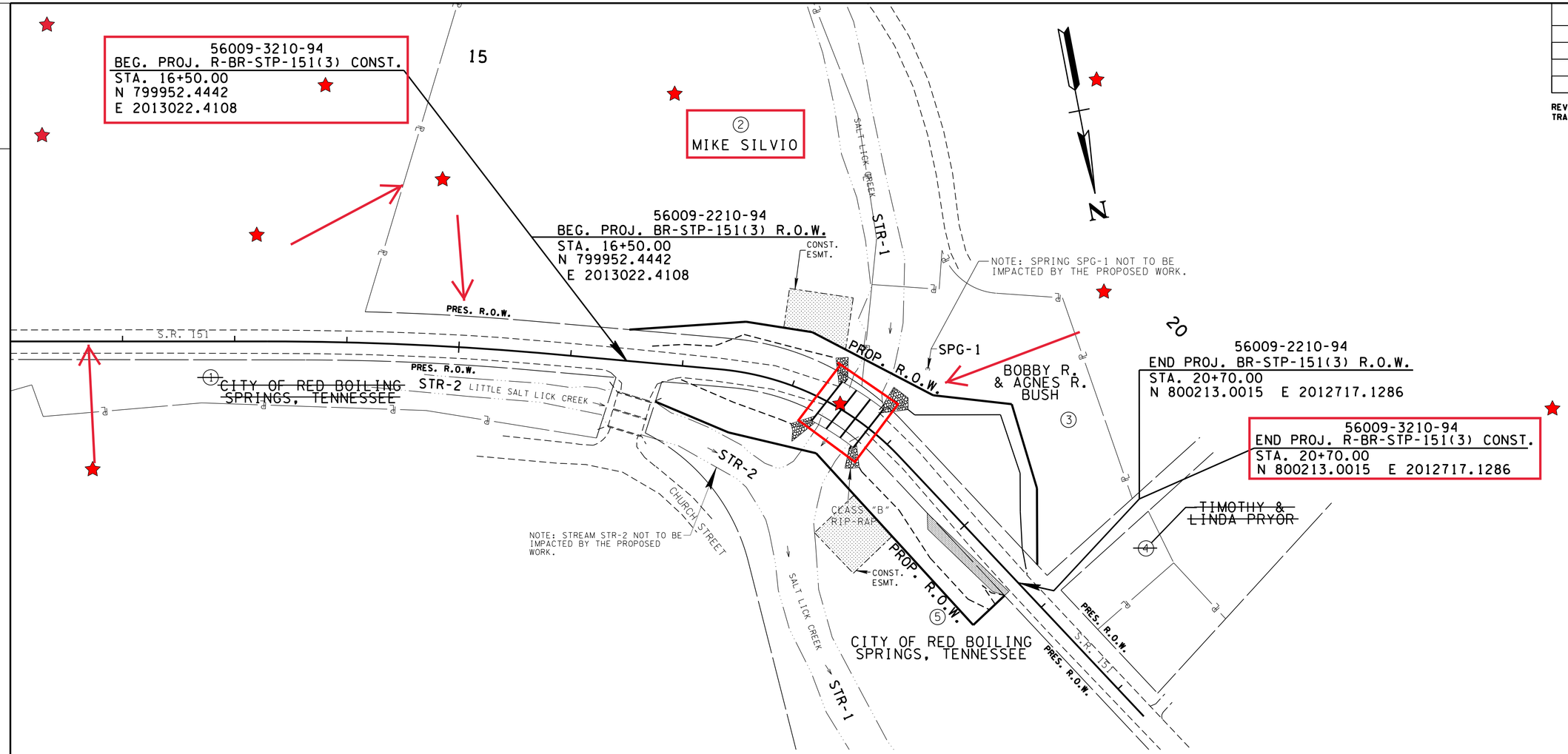
- Property owners
- County records
- Total acreage
- Amount of area to be acquired, amount of area to remain
- Any easements that may be needed, including slope, drainage and construction easements.

Datum Adjustment Factor: Coordinates are NAD/83(1995), are datum adjusted by the factor of 1.000xxx and tied to the TGRN, all elevations are referenced to the NAVD 198.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	3
CONST.	2016	R-BR-STP-151(3)	3A

REV. 4-4-15: UPDATED COUNTY RECORDS ON TRACT 5.



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.	DEED DOCUMENT REFERENCE PAGE	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST. ①
~~1~~	~~CITY OF RED BOILING SPRINGS, TENNESSEE~~	~~46J-C~~	~~29.00~~	~~75~~	~~297~~		~~4.265~~	~~4.265~~					~~4.265~~			
2	MIKE SILVIO	46I-E	8.00	271	273	3.282		3.282	3006 S.F.		3006 S.F.	3.213				2215
		46I-E	9.00	271	273											
		46I-E	10.00	271	273											
3	BOBBY R. & AGNES R. BUSH	46I-E	15.00	149	466	0.878		0.878	0.239		0.239	0.639				
~~4~~	~~TIMOTHY & LINDA PRYOR~~	~~46I-E~~	~~5.00~~	~~254~~	~~93~~	~~0.109~~		~~0.109~~				~~0.109~~				
5	CITY OF RED BOILING SPRINGS, TENNESSEE	46I-C	10.00	71 / 73 / 67	337 / 58 / 328		2.715	2.715		0.302	0.302		2.413			2417
ACQUISITION TOTALS (ACRES)									0.308	0.302	0.610					4632

DISTURBED AREA	
BETWEEN SLOPE LINES	0.590 AC.
15'WIDE STRIP (OUTSIDE SLOPE LINES)	0.263 AC.
TOTAL DISTURBED AREA	0.861 AC.

① FOR EROSION CONTROL

SCALE: 1"= 50'

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
DEPARTMENT OF AGRICULTURE AND COMMERCE
NO. 106422
STATE OF TENNESSEE

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLE

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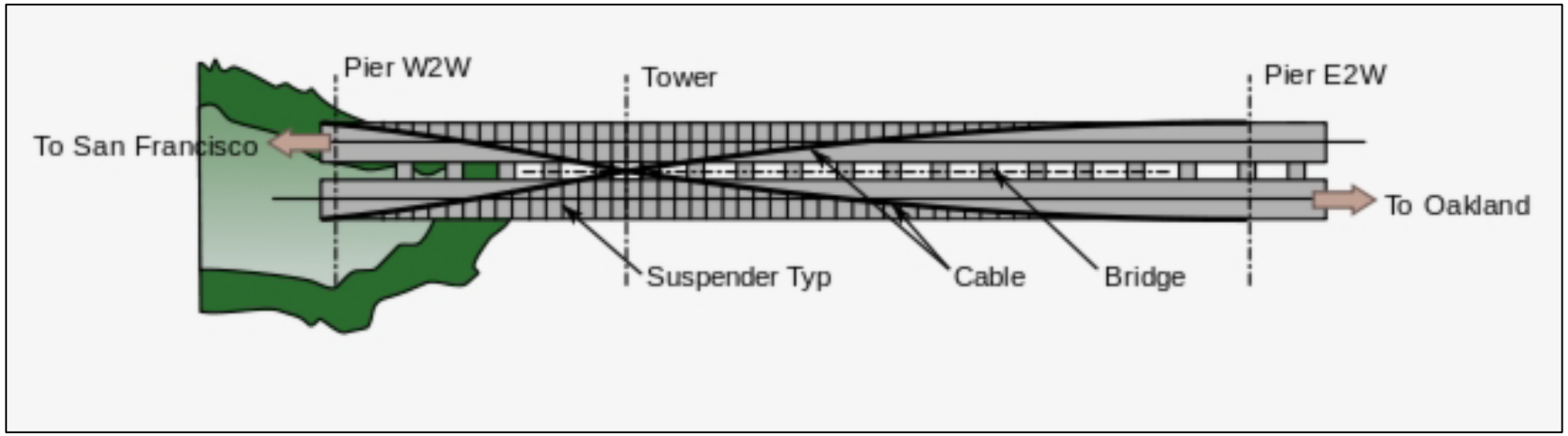
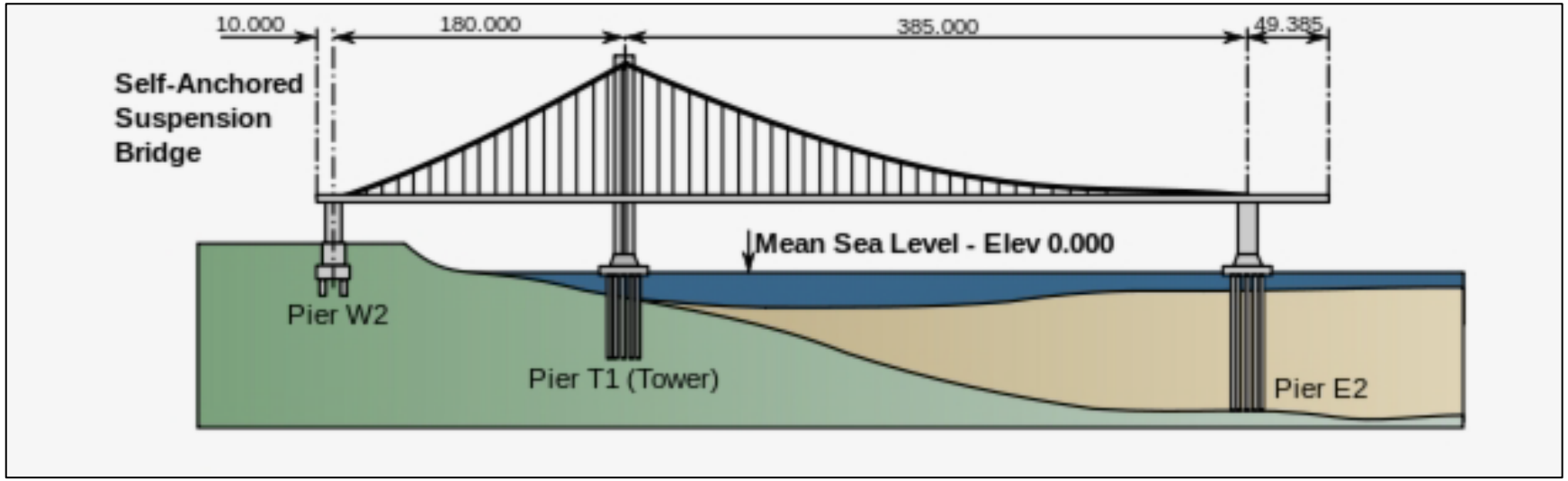
DIFFERENT VIEWS

Plan View – a view from the top looking down on the object.



Profile View – a view from the front or side of the object.



PRESENT LAYOUT(S)

The Present Layout sheet(s) contain a plan view of the existing are where the proposed road will be built. The present layout sheet(s) may also include some proposed features. The present layout sheet(s) include the following information:

Existing Features

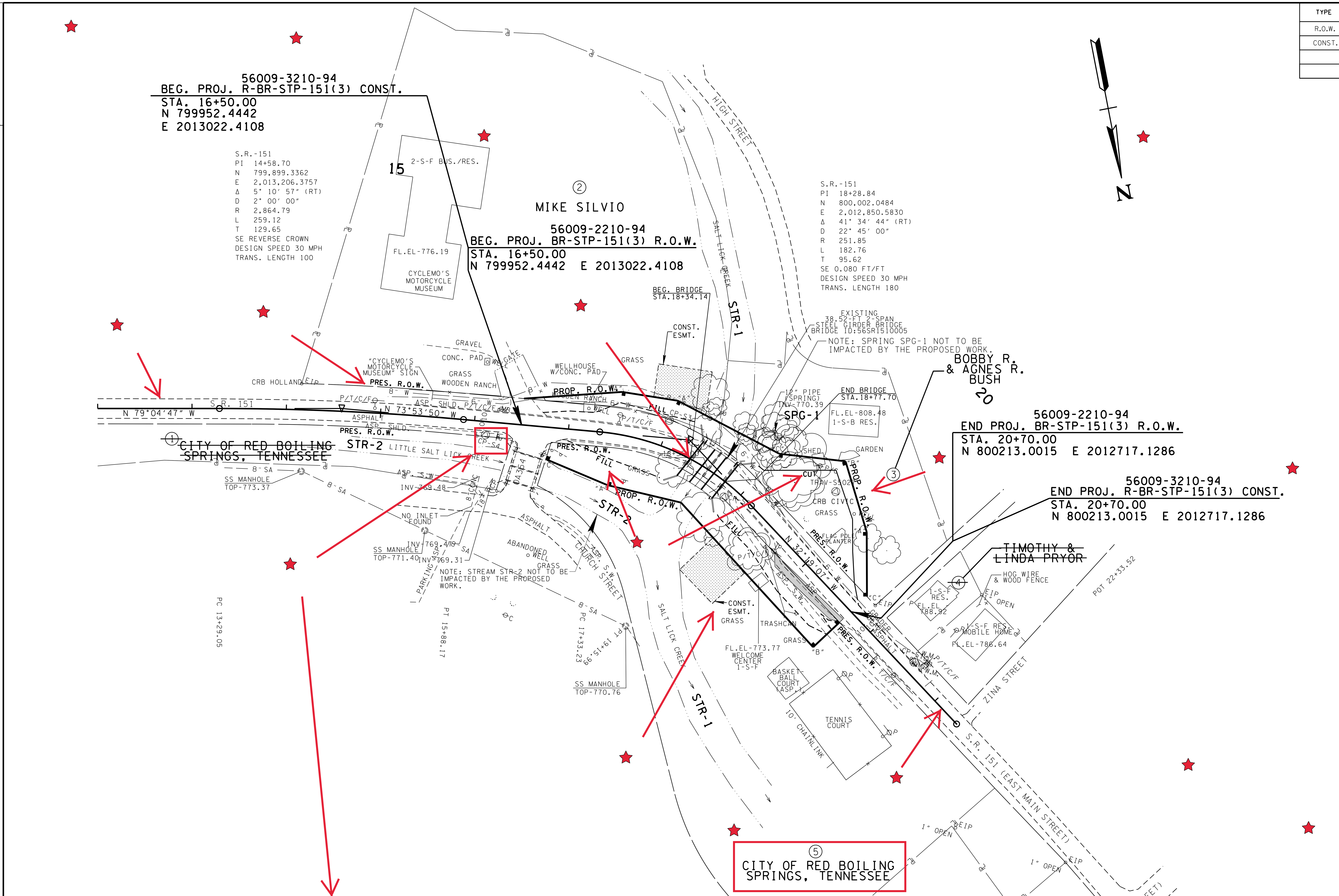
- Property owners, associated tract numbers and property lines
- Right-of-way lines
- Topography including rivers, trees, signs, guardrails, buildings, fences, etc.
- Overhead and underground utilities
- Storm drainage structures
- Edges of pavement
- Survey of control points (CP)
- North arrow
- Datum Adjustment Factor

Proposed Features

- Begin/end project labels with Federal and State construction project numbers and Northing/Easting coordinates
- Right-of-way lines
- Slope lines – cut and fill
- Centerline and associated curve data
- Driveways
- Structures
- Control-access fence (for Interstate)
- Easements – Construction, Slope, Drainage

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	4
CONST.	2016	R-BR-STP-151(3)	4

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



56009-3210-94
BEG. PROJ. R-BR-STP-151(3) CONST.
STA. 16+50.00
N 799952.4442
E 2013022.4108
S.R.-151
PI 14+58.70
N 799,899.3362
E 2,013,206.3757
Δ 5° 10' 57" (RT)
D 2° 00' 00"
R 2,864.79
L 259.12
T 129.65
SE REVERSE CROWN
DESIGN SPEED 30 MPH
TRANS. LENGTH 100
15
2-S-F BUS./RES.
FL.EL-776.19
CYCLEMO'S MOTORCYCLE MUSEUM
2
MIKE SILVIO
56009-2210-94
BEG. PROJ. BR-STP-151(3) R.O.W.
STA. 16+50.00
N 799952.4442 E 2013022.4108
HIGH STREET
SALT LICK CREEK
STR-1
BEG. BRIDGE
STA.18+34.14
S.R.-151
PI 18+28.84
N 800,002.0484
E 2,012,850.5830
Δ 41° 34' 44" (RT)
D 22° 45' 00"
R 251.85
L 182.76
T 95.62
SE 0.080 FT/FT
DESIGN SPEED 30 MPH
TRANS. LENGTH 180
EXISTING
38.52-FT 2-SPAN
STEEL GIRDER BRIDGE
BRIDGE ID:56SR1510005
NOTE: SPRING SPG-1 NOT TO BE IMPACTED BY THE PROPOSED WORK.
CONST. ESMT.
BOBBY R. & AGNES R. BUSH
20
END BRIDGE
STA.18+77.70
12" PIPE (SPRING) INV-770.39
SPG-1
FL.EL-808.48
1-S-B RES.
56009-2210-94
END PROJ. BR-STP-151(3) R.O.W.
STA. 20+70.00
N 800213.0015 E 2012717.1286
56009-3210-94
END PROJ. R-BR-STP-151(3) CONST.
STA. 20+70.00
N 800213.0015 E 2012717.1286
N
GRAVEL
CONC. PAD
"CYCLEMO'S MOTORCYCLE MUSEUM" SIGN
GRASS
WOODEN RANCH
WELLHOUSE W/CONC. PAD
CRB HOLLAND
PRES. R.O.W.
PROP. R.O.W.
N 79°04'47" W
S.R. 151
N 73°53'50" W
ASPHALT
1
CITY OF RED BOILING SPRINGS, TENNESSEE
STR-2
LITTLE SALT LICK CREEK
CP-S4
SS MANHOLE
TOP-773.37
INV-769.48
NO INLET FOUND
SS MANHOLE
TOP-771.40
INV-769.4
INV-769.31
PARKING
NOTE: STREAM STR-2 NOT TO BE IMPACTED BY THE PROPOSED WORK.
ABANDONED WELL
CHURCH STREET
FILL
CUT
SHED
GARDEN
3
CRB CIVIC
PROP. R.O.W.
FLAG POLE
PLANTER
N 32°19'07" W
TIMOTHY & LINDA PRYOR
HOG WIRE & WOOD FENCE
4
1-S-F RES.
FL.EL-788.92
1-S-F RES. MOBILE HOME
FL.EL-786.64
POT 22+33.52
ZINA STREET
CONST. ESMT.
GRASS
TRASHCAN
FL.EL-773.77
WELCOME CENTER 1-S-F
BASKETBALL COURT
TENNIS COURT
10' CHAINLINK
SS MANHOLE
TOP-770.76
PC 13+29.05
PT 15+88.17
PC 17+33.23
PT 19+15.99
S.R. 151 (EAST MAIN STREET)
5
CITY OF RED BOILING SPRINGS, TENNESSEE
3" PIPE
S.R. 56 (MAIN STREET)

CONTROL POINTS						
POINT NO.	NORTHING	EASTING	ELEV.	STATION	OFFSET	GPS DESC.
CP-S1	800278.2061	2012661.6390	775.0932	21+54.77	-12.03 LT.	56-151-01
CP-S2	800068.2096	2012826.3910	772.5690	18+87.66	13.42 RT.	56-151-02
CP-S3	799977.4587	2012867.6820	772.2622	17+99.01	-28.39 LT.	56-151-03
CP-S4	799955.5417	2013062.0290	772.7366	16+12.80	13.96 RT.	56-151-04

SEALED BY

KATHERINE J. LLOYD, REGISTERED ENGINEER, NO. 106423, STATE OF TENNESSEE

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.16+50 TO STA.20+70

SCALE: 1"= 50'

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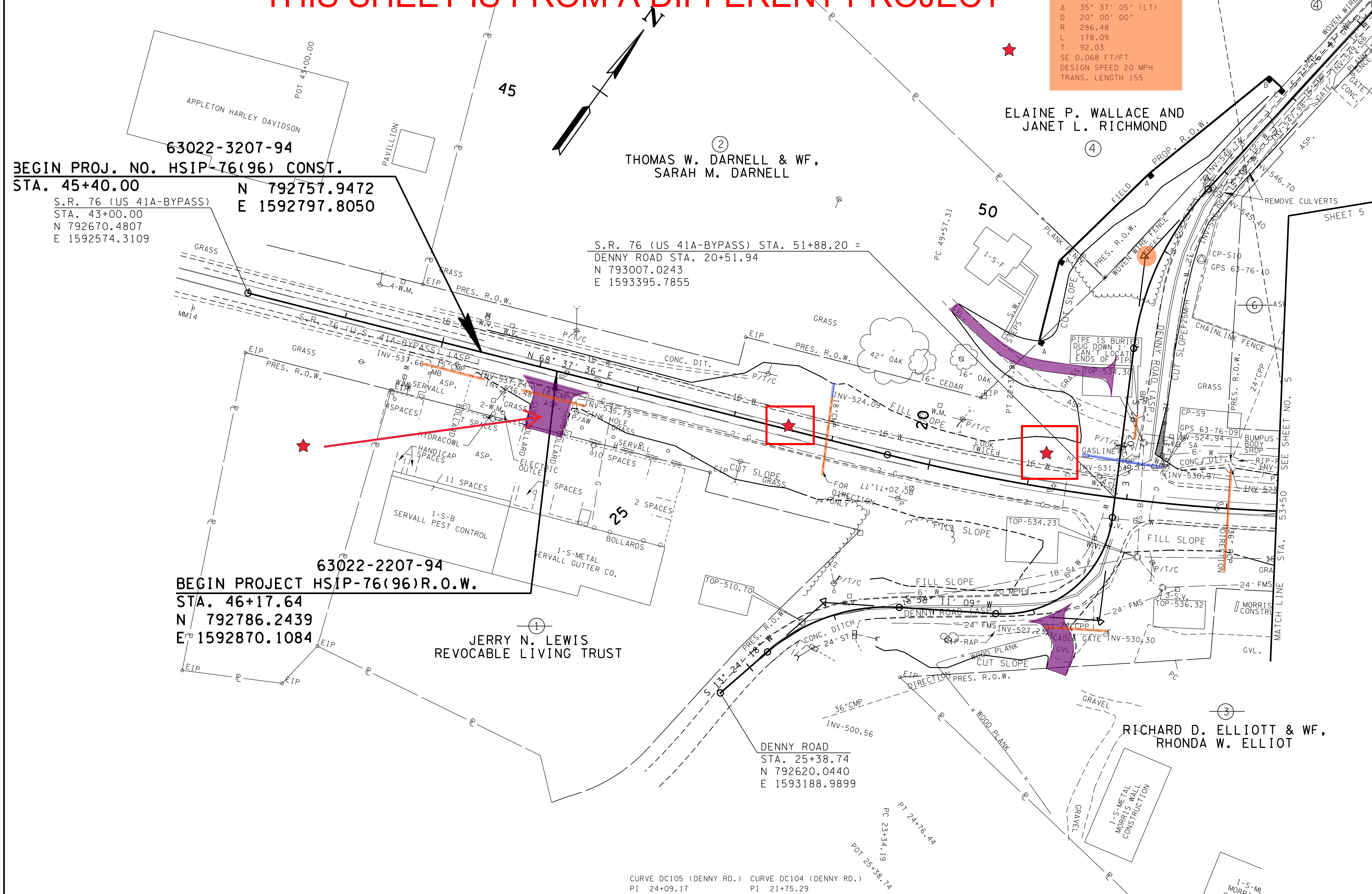
THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HSIP-76(96)	4
CONST.	2016	HSIP-76(96)	4

REV. 09-29-16: UPDATED PROPERTY OWNER FOR TRACT 4.

CURVE SOC2 (DENNY RD.)
PI 18+15.94
N 793,219.9921
E 1,593,280.9295
Δ 35° 37' 05" (LT)
D 20° 00' 00"
R 286.48
L 178.09
T 92.03
SE 0.068 FT/FT
DESIGN SPEED 20 MPH
TRANS. LENGTH 155



POINT	NORTH	EAST	ELEVATION	STATION	OFFSET	FEATURE	DESCRIPTION
S9	793065.1320	1593416.7870	533.7800	52+35.28	-40.6041	XCP	GPS 63-76-09
S10	793250.4610	1593327.8020	543.6600	12+50.77	19.9321	XCP	GPS 63-76-10
S11	793138.6080	1593688.0560	536.8200	55+01.22	49.3255	XCP	GPS 63-76-11
S12	793504.4560	1594029.1490	546.2700	59+91.88	33.2774	XCP	GPS 63-76-12
S100	793295.7510	1593287.0430	549.1170	13+04.00	-11.3738	XSPUR	PK
S101	792788.9040	1593352.9560	528.1240	92+34.90	-44.7638	XSPUR	HNAIL
S102	793748.4800	1593362.7030	564.0640	17+60.88	13.3313	XSPUR	PK
S103	793407.1590	1593155.1570	556.0440	13+95.78	-148.4750	XSPUR	HNAIL
S104	793650.9390	1593468.6590	547.5790	16+77.64	131.5943	XSPUR	MARKERDOT

CURVE DC105 (DENNY RD.)
PI 24+09.17
N 792,753.5838
E 1,593,220.8156
Δ 44° 46' 52" (LT)
D 31° 28' 52"
R 182.00
L 142.25
T 74.98
SE 0.000 FT/FT
DESIGN SPEED 00 MPH
TRANS. LENGTH 000

CURVE DC104 (DENNY RD.)
PI 21+75.29
N 792,898.4540
E 1,593,454.3386
Δ 86° 31' 28" (RT)
D 52° 05' 13"
R 110.00
L 166.11
T 103.52
SE 0.080 FT/FT
DESIGN SPEED 20 MPH
TRANS. LENGTH 160

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ROBERT B. BRAUN
REGISTERED ENGINEER
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

BEGIN. PROJ. TO STA. 53+50

SCALE: 1"= 50'

28-OCT-2016 14:39
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RIGHT-OF-WAY DETAILS

- Existing R.O.W. lines
- Property lines, Bearings and Distances
- Station/Offset flags
- Tract numbers and owners' names
- Control Paints
- Proposed centerline
- North arrow

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	4A
CONST.	2016	R-BR-STP-151(3)	4A

56009-3210-94
BEG. PROJ. R-BR-STP-151(3) CONST.
STA. 16+50.00
N 799952.4442
E 2013022.4108

15

② MIKE SILVIO

56009-2210-94
BEG. PROJ. BR-STP-151(3) R.O.W.
STA. 16+50.00
N 799952.4442 E 2013022.4108

① ~~CITY OF RED BOILING SPRINGS, TENNESSEE~~

③ BOBBY R. & AGNES R. BUSH

56009-2210-94
END PROJ. BR-STP-151(3) R.O.W.
STA. 20+70.00
N 800213.0015 E 2012717.1286

56009-3210-94
END PROJ. R-BR-STP-151(3) CONST.
STA. 20+70.00
N 800213.0015 E 2012717.1286

④ ~~TIMOTHY & LINDA PRYOR~~

⑤ CITY OF RED BOILING SPRINGS, TENNESSEE

SR-151

CONTROL POINTS

POINT NO.	NORTHING	EASTING	ELEV.	STATION	OFFSET	GPS DESC.
CP-S1	800278.2061	2012661.6390	775.0932	21+54.77	-12.03 LT.	56-151-01
CP-S2	800068.2096	2012826.3910	772.5690	18+87.66	13.42 RT.	56-151-02
CP-S3	799977.4587	2012867.6820	772.2622	17+99.01	-28.39 LT.	56-151-03
CP-S4	799955.5417	2013062.0290	772.7366	16+12.80	13.96 RT.	56-151-04

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KATHERINE J. LLOYD
REGISTERED ENGINEER
AGRICULTURE COMMERCE
NO. 106423
STATE OF TENNESSEE

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

R.O.W. DETAILS

STA.16+50 TO STA.20+70

SCALE: 1"= 50'

03-OCT-2016 07:07
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PROPOSED LAYOUT(S)

Proposed Layout sheet(s) contains a plan view of the proposed improvements in the project area. The proposed layout sheet(s) may also include some existing features. The proposed layout sheet(s) may include the following information:

Existing features:

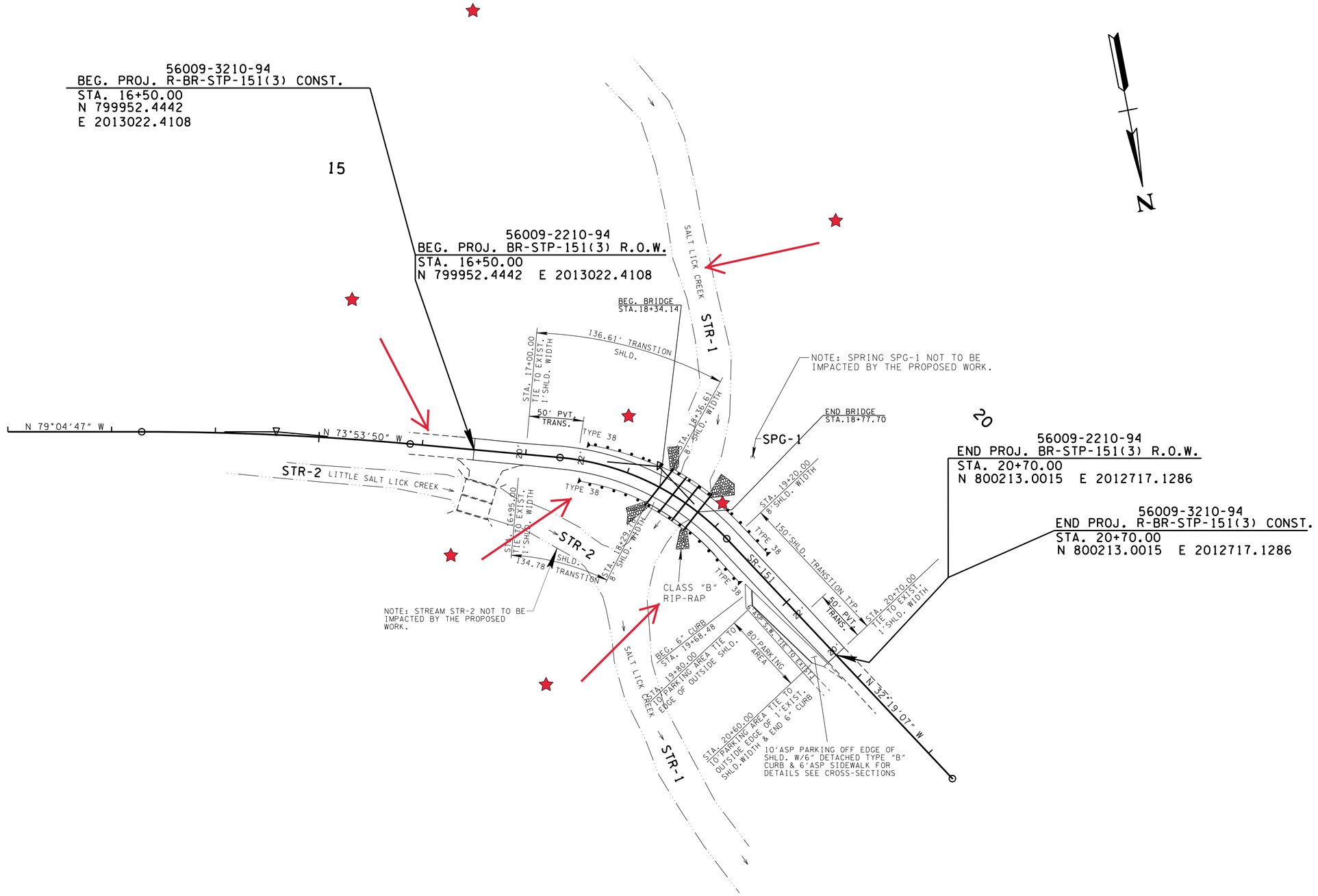
- Drainage specific topography such as rivers or streams
- Edge of pavements
- Drainage structures to be modified
- North Arrow
- Datum Adjustment Factor

Proposed features:

- Begin/end project labeled with Federal and State construction project numbers and
- Northing/Easting coordinates
- Centerline
- Edge of pavement
- Limits of construction
- Limits of pavement
- Rip-Rap locations, limits, and types
- Traffic turning movements for all intersections
- Storm Drainage (special ditches, cross drains, side drains, catch basins, etc.)
- Guardrail locations
- Driveways
- Structures (bridges, retaining walls, noise walls)
- Signs (if there is not a Signing and Pavement Marking Plans sheet)
- Signals (if there is not a Signal Layouts sheet)
- Lighting (if there is not a Lighting Layouts sheet)
- Transition with proposed and existing lane dimensions

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	4B
CONST.	2016	R-BR-STP-151(3)	4B



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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.16+50 TO STA.20+70

SCALE: 1"= 50'

03-OCT-2016 07:07
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THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HISP-76(96)	4B
CONST.	2016	HISP-76(96)	4B

63022-3207-94
BEGIN PROJ. NO. HSIP-76(96) CONST.
STA. 45+40.00 N 792757.9472
E 1592797.8050

S.R. 76 (US 41A-BYPASS)
STA. 43+00.00
N 792670.4807
E 1592574.3109

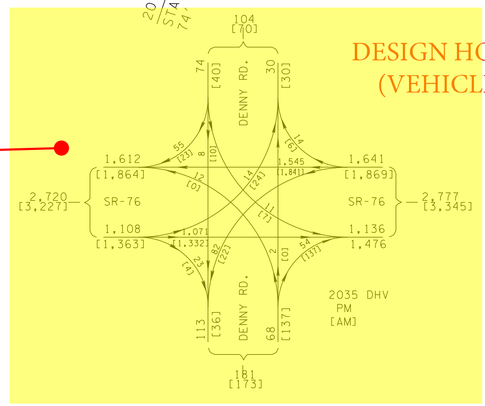
63022-2207-94
BEGIN PROJECT HSIP-76(96)R.O.W.
STA. 46+17.64
N 792786.2439
E 1592870.1084

DENNY ROAD
STA. 25+38.74
N 792620.0440
E 1593188.9899

S.R. 76 (US 41A-BYPASS) STA. 51+88.20 =
DENNY ROAD STA. 20+51.94
N 793007.0243
E 1593395.7855

TRAFFIC DIAGRAM
PROVIDED BY STRATEGIC TRANSPORTATION
INVESTMENT DIVISION

DESIGN HOURLY VOLUME
(VEHICLES PER HOUR)



NOTE:
PRIVATE DRIVE AND BUSINESS ENTRANCE INTERSECTION RADII ARE 15' UNLESS OTHERWISE INDICATED.

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ROBERT B. BRAUN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

BEGIN PROJECT TO STA. 53+50

SCALE: 1"= 50'

28-OCT-2016 14:40
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PROPOSED PROFILE(S)

The Proposed Profile sheet(s) contains profile view(s) of sections of the proposed roadway to be built. Profile views show the elevations of objects. The proposed profile sheet(s) may also include the following information:

Existing features:

- Vertical grade
- K values
- Underground and overhead utilities
- Structures
- Hydraulic data
- Survey control points (CP)

Proposed features:

- Begin/end project labeled with Federal and State construction project numbers and Northing/Easting coordinates
- Vertical grade
- Superelevation rates
- Structures
- Hydraulic data
- Earthwork balances

Proposed Profiles are drawing with a horizontal scale of 1" = 50' and a vertical scale of 1" - 5' Because of this, proposed profiles appear exaggerated or stretched vertically. Stationing is labeled at the bottom of the sheet, and elevations are labeled vertically on the left and right of the sheet.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	4C
CONST.	2016	R-BR-STP-151(3)	4C

EARTHWORK BALANCES

EXC. (UNCL.) COMMON	1550 C.Y.
ROCK	857 C.Y.
TOTAL EXC. (UNCL.)	2407 C.Y.
EMB.	287 C.Y.
SHR. 15%	
SW. 15% FACTOR APPLIED TO EXCESS MAT.	
EXCESS MATERIAL	2353 C.Y.

56009-3210-94
BEG. PROJ. R-BR-STP-151(3) CONST.
STA. 16+50.00

56009-2210-94
BEG. PROJ. BR-STP-151(3) R.O.W.
STA. 16+50.00

56009-3210-94
END PROJ. R-BR-STP-151(3) CONST.
STA. 20+70.00

56009-2210-94
END PROJ. BR-STP-151(3) R.O.W.
STA. 20+70.00

⊙ OH WIRE
STA. 16+28.97
LOW WIRE EL.788.78'
TEMP. 90 DEG.
1 CABLE

⊙ OH WIRE
STA. 17+84.77
LOW WIRE EL.787.63'
TEMP. 90 DEG.
5 POWER
1 FIBER OPTIC
1 CABLE
3 TELEPHONE

OH WIRE ⊙
STA. 19+70.86
LOW WIRE EL.788.80'
TEMP. 90 DEG.
2 GUY WIRE

OH WIRE
STA. 19+64.64
LOW WIRE EL.798.13'
TEMP. 90 DEG.
1 POWER
1 CABLE
1 TELEPHONE
⊙

OH WIRE
STA. 20+54.25
LOW WIRE EL.786.08'
TEMP. 90 DEG.
4 POWER
⊙

OH WIRE
STA. 21+59.81
LOW WIRE EL.791.08'
TEMP. 90 DEG.
1 FIBER OPTIC
1 CABLE
3 TELEPHONE
⊙

VPC 17+00.00 EL. 773.06
VPT 17+50.00 EL. 773.55
VPC 17+90.00 EL. 774.19
VPI 18+10.00 EL. 774.51
VPT 18+30.00 EL. 774.63
VPC 19+25.00 EL. 775.19
VPT 20+05.00 EL. 776.43

VC = 50.00'
K = 40
V = 30 MPH

VC = 80.00'
K = 41
V = 30 MPH

65.00' GRAPHICAL GRADE

HIGH WATER AT BRIDGE
MAY 2010
ELEVATION=774.26

NORMAL WATER
ELEVATION=764.91'

EXISTING GROUND

CP-S4
CP-S3
CP-S2
CP-S1

1.60%
0.37%
0.59%
2.50%
1.18%

6" W
8" W

VPI 17+25.00 EL. 773.15
VC = 40.00'
K = 39
V = 30+ MPH
VPI 19+65.00 EL. 775.43
VPI 20+23.59 EL. 776.30
VPI 20+70.00 EL. 777.45

EXISTING 38.52', 2-SPAN, STEEL GIRDER BRIDGE
STA. 18+56.08
FLOW=RIGHT
ID. NO. 56SR15100005

PROPOSED HYDRAULIC DATA

STATION	18+56.00
STRUCTURE	44' OF 3 @ 14'X 8' CONC. SLAB BR.
SKEW	85° RT.
DRAINAGE AREA	7.37 MI²
DESIGN DISCHARGE (10YR)	1840 FT³/s
10 YR BACKWATER	5.88 FT @ EL. 772.27
10 YR VELOCITY	5.88 FT/S
100 YR DISCHARGE	3250 FT³/s @ EL. 774.34
INLET ELEVATION	764.67
OUTLET ELEVATION	764.20
APPROACH OVERTOPPING EL.	773.04
STANDARD DRAWING NUMBERS	STD-17-160

CP-S4
STA. 16+12.80, 13.96'(RT)
N 799955.5417
E 2013062.0290
ELEV 772.74
ALUM. DISK

CP-S3
STA. 17+99.01, -28.39'(LT)
N 799977.4587
E 2012867.6820
ELEV 772.26
ALUM. DISK

CP-S2
STA. 18+87.66, 13.42'(RT)
N 800068.2096
E 2012826.3910
ELEV 772.57
ALUM. DISK

CP-S1
STA. 21+54.77 -12.03'(LT)
N 800278.2061
E 2012661.6390
ELEV 775.09
ALUM. DISK

	STA. 16+50	STA. 18+30	STA. 20+10	STA. 20+70
SUPERELEVATION RATE LEFT FT./FT.	-0.013	0.080	-0.020	-0.006
SUPERELEVATION RATE RIGHT FT./FT.	0.000	-0.080	-0.020	-0.043

180' TRANSITION
180' TRANSITION
EXIST PAVEMENT
SUPER
FULL
EXIST PAVEMENT
STA. 19+34

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 106423
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

STA.16+50 TO STA.20+70
SCALE: 1"= 50' HORIZ.
1"= 5' VERT.

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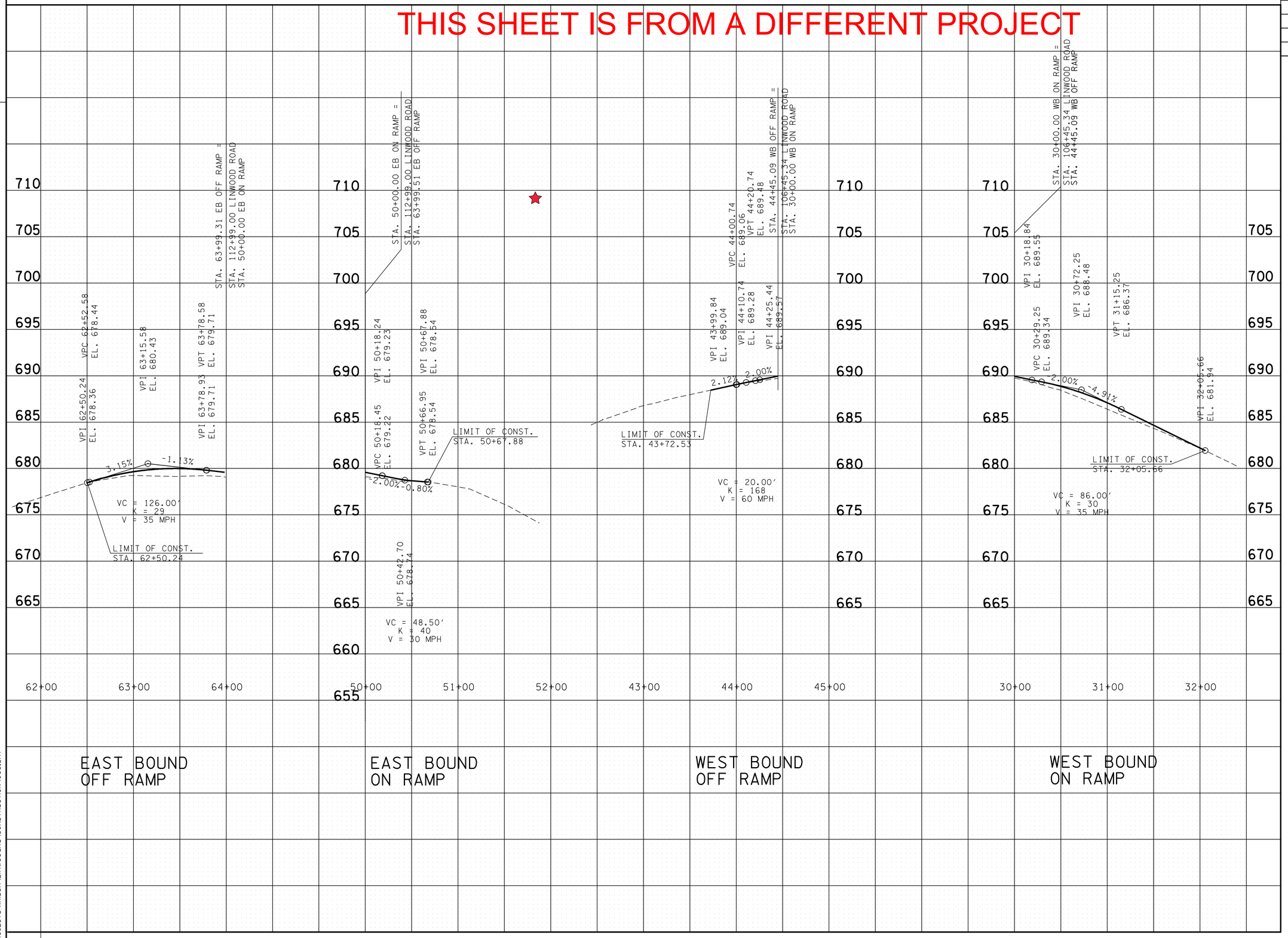
PUBLIC SIDE ROADS AND RAMP PROFILE(S)

Similar to the Proposed Profile sheet(s), the Public Side Roads and Ramps profile sheet(s) contain profile view(s) of the public side roads and ramps of the proposed road to be built. Profile views show the elevations of objects.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2009	BR-I-40-5(132)	6
CONST.	2011	BR-I-40-5(132)	6

THIS SHEET IS FROM A DIFFERENT PROJECT



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SHANE M. HESTER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 110114
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RAMP PROFILES

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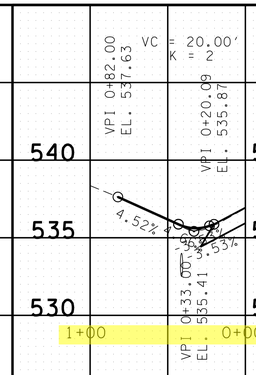
01-JUN-2011 14:51

PRIVATE DRIVE AND FIELD RAMP PROFILE(S)

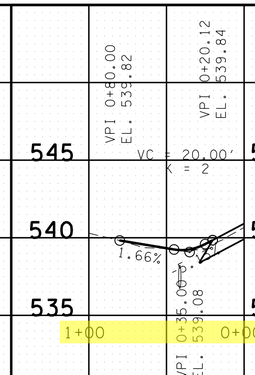
Similar to the Proposed Profile sheet(s), the Private Drive and Field Ramp Profile sheet(s) contain profile view(s) of the private drives and field ramps of the proposed road to be built. Profile views show the elevations of objects.

THIS SHEET IS FROM A DIFFERENT PROJECT

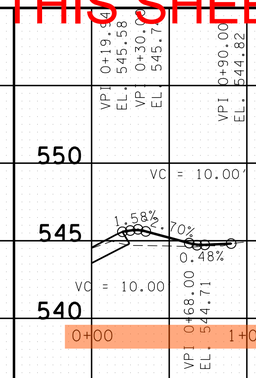
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HSIP-76(96)	7
CONST.	2016	HSIP-76(96)	7



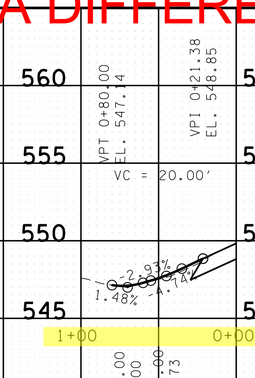
S.R. 76 STA. 54+92.24 LT.
TRACT 7
18' BUS. ENT.



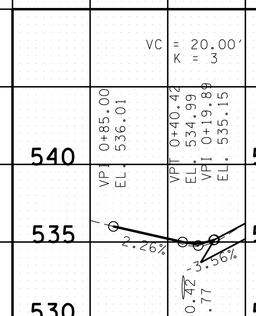
S.R. 76 STA. 57+12.30 LT.
TRACT 8
20' BUS. ENT.



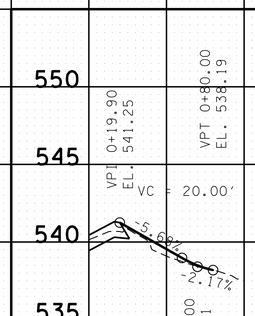
S.R. 76 STA. 58+81.00 RT.
TRACT 10
40' BUS. ENT.



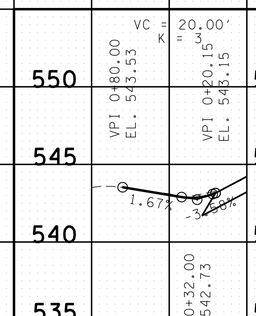
S.R. 76 STA. 61+46.20 LT.
TRACT 14
28' BUS. ENT.



S.R. 76 STA. 53+98.14 LT.
TRACT 6
28' BUS. ENT.



S.R. 76 STA. 56+91.18 RT.
TRACT 9
32' BUS. ENT.



S.R. 76 STA. 58+64.34 LT.
TRACT 12
40' BUS. ENT.

S.R. 76 STA. 46+19.27 RT.
TRACT 1
36' BUS. ENT.

S.R. 76 STA. 56+16.71 LT.
TRACT 7
20' BUS. ENT.

S.R. 76 STA. 58+64.34 LT.
TRACT 12
40' BUS. ENT.

DENNY RD. STA. 19+30.90 RT.
TRACT 2
10' PVT. DR.

DRIVEWAYS ON THE LEFT OF THE MAINLINE ARE STATIONED LEFT TO RIGHT.
DRIVEWAYS ON THE RIGHT OF THE MAINLINE ARE STATIONED RIGHT TO LEFT.

CONSTRUCTABILITY FIELD REVIEW

SEALED BY

ROBERT B. BRAUN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE OF PRIVATE DRIVES

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

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DRAINAGE MAP(S)

The Drainage Map sheet(s) contains hydraulic information for the project site such as existing contours, flow lines, sub-divided areas that drain to both existing and proposed pipe culverts and structures, and hydraulic data. The drainage map sheet(s) may also include the following information:

Existing features:

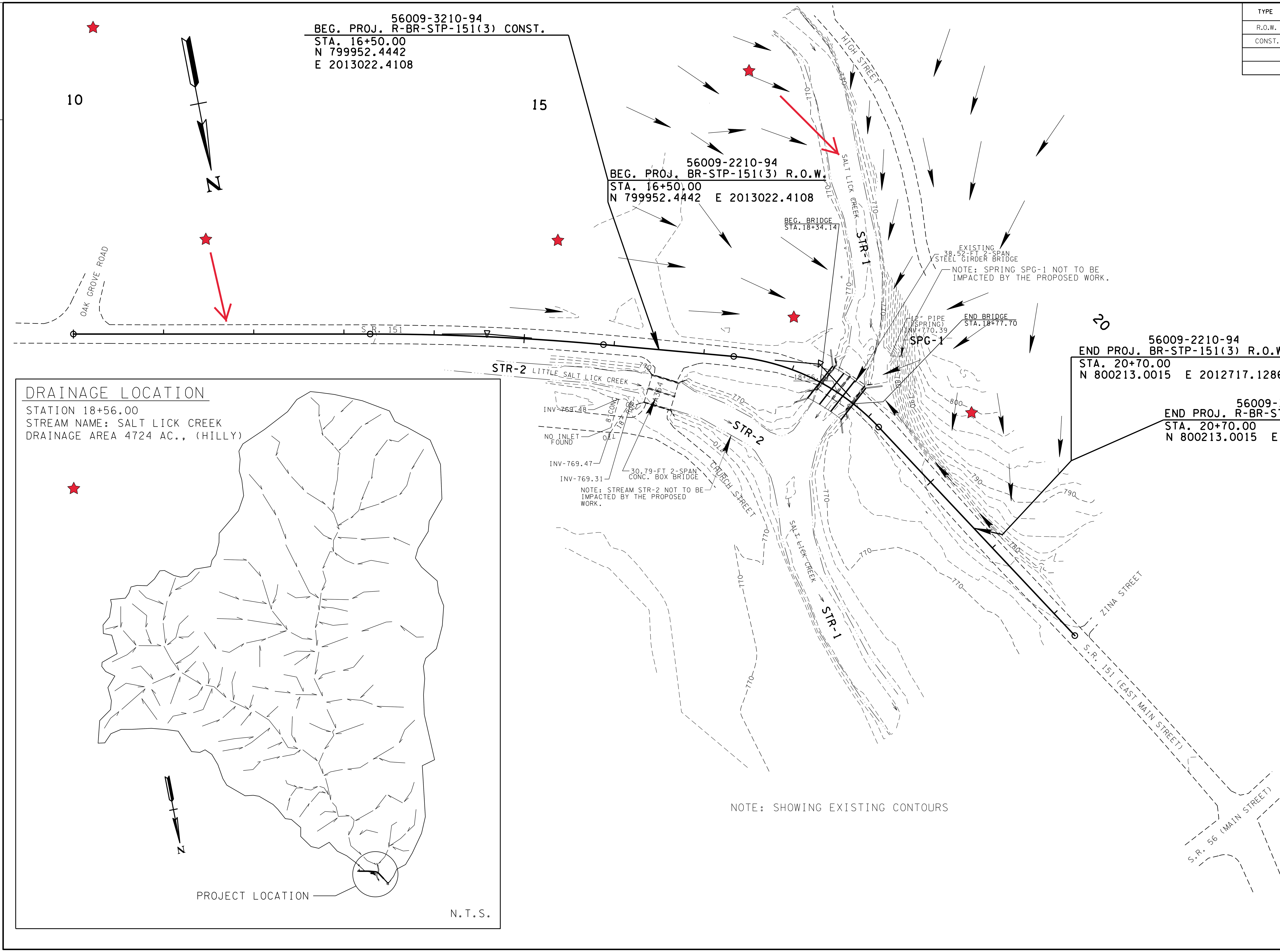
- Contours and flow arrows
- Streams
- Edge of pavement
- Drainage Structures with hydraulic data
- Wetland boundaries
- North Arrow
- Datum Adjustment Factor

Proposed features:

- Centerline
- Cross drains and side drains 42" and larger
- Channel Changes

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	5
CONST.	2016	R-BR-STP-151(3)	5

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



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KATHERINE J. LLOYD
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NO. 106423
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA.16+50 TO STA.20+70

SCALE: 1"= 50'

03-OCT-2016 07:07
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THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HSIP-76(96)	8
CONST.	2016	HSIP-76(96)	8

DRAINAGE DATA FOR PIPE
STATION 48+94.98

(A)

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 1.43 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 18" CMP
EXISTING STRUCTURE CONDITION:
REMARKS: OUTLET END OF PIPE BURIED

DRAINAGE DATA FOR PIPE
STATION 20+30.99

(B) (C)

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 1.47 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 15" CMP
EXISTING STRUCTURE CONDITION:
REMARKS: AREA INCLUDES PIPE UNDER DRIVEWAY (0.97 AC) ALSO

DRAINAGE DATA FOR PIPE
STATION 23+24.75

(D)

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 1.39 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 15" RCP
EXISTING STRUCTURE CONDITION:
REMARKS:

(E) (F) (G)

DRAINAGE DATA FOR PIPE
STATION 53+01.66

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 7.64 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 36" CMP
EXISTING STRUCTURE CONDITION:
REMARKS: INCLUDES AREA FROM 24" CPP (0.39 AC) & DRIVEWAY PIPES (4.35 AC) ALONG SR 76. OUTLET END BLIND TIES INTO A JUNCTION BOX WITH 24" RCP THAT CROSSES ROTARY PARK DR.

DRAINAGE DATA FOR PIPE
STATION 61+40.46

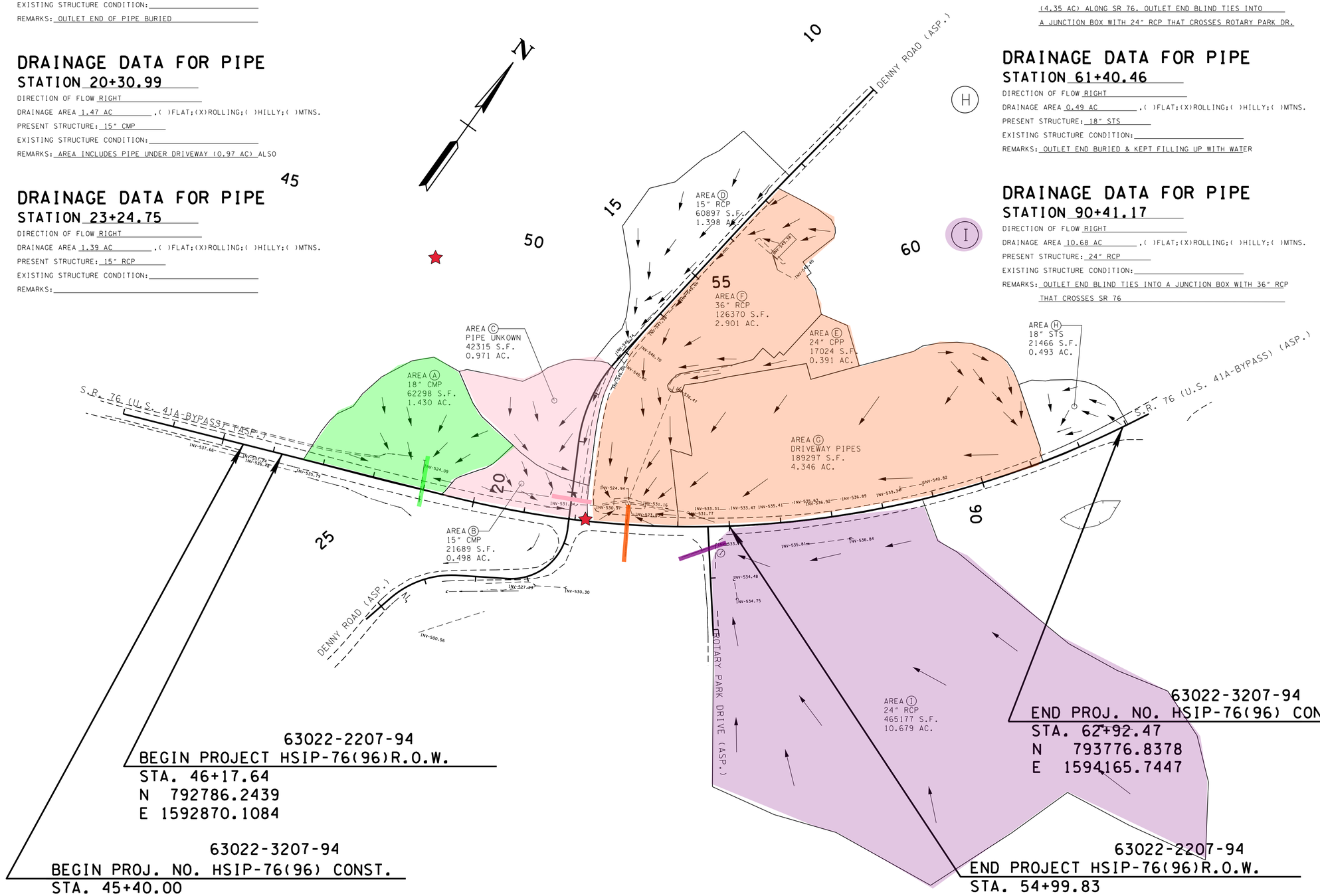
(H)

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 0.49 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 18" STS
EXISTING STRUCTURE CONDITION:
REMARKS: OUTLET END BURIED & KEPT FILLING UP WITH WATER

DRAINAGE DATA FOR PIPE
STATION 90+41.17

(I)

DIRECTION OF FLOW RIGHT
DRAINAGE AREA 10.68 AC ,( )FLAT;(X)ROLLING;( )HILLY;( )MTNS.
PRESENT STRUCTURE: 24" RCP
EXISTING STRUCTURE CONDITION:
REMARKS: OUTLET END BLIND TIES INTO A JUNCTION BOX WITH 36" RCP THAT CROSSES SR 76



63022-2207-94
BEGIN PROJECT HSIP-76(96)R.O.W.
STA. 46+17.64
N 792786.2439
E 1592870.1084

63022-3207-94
BEGIN PROJ. NO. HSIP-76(96) CONST.
STA. 45+40.00
N 792757.9472
E 1592797.8050

63022-3207-94
END PROJ. NO. HSIP-76(96) CONST.
STA. 62+92.47
N 793776.8378
E 1594165.7447

63022-2207-94
END PROJECT HSIP-76(96)R.O.W.
STA. 54+99.83
N 793176.7359
E 1593656.7308

CONSTRUCTABILITY FIELD REVIEW

SEALED BY

ROBERT B. BRAUN REGISTERED ENGINEER AGRICULTURE COMMISSION STATE OF TENNESSEE

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00000 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

SCALE: 1"=100'

28-OCT-2016 15:03
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CULVERT SECTION(S)

The Culvert Sections sheet(s) contains cross-section view(s) cut at the culvert locations along the proposed roadway to be built. Cross-section views show the elevations of proposed and existing features. The culvert section sheet(s) may also include the following information:

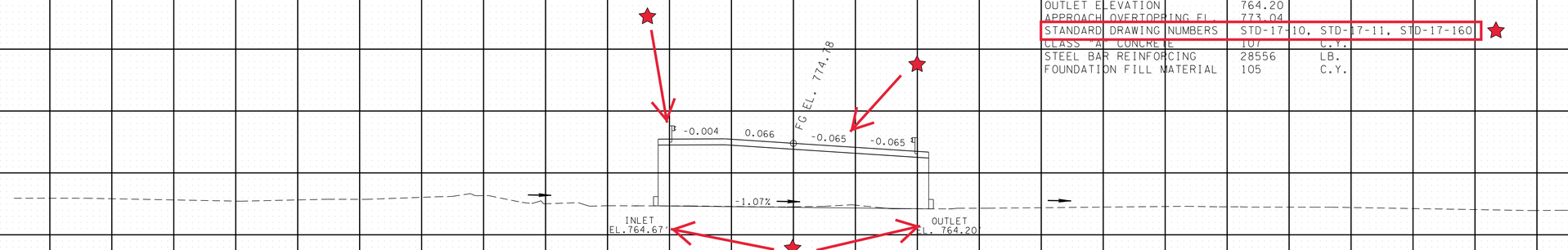
- Culvert type and length
- Inlet and Outlet elevations
- Endwall type
- Junction box type (if applicable)
- Culvert slope and skew
- References standard drawings
- Hydraulic data
- Catch basins/manholes
- Roadway superelevation
- Guardrail

Culvert Sections have a horizontal scale of 1'' = 10' and a vertical scale of 1" = 10'. Unlike Profiles, Culvert Sections are not exaggerated in the vertical direction. However, like Profiles, the stationing is labeled at the bottom of the sheet and the elevations are labeled on the left and right of the sheet.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	6
CONST.	2016	R-BR-STP-151(3)	6

PROPOSED HYDRAULIC DATA

STATION	18+56.00	
STRUCTURE	44' OF 3@14'X 8' CONC. SLAB BR.	
SKEW	85° RT.	
DRAINAGE AREA	1.37 MI²	
DESIGN DISCHARGE (10YR)	1840 FT³/s	
10 YR BACKWATER	5.88 FT @ EL. 772.27	
10 YR VELOCITY	5.88 FT/S	
100 YR DISCHARGE	3250 FT³/s @ EL. 774.34	
INLET ELEVATION	764.67	
OUTLET ELEVATION	764.20	
APPROACH OVERTOPPING EL.	773.04	
STANDARD DRAWING NUMBERS	STD-17-10, STD-17-11, STD-17-160	
CLASS 'A' CONCRETE	107	C.Y.
STEEL BAR REINFORCING	28556	LB.
FOUNDATION FILL MATERIAL	105	C.Y.



SLAB BRIDGE AT MAINLINE STA. 18+56.00

NOTE: THE INLET AND OUTLET ENDS OF THE SLAB CULVERT AT STA. 18+56.00 SHALL BE CURVED PARALLEL TO THE CENTERLINE OF THE ROADWAY.

SEALED BY

KATHERINE J. LLOYD
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AGRICULTURE
NO. 105443
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

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

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THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2016	HSIP-76(96)	9
CONST.	2016	HSIP-76(96)	9

STA. 90+39.00
12' OF 24" RCP
SKEW 90
ENDWALLS REQD. : TYPE 'U' WITHOUT GRATE
STD. DWG. NOS. D-PE-24A

D.A. = 10.679 AC.
Q50 = 18.53 CFS
Q100 = 20.13 CFS
W.S. ELEV. (50) = 536.70
W.S. ELEV. (100) = 536.94

PROP. V-DITCH
FG EL. 537.68
EXIST. 24" RCP - OUTLET UNKNOWN
EL. 533.70
24" @ 0.50% GRADE
INLET EL. 533.76

24" RCP BLIND TIES INTO A JUNCTION BOX WITH A 36" RCP NEAR STA. 53+01.66 ON SR 76 & OUTLET END IS RIGHT OF STA. 10+59.97 DENNY ROAD (SOUTH) AS A 36" CMP. AS OF TUESDAY, APRIL 22, 2014, CLARKSVILLE STREET DEPARTMENT COULD NOT TELL US WHERE THE JUNCTION BOX WAS LOCATED.

ROTARY PARK DR.
90+41.20

STA. 20+15.00
64' OF 18" RCP
SKEW 90
ENDWALLS REQD. : TYPE 'U' WITHOUT GRATE
STD. DWG. NOS. D-PE-18A

D.A. = 2.87 AC
Q50 = 7.61 CFS
Q100 = 8.13 CFS
W.S. ELEV. (50) = 534.01
W.S. ELEV. (100) = 534.10

FG EL. 535.32
-0.020
-0.020
3:1
18" @ 0.50% GRADE
INLET EL. 532.25
OUTLET EL. 531.93

DENNY ROAD
20+15.00

STA. 53+01.66
SKEW 90
ENDWALLS REQD. : TYPE 'A'
STD. DWG. NOS. D-PE-1
D.A. = 7.640 AC.

FG EL. 536.11
-0.053
0.053
6:1
2:1
EXIST. 36" RCP - OUTLET UNKNOWN
1.00% (ASSUMED)
EL. 523.83

THE 36" RCP BLIND TIES INTO A JUNCTION BOX WITH A 24" RCP FROM STA. 90+41.17 ROTARY PARK DRIVE. OUTLET END IS RIGHT OF STA. 10+59.97 DENNY ROAD (SOUTH) AS A 36" CMP. AS OF TUESDAY, APRIL 22, 2014, CLARKSVILLE STREET DEPARTMENT COULD NOT TELL US WHERE THE JUNCTION BOX WAS LOCATED.

S.R. 76
53+01.66

STA. 48+94.98
14' OF 18" RCP (EXTEND LEFT)
SKEW 83° RT.
ENDWALLS REQD. : "STRAIGHT"
STD. DWG. NOS. D-PE-4

D.A. = 1.430 AC.
Q50 = 3.56 CFS
Q100 = 3.79 CFS
W.S. ELEV. (50) = 525.49
W.S. ELEV. (100) = 525.53

FG EL. 53
-0.020
-0.006
3:1
2:1
EXIST. 18" CMP - OUTLET UNKNOWN
2.00% (ASSUMED)
EL. 524.09
INLET EL. 524.43

18" CMP
OUTLET END IS BURIED
UNDER FILL MATERIAL.

S.R. 76
48+94.98

CONSTRUCTABILITY FIELD REVIEW

SEALED BY

ROBERT B. BRAUN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT CROSS-SECTIONS

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

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EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLAN(S)

The Erosion Prevention & Sediment Control Plans sheet contains plan view and details information of the necessary erosion prevention & sediment control measures that should be taken during each stage of construction. In addition to the necessary erosion prevention & sediment control measures, this sheet contains the same information as the Proposed Layouts sheet(s).

The Erosion Prevention & Sediment Control Plans sheet may also contain:

- Stages (same number of EPSC stages as there are Traffic Control phases)
- Existing/Proposed contours according to EPSC stage
- Storm water Outfalls labeled and numbered
- Notes
- Legend
- EPSC Quantities tabulation block

The sheet may also contain special notes provided by the Environmental Division.
The Legend is a table that contains the symbol, item description, and referenced standard drawing for each EPSC measure included the plans.
The EPSC Quantities Tabulation block is a table that contains the item number, description, unit, and quantity for each EPSC measure included in the plans. Additional notes may be included in this sheet to clarify the legend and/or quantities tabulation.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	7
CONST.	2016	R-BR-STP-151(3)	7

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

(2) 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.

(3) 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

(4) 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 IN 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.

(5) PERMANENT EPSC MEASURES SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 15 CALENDAR DAYS. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE, NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER RUNS WILL NOT BE CONSIDERED TO NON-ERODIBLE SURFACE.

(6) 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.

POLYACRYLAMIDE

(7) ENSURE POLYACRYLAMIDE (PAM) EMULSIONS AND POWDERS ARE OF THE ANIONIC TYPE AND MEET THE FOLLOWING REQUIREMENTS:

(8) MEETS THE EPA AND FDA ACRYLAMIDE MONOMER LIMITS OF EQUAL TO OR GREATER THAN 0.005% ACRYLAMIDE MONOMER.

(9) HAS A DENSITY OF 10% TO 55% BY WEIGHT AND A MOLECULAR WEIGHT OF 16 TO 24 MG/MOLE.

(10) MIXTURE IS NON-COMBUSTIBLE.

(11) CONTAINS ONLY MANUFACTURER'S RECOMMENDED ADDITIVES.

(12) PAM SHALL BE MIXED AND APPLIED IN ACCORDANCE WITH ALL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) MATERIAL SAFETY DATA SHEET (MSDS) REQUIREMENTS AND THE MANUFACTURER'S RECOMMENDATIONS FOR THE SPECIFIED USES CONFORMING TO ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.

(13) ALL VENDERS AND SUPPLIERS OF PAM, PAM MIX, OR PAM BLENDS SHALL PRESENT OR SUPPLY A WRITTEN TOXICITY REPORT WHICH VERIFIES THAT THE PAM, PAM MIX, PAM BLEND EXHIBITS ACCEPTABLE TOXICITY PARAMETERS WHICH MEET OR EXCEED THE EPA REQUIREMENTS FOR THE STATE AND FEDERAL WATER QUALITY STANDARDS. WHOLE EFFLUENT TESTING DOES NOT MEET THIS REQUIREMENT AS PRIMARY REACTIONS HAVE OCCURRED AND TOXIC POTENTIALS HAVE BEEN REDUCED. CATIONIC FORMS OF PAM ARE NOT ALLOWED FOR UNDER THIS GUIDELINE DUE TO THEIR HIGH LEVELS OF TOXICITY TO AQUATIC ORGANISMS. PAM EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN WATERS DUR TO SURFACTANT TOXICITY. CONTRACTOR MUST SEEK THE APPROVAL OF THE EPSC DESIGN ENGINEER AND TDOT IF CHITOSAN IS PROPOSED FOR USE ON THIS PROJECT.

(14) ALL VENDORS AND SUPPLIERS OF PAM, PAM MIX, OR PAM BLENDS SHALL SUPPLY WRITTEN "SITE SPECIFIC" TESTING RESULTS SDEMONSTRATING THAT A PERFORMANCE OF 95% OR GREATER REDUCTION OF NTU OR TSS FROM STORMWATER DISCHARGES.

(15) EMULSION BATCHES SHALL BE MIXED FOLLOWING RECOMMENDATIONS OF A TESTING LABORATORY THAT DETERMINES THE PROPER PRODUCT AND RATE TO MEET SITE REQUIREMENTS. APPLICATION METHOD SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA. EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN WATERS.

(16) PAM POWDER MAY BE APPLIED BY A HAND SPREADER OR A MECHANICAL SPREADER. MIXING PAM POWDER WITH DRY ~~DILICA~~ SILICA SAND WILL AID IN SPREADING.

(17) PREMIXING OF PAM POWDER INTO FERTILIZER, SEED, OR OTHER SOIL AMENDMENTS IS ALLOWED WHEN SPECIFIED IN THE DESIGN PLAN. APPLICATION METHOD SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA.

(18) PAM LOGS OR BLOCKS SHALL BE APPLIED FOLLOWING SITE TESTING RESULTS TO ENSURE PROPER PLACEMENT AND PERFORMANCE AND SHALL MEET OR EXCEED STATE AND FEDERAL WATER QUALITY REQUIREMENTS.

EPSC QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(2)	209-05	SEDIMENT REMOVAL	C.Y.	110
(2)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	600
(2)	209-08.07	ROCK CHECK DAM PER	EACH	4
(2)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	2
(2)	209-09.03	SEDIMENT FILTER BAG (15' X 15')	EACH	2
(7)(2)	209-65.04	TEMPORARY IN STREAM DIVERSION	L.F.	120
(8)(2)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	14
(3)(2)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	300
(5)(2)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	100
(6)(2)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	322
(3)(2)	740-11.02	TEMPORARY SEDIMENT TUBE 12IN	L.F.	300
(1)(2)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	12
(1)(2)	801-03	WATER (SEEDING & SODDING)	M.G.	3
(4)(2)	803-01	SODDING (NEW SOD)	S.Y.	230

NOTES:
(1) PROTECT SLOPES DURING CONSTRUCTION OF PROJECT
(2) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT.
(3) TO BE USED AS NEEDED BY PROJECT ENGINEER
(4) SOD TO BE USED ON ALL SLOPES
(5) RIP-RAP USED FOR TEMPORARY CONSTRUCTION EXITS
(6) INCLUDES 178 S.Y. FOR CONST. EXITS & 144 S.Y. FOR FILTER BAGS.
(7) USED TO DIVERT WATER WITHIN STREAM.
(8) FOR SEDIMENT FILTER BAGS

EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

	SYMBOL	ITEM	STD. DWG.
	SFB SFB SFB SFB	SEDIMENT FILTER BAG	EC-STR-2
	SFB 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
*	TCE	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
*	TUBE TUBE	SEDIMENT TUBE	EC-STR-37
	IN DIV	INSTREAM DIVERSION	EC-STR-30A
*	HVF HVF	HIGH VISIBILITY FENCE	S-F-1

* TO BE FIELD LOCATED BY THE PROJECT ENGINEER.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL NOTES AND TABULATION

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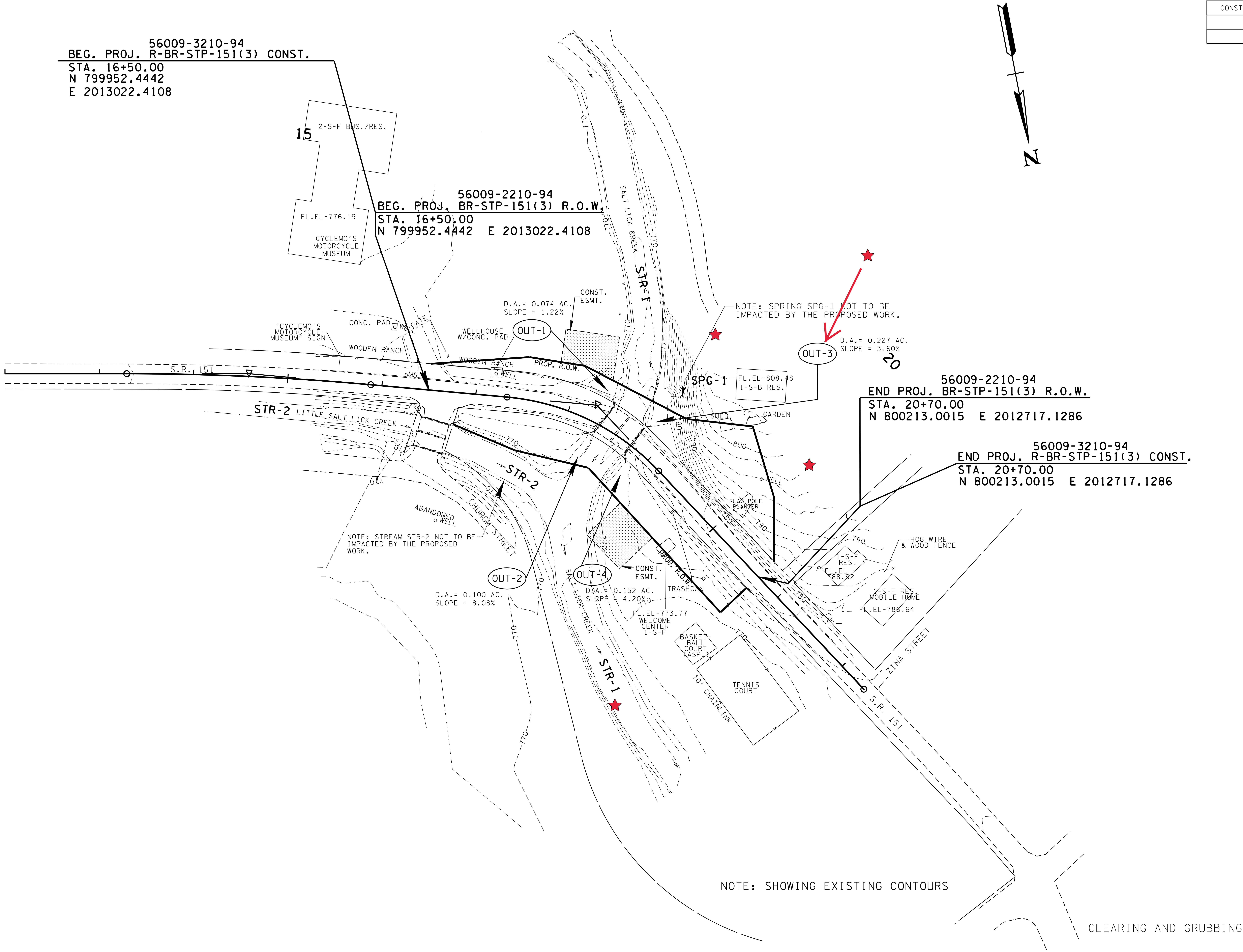
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	8
CONST.	2016	R-BR-STP-151(3)	8



NOTE: SHOWING EXISTING CONTOURS

CLEARING AND GRUBBING

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STATE OF TENNESSEE

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

SCALE: 1"= 50'

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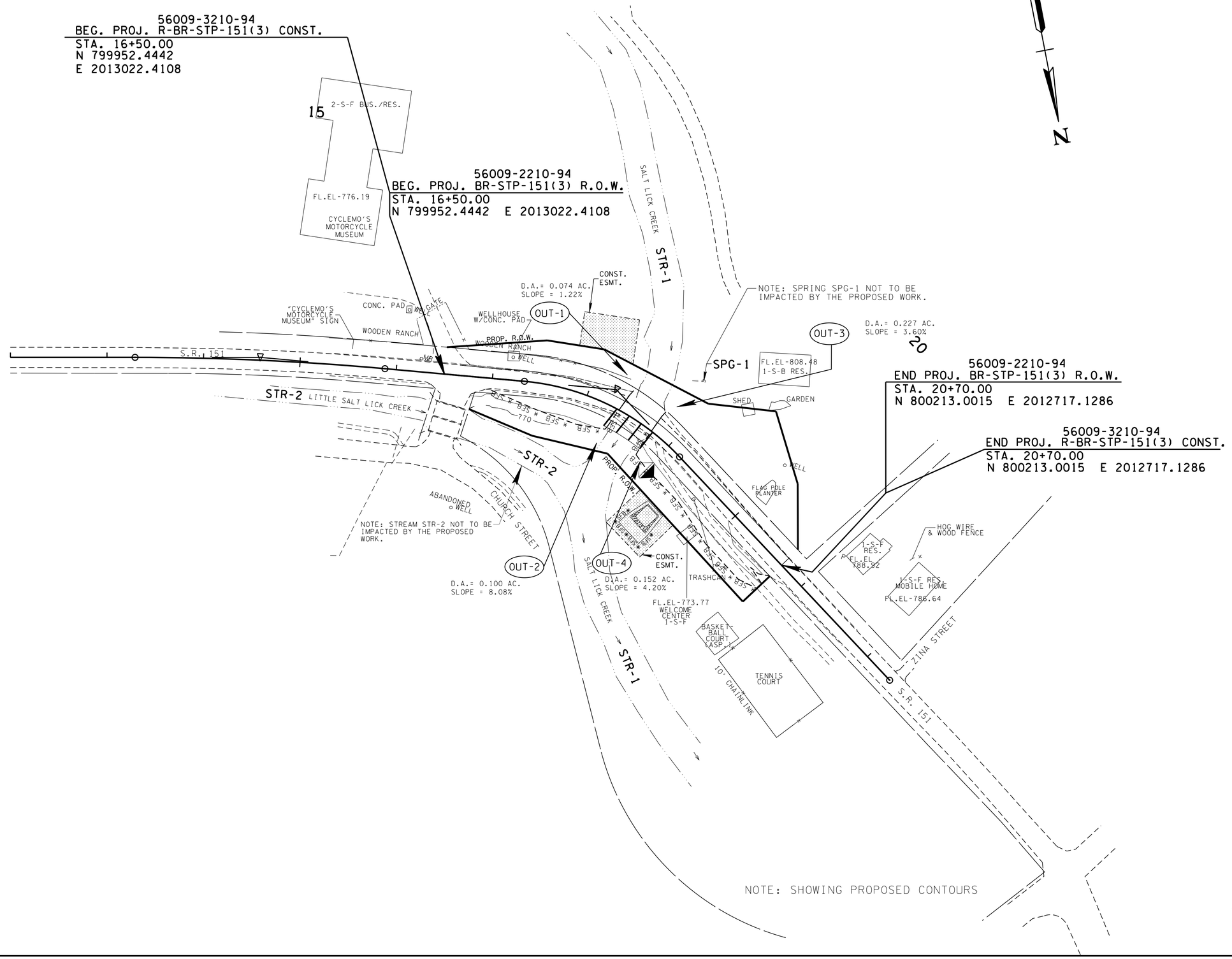
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	9
CONST.	2016	R-BR-STP-151(3)	9

OUT-2 AND OUT-4: STORM WATER FROM THESE OUTFALLS DISCHARGE FROM THE CONSTRUCTION SITE INTO AN EXISTING DITCH NEXT TO STREAM.



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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN

STAGE I

SCALE: 1"= 50'

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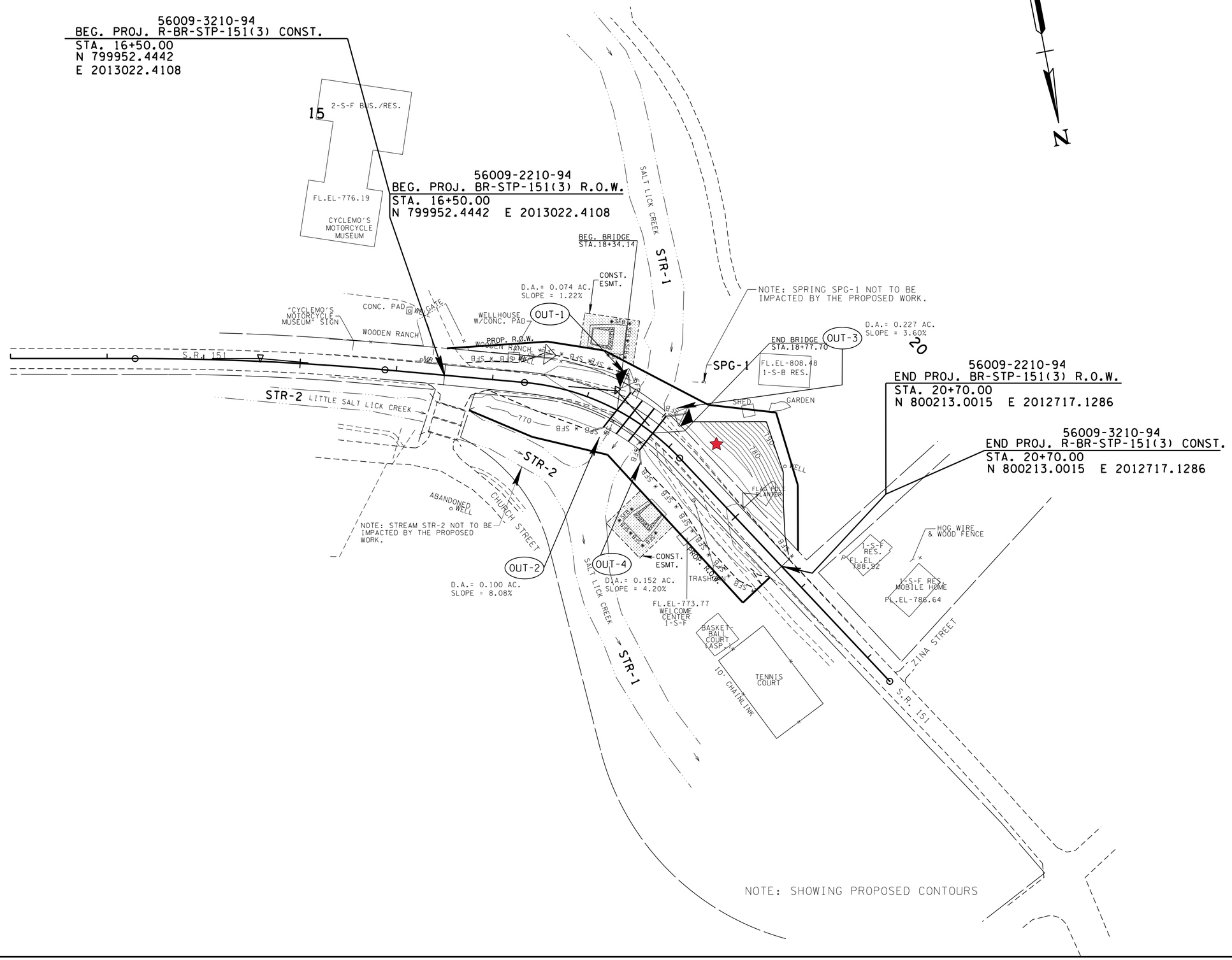
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	10
CONST.	2016	R-BR-STP-151(3)	10

OUT-1 THUR OUT-4: STORM WATER FROM THESE OUTFALLS DISCHARGE FROM THE CONSTRUCTION SITE INTO AN EXISTING DITCH NEXT TO STREAM.



SEALED BY

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL PLAN STAGE II

SCALE: 1"= 50'

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ENVIRONMENTAL MITIGATION PLAN(S)

The Environmental Mitigation Plans sheet(s) contain environmental mitigation plan details. Refer to the Environmental Division for more information regarding Environmental Mitigation plans.

For more information on TDOT Environmental Division stream relocation/mitigation practices, click here.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2012	STP-253-(8)	2W

REV. 06–13–13 REVISED ITEM NO. 203–02.04 TO 203–02.03

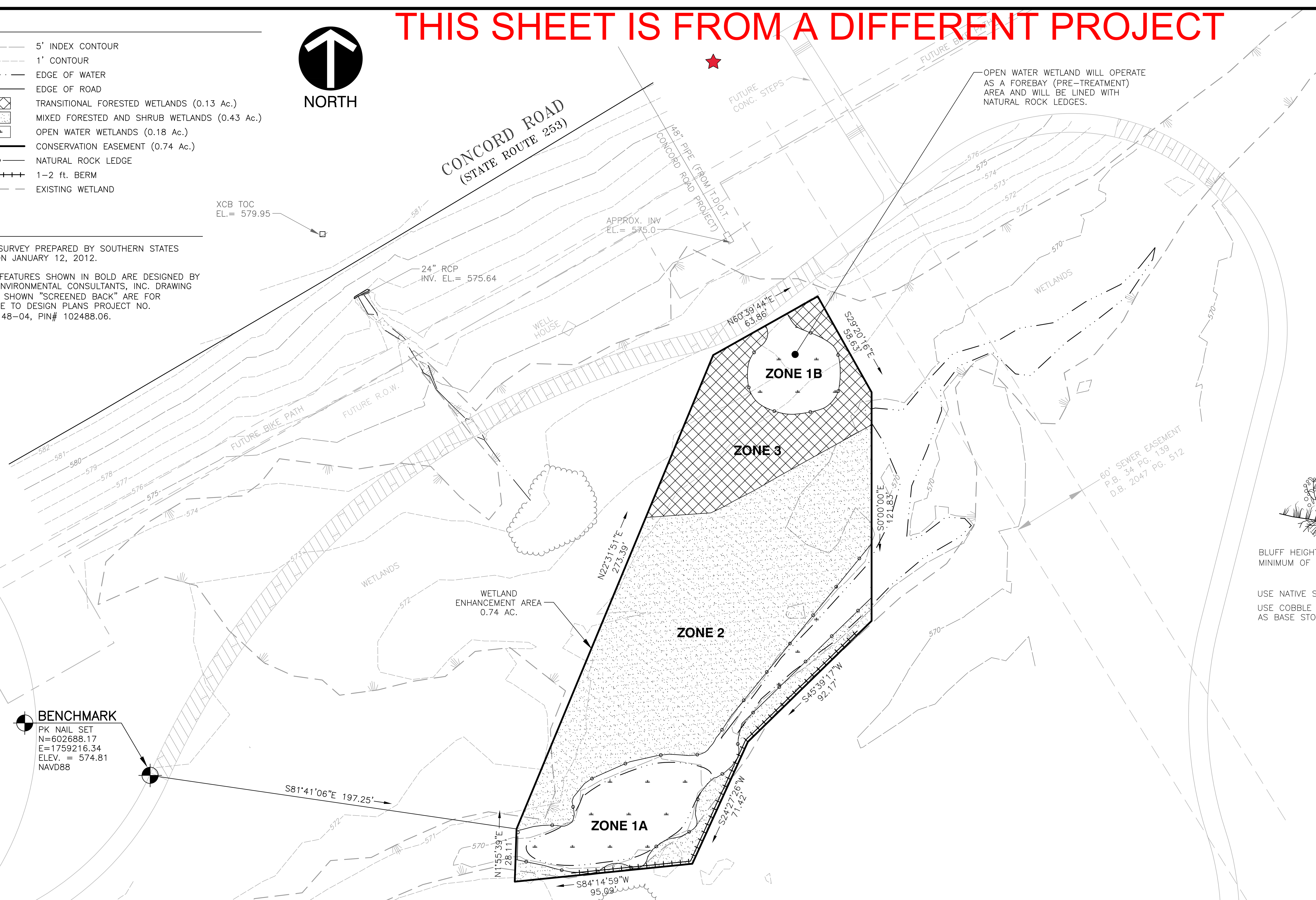
THIS SHEET IS FROM A DIFFERENT PROJECT

LEGEND

- 875 — 5' INDEX CONTOUR
- 1' CONTOUR
- EDGE OF WATER
- EDGE OF ROAD
- TRANSITIONAL FORESTED WETLANDS (0.13 Ac.)
- MIXED FORESTED AND SHRUB WETLANDS (0.43 Ac.)
- OPEN WATER WETLANDS (0.18 Ac.)
- CONSERVATION EASEMENT (0.74 Ac.)
- NATURAL ROCK LEDGE
- 1–2 ft. BERM
- EXISTING WETLAND

REFERENCE

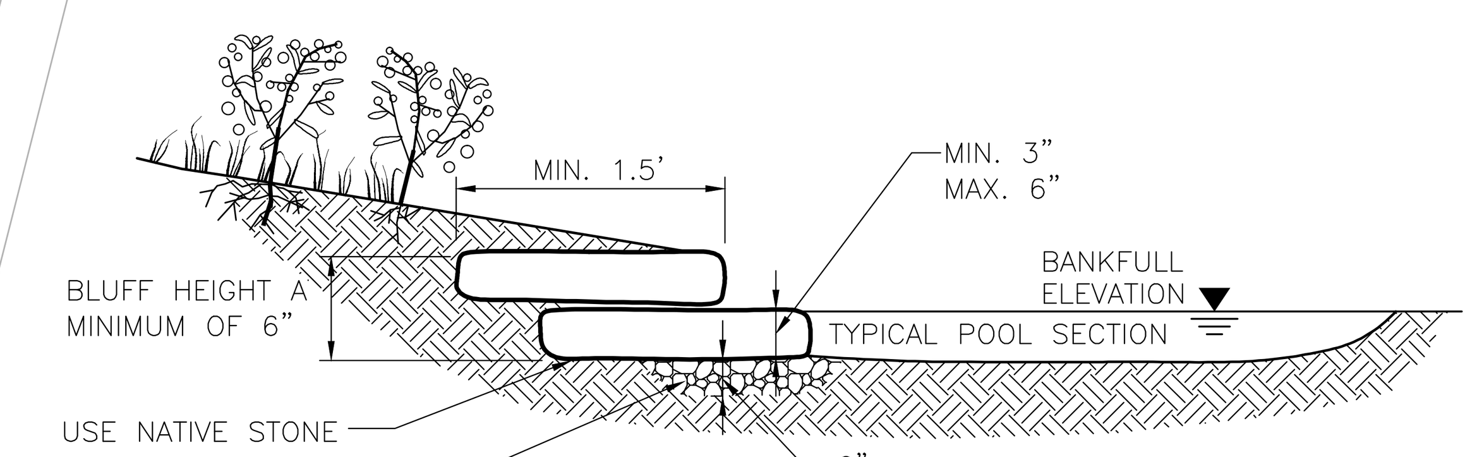
1. GROUND SURVEY PREPARED BY SOUTHERN STATES SURVEY ON JANUARY 12, 2012.
2. DRAWING FEATURES SHOWN IN BOLD ARE DESIGNED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DRAWING FEATURES SHOWN "SCREENED BACK" ARE FOR REFERENCE TO DESIGN PLANS PROJECT NO. 19012–4148–04, PIN# 102488.06.



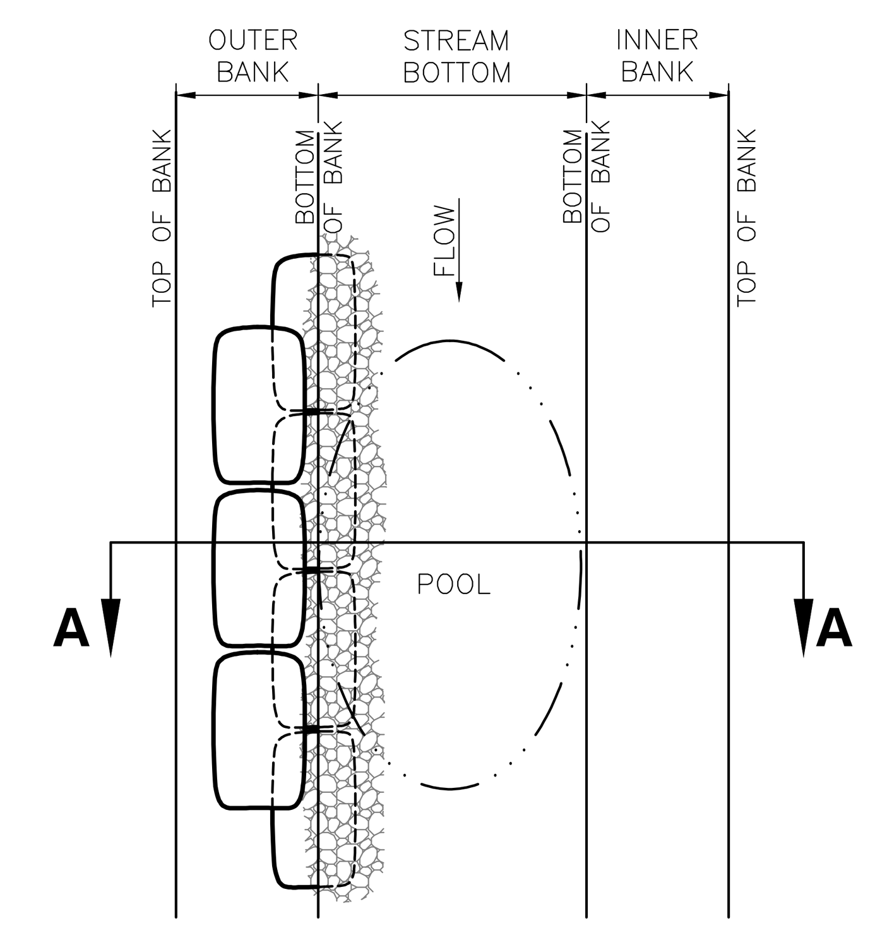
PROTECTED AREA
NO TREE CLEARING
OR CUTTING OR
MOWING ALLOWED
CONTACT TDOT ENVIRONMENT DIVISION
(615) 741–3655

NOTES:
1. THE PROTECTED AREA SIGN SHALL BE WHITE WITH BLACK LETTERING.
2. LINES 1, 2, 3 & 4 SHALL BE 2 INCHES IN HEIGHT. LINES 5 & 6 SHALL BE 1 INCH IN HEIGHT.
3. PROTECTED AREA SIGN SHALL BE PAID FOR UNDER ITEM NO. 713–16.20, PROTECTED AREA SIGN, PER EACH, AS SHOWN IN DETAIL ON THIS SHEET. PAYMENT SHOULD INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT AS SHOWN IN DETAIL.
4. LOCATION AND NUMBER OF SIGNS TO BE DETERMINED IN THE FIELD OR AS DIRECTED BY THE ENGINEER.

PROTECTED AREA SIGN
N.T.S.



SECTION A



PLAN VIEW

NATURAL ROCK LEDGE
N.T.S.

ESTIMATED CONSTRUCTION QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	
203–01.05	EXCAVATION	C.Y.	223	
203–01.15	DRAINAGE ROCK	C.Y.	13	
203–01.79	EXCAVATION/BACKFILL	C.Y.	87	①
203–02.03	BORROW EXCAVATION (SOLID ROCK)	TON	60	②
203–04	PLACING AND SPREADING TOPSOIL	C.Y.	365	
203–04.02	STRIPPING & STOCKPILE TOPSOIL	C.Y.	365	
713–16.20	SIGNS (PROTECTED AREA SIGN)	EACH	1	
802–11.02	ACER RUBRUM (RED MAPLE 2–5FT CNTNR GRWN)	EACH	6	
802–11.07	BETULA NIGRA (RIVER BIRCH 2–5FT CNTNR GRWN)	EACH	12	
802–11.21	NYSSA SYLVATICA (BLCKGUM 2–5FT CNTNR GRWN)	EACH	6	
802–11.26	PLATANUS OCCIDENTALIS (SYCAMORE 2–5FT CNTNR GRWN)	EACH	17	
802–11.30	QUERCUS BICOLOR (SWAMP WHITE OAK 2–5FT CNTNR GRWN)	EACH	17	
802–13.04	CORNUS AMOMUM (SILKY DOGWOOD 2–5FT CNTNR GRWN)	EACH	12	
802–13.08	ITEA VIRGINICA (VIRGINIA SWEETSPIRE 2–5FT CNTNR GRWN)	EACH	12	
802–11.33	QUERCUS MICHAUXII (SWAMP CHSTNT OAK 2–5FT CNTNR GRWN)	EACH	6	
802–11.38	QUERCUS PHELLOS (WILLOW OAK 2–5FT CNTNR GRWN)	EACH	6	
802–13.12	AMORPHA FRUTICOSA, (INGIGO BUSH)	EACH	12	

① BERM INSTALLATION
② CONSTRUCT ACCORDING TO ROCK LEDGE DETAIL.

NOTES:
1. THE TOP 3–4 INCHES OF TOPSOIL WILL BE STOCKPILED AND REDISTRIBUTED WITHIN RESTORATION AREAS. OVER EXCAVATION OF SOME ENHANCEMENT AREA WILL BE NECESSARY IN ORDER TO ACHIEVE FINAL PROPOSED GRADE OF THE PROPOSED ZONE DUE TO THE REDISTRIBUTION OF TOPSOIL. ADDITIONAL CUT MATERIAL WILL BE USED TO CONSTRUCT THE PROPOSED 1–2 FT BERM LOCATED ALONG THE EASTERN AND SOUTHERN BOUNDARIES OF THE WETLAND RESTORATION CONSERVATION EASEMENT.
2. NATIVE STONE WITHIN THE WATERSHED IS CARTER & LEBANON LIMESTONE SLAB.
3. STOCKPILE AREAS TO BE DETERMINED BY CONTRACTOR AND CITY APPROVAL. CONTRACTOR SHOULD AVOID PLACEMENT OF TOPSOIL STOCK PILE AREAS WITHIN EXISTING WETLAND. PERIMETER OF STOCKPILE AREAS SHOULD BE ENCOMPASSED WITH SILT FENCING W/BACKING (T.D.O.T. STANDARD DRAWING EC–STR–3C)

NEWLY ESTABLISHED GRADE FOR THE FOLLOWING RESTORATION TYPES ARE AS FOLLOWS:

* 569 FT – OPEN WATER (ZONE 1A)
* 570 FT – OPEN WATER (ZONE 1B)
* 570 FT – MIXED FORESTED AND SHRUB WETLANDS (ZONE 2)
* 571 FT – TRANSITIONAL FORESTED WETLANDS (ZONE 3)

Preferred Plant Species for Wetland Enhancement and Buffer Area

Zone 1 - Open Water

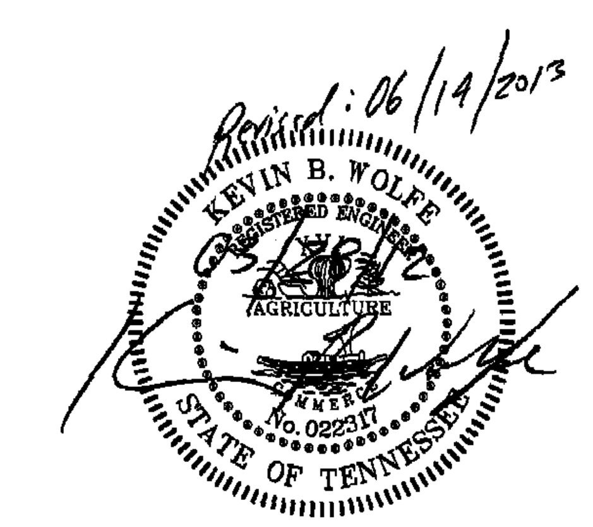
NONE

Zone 2 - Mixed Forested and Shrub Wetlands

Common Name	Scientific Name	Wetland Ind. Stat.	Percent Coverage	Size	Spacing	Quantity
River birch	*Betula nigra*	FACW	15%	3 gallon container	15 – feet O.C. Random	12
Swamp white oak	*Quercus bicolor*	FACW+	20%	3 gallon container	15 – feet O.C. Random	17
American sycamore	*Platanus occidentalis*	FACW-	20%	3 gallon container	15 – feet O.C. Random	17
Indigo bush	*Amorpha fruticosa*	FACW	15%	3 gallon container	15 – feet O.C. Random	12
Virginia sweetspire	*Itea virginica*	FACW+	15%	3 gallon container	15 – feet O.C. Random	12
Silky dogwood	*Cornus amomum*	FACW+	15%	3 gallon container	15 – feet O.C. Random	12
3 gal container						**82**

Zone 3 - Transitional Forested Wetlands

Common Name	Scientific Name	Wetland Ind. Stat.	Percent Coverage	Size	Spacing (1 Row)	Quantity
Willow oak	*Quercus phellos*	FACW-	25%	3 gallon container	15 – feet O.C. Random	6
Black gum	*nyssa sylvatica*	FAC	25%	3 gallon container	15 – feet O.C. Random	6
Red maple	*Acer rubrum*	FAC	25%	3 gallon container	15 – feet O.C. Random	6
Swamp chesnut oak	*Quercus michauxii*	FACW-	25%	3 gallon container	15 – feet O.C. Random	6
						24



SCALE IN FEET
0 30' 60'

COORDINATES ARE NAD/83 (1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000060 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

OWL CREEK PARK
WETLAND
ENHANCEMENT AREA
DESIGN PLAN

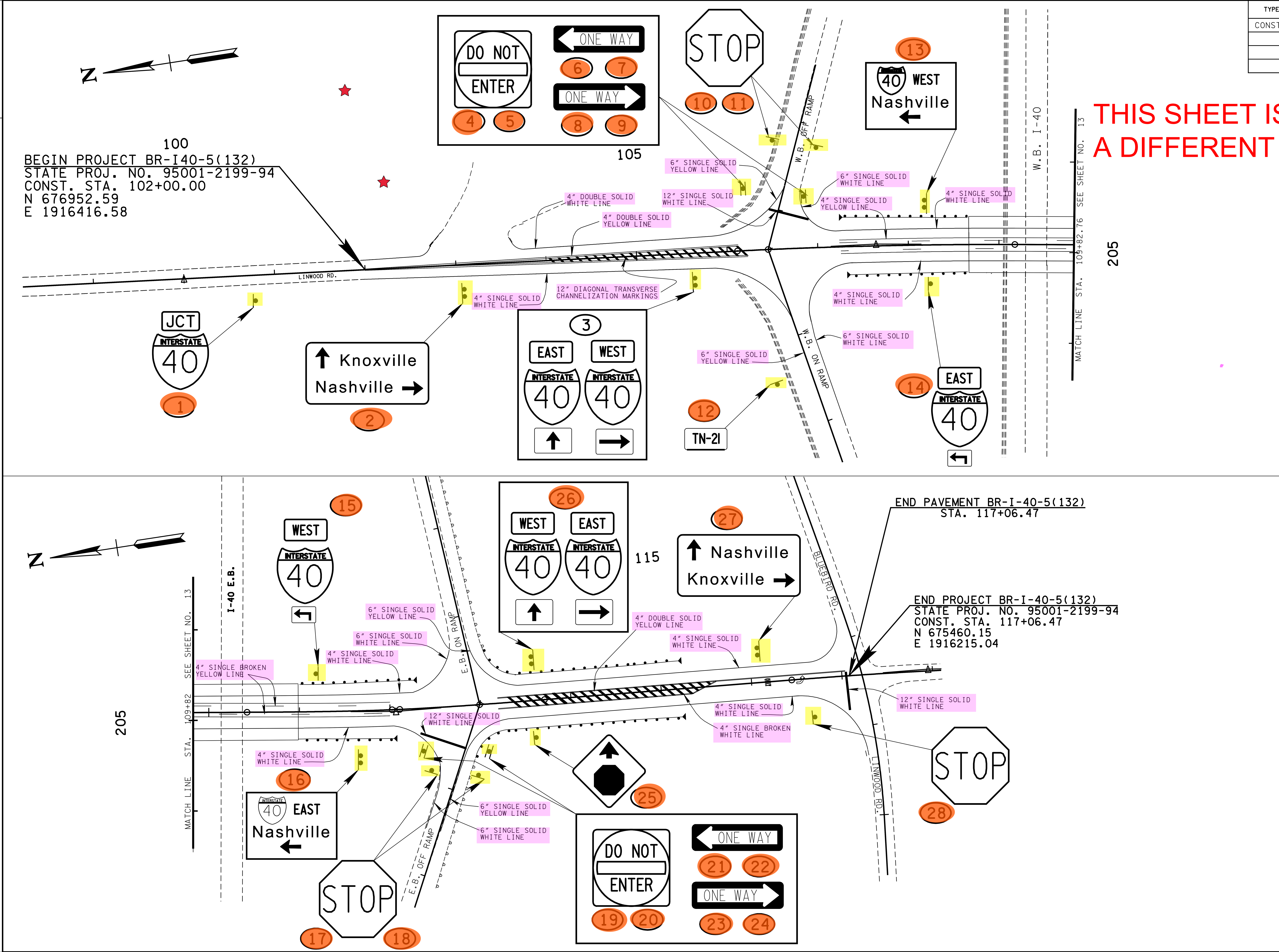
SCALE: 1"=30'

SIGNING AND PAVEMENT MARKING PLAN(S)

The Signing and Pavement Markings sheet(s) contain plan view and details showing the type and location of all permanent signs and pavement markings to be installed along the proposed roadway. Refer to the TDOT Traffic Operations Division for signing information and guidance. Refer to Section 4 of the Roadway Design Guidelines, Standard Drawings T-M-1 to T-N-17 and Part 3 of the Manual for Uniform Traffic Control Devices for pavement marking information and guidance.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2011	BR-I-40-5(132)	13

THIS SHEET IS FROM A DIFFERENT PROJECT



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

01-JUN-2011 14:56
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SEALED BY

SHANE M. HESTER REGISTERED ENGINEER XVI AGRICULTURE COMMERCE NO. 110114 STATE OF TENNESSEE

COORDINATE VALUES ARE NAD/83(1995) AND ARE DATUM ADJUSTED BY THE FACTOR 1.00006 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNING & PAVEMENT MARKING PLAN

NOT TO SCALE

SIGN SCHEDULE SHEET(S)

The Sign Schedule Sheet(s) contain the sign schedule. The sign schedule is a table that contains the item number, description, unit and quantity for each sign included in the signing plan. Additional notes may be included in this sheet to clarify the sign schedule.

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	W3-5		36″	36″									BLACK	YELLOW (REF.) WHITE (REF.)	.10″ SHEET ALUMINUM	P8	13′-6″				7′	
2	W2-1		36″	36″									BLACK	YELLOW (REF.)	.10″ SHEET ALUMINUM	P8	13′-6″				7′	
3 99	W11-1 W16-1P		36″ 18″	36″ 24″					★				BLACK	YELLOW (REF.)	.10″ SHEET ALUMINUM .080″ SHEET ALUMINUM	P5	15′-6″				7′	REQUIRES SLIP BASE ITEM NO. 713-11.21 SEE STD. DWG. T-S-23A
4 22 24 33	R2-1		30″	36″									BLACK	WHITE (REF.)	.080″ SHEET ALUMINUM	P8	12′-6″				7′	
5	R2-1		30″	36″									BLACK	WHITE (REF.)	.080″ SHEET ALUMINUM	P8	12′-6″				7′	
6	R4-3		24″	30″									BLACK	WHITE (REF.)	.080″ SHEET ALUMINUM	U3	12′-6″				7′	
7 13 14 19 32 37 38 42 43 46 48 50 53 54 60 63 67 68 80 90 96	W3-3		36″	36″									BLACK RED (REF.) YELLOW (REF.) GREEN (REF.)	YELLOW (REF.)	.10″ SHEET ALUMINUM	P8	13′-6″				7′	

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	STP/NH/DEMO-65(8)	36

THIS SHEET IS FROM A DIFFERENT PROJECT

U-POST SUBSTITUTION TABLE

BID ITEM 713-11.01	SUBSTITUTION ALLOWED
2#/FT. U1	2#/FT. MU1 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

4/6/2015 2:16:32 PM
C:\Users\jj04352\Desktop\Robertson Co SR 65\Robertson SR 65 Sign Schedule.dgn

MISCELLANEOUS SIGNING DETAILS

Refer to the Traffic Operations Division for more information on miscellaneous details of the permanent signs.

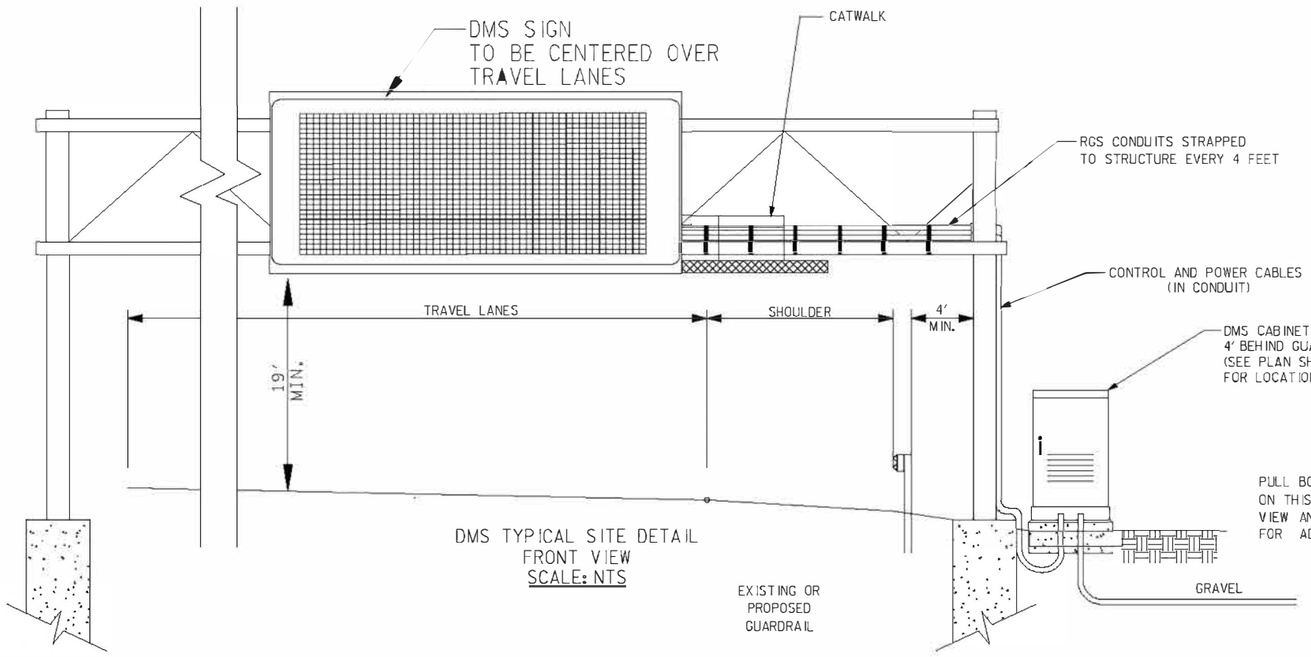
Examples:

- Interstate overhead sign structure support post location
- Strain pole foundation rebar placement and connections

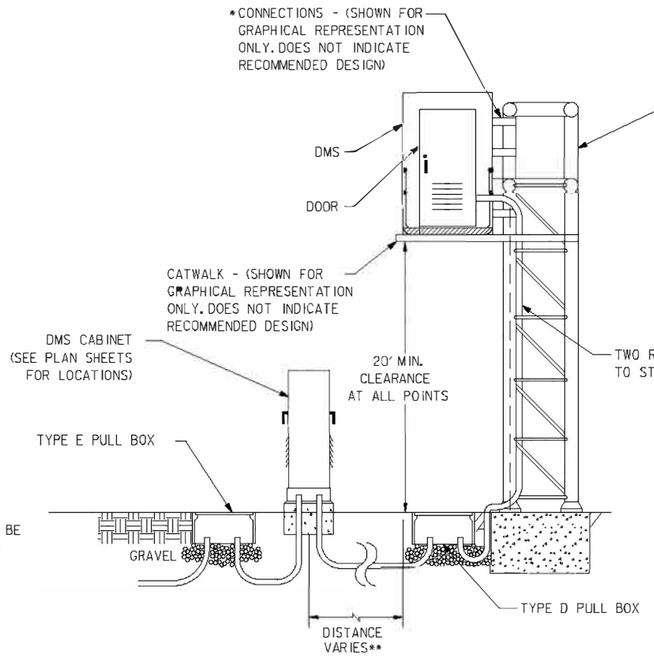
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
70%	2012	94002-1184-04	2AG

NOTES:
* ALL EQUIPMENT CONNECTIONS SHALL BE MADE ACCORDING TO MANUFACTURER RECOMMENDATIONS.
** CABINET SHALL BE PLACED SO SIGN MESSAGE CAN BE READ WHILE SERVICING CABINET. CABINET SHALL BE PLACED 100' FROM DMS STRUCTURE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



DMS TYPICAL SITE DETAIL
FRONT VIEW
SCALE: NTS



DMS SITE DETAIL
SIDE VIEW
SCALE: NTS

STRUCTURE NOTES:

1. PROVISIONS FOR WIRING AS WELL AS FOR GROUNDING MUST BE PROVIDED. (FOR GROUNDING DETAILS SEE STD DWG. T-S-15)

2. UPRIGHT SHALL BE FURNISHED WITH A ½"-BNC GROUND NUT WELDED TO THE OUTSIDE EDGE OF THE BASE.

3. ANCHOR BOLT MATERIAL SHALL CONFORM TO REQUIREMENTS OF ASTM F1554. THE ANCHOR BOLT SHALL BE GALVANIZED ON THE THREADED END (GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM-A153). BOLTS SHALL BE FURNISHED WITH TWO GALVANIZED HEX NUTS AND WASHERS.

4. FOR FURTHER STRUCTURE INFORMATION, SEE TECHNICAL SPECIAL PROVISION 725.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS SIGN DETAILS

N.T.S.

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ROADWAY CROSS SECTIONS

The Roadway Cross Section sheet(s) contains cross section views at frequent intervals, usually every 50 feet, and at the beginning and ending stations of the proposed roadway. The roadway cross section sheet(s) also includes the following information:

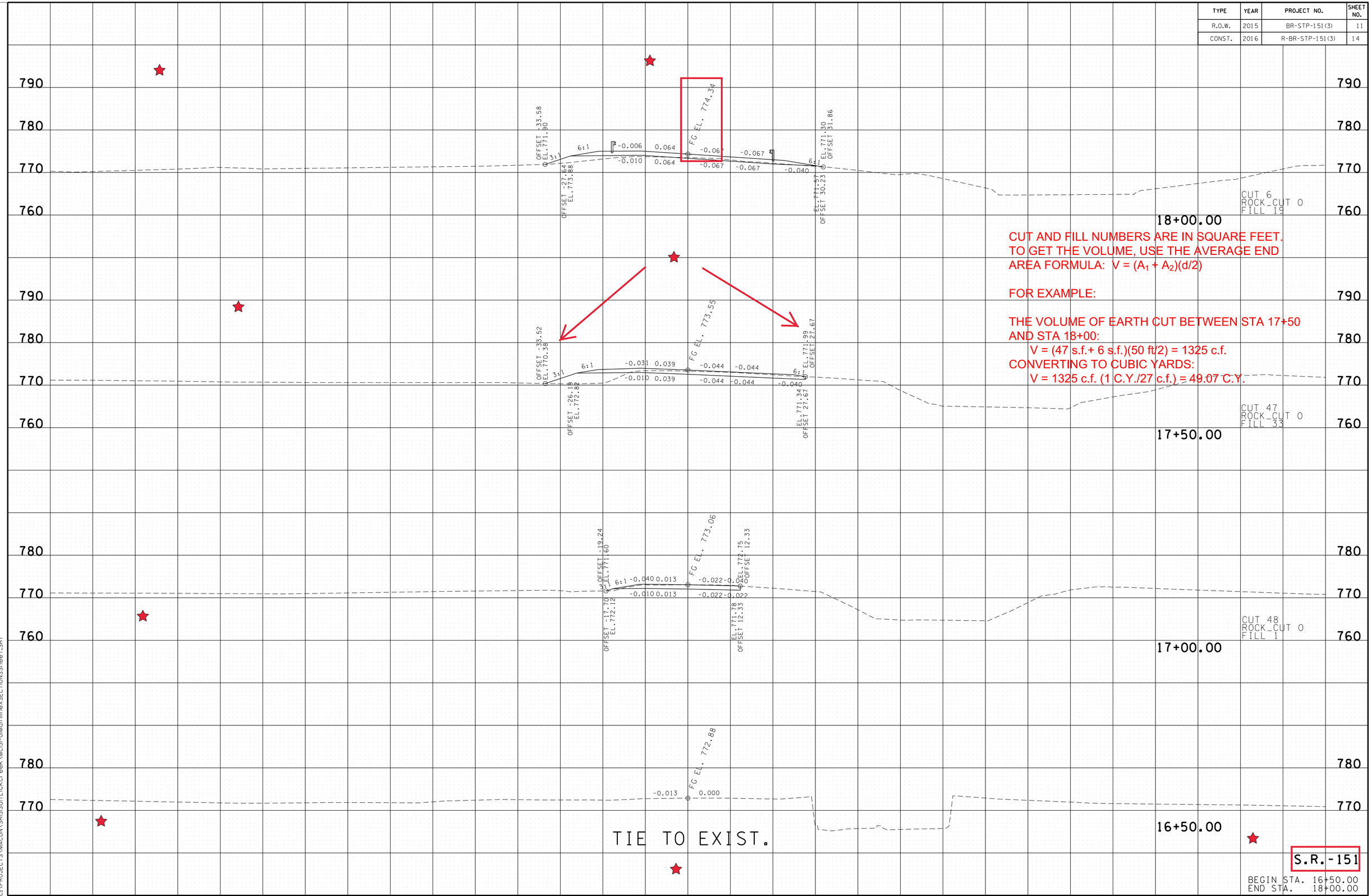
- Name of roadway as it appears in the plans sheets
- Existing ground surface
- Existing pavement
- Proposed roadway surface
- Proposed cuts and fills
- Location of centerline
- Construction limits (stations and offsets)
- Finished grade elevations at centerline
- Roadway Cross slope/superelevation
- Fore slopes, back slopes, and ditches
- Existing and Proposed Right-of-Way offsets
- Subgrade depth
- Guardrail
- Bridges
- Retaining walls

SIDE ROAD CROSS SECTIONS

Similar to the Roadway Cross Section sheet(s), the Side Road Cross Section sheet(s) contains cross section views at frequent points along the side roads of the proposed roadway. Side Road Cross Sections should show the name of the side road as it appears in the plans sheets.

Roadway Cross Section have a horizontal scale of 1" = 10' and a vertical scale of 1" = 10'. Along the bottom of the sheet, the offset distances in feet are labeled. Offsets to the left of the centerline are negative numbers and offsets to the right of the centerline are positive numbers. Elevations are labeled on the left and the right of the sheet.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	11
CONST.	2016	R-BR-STP-151(3)	14



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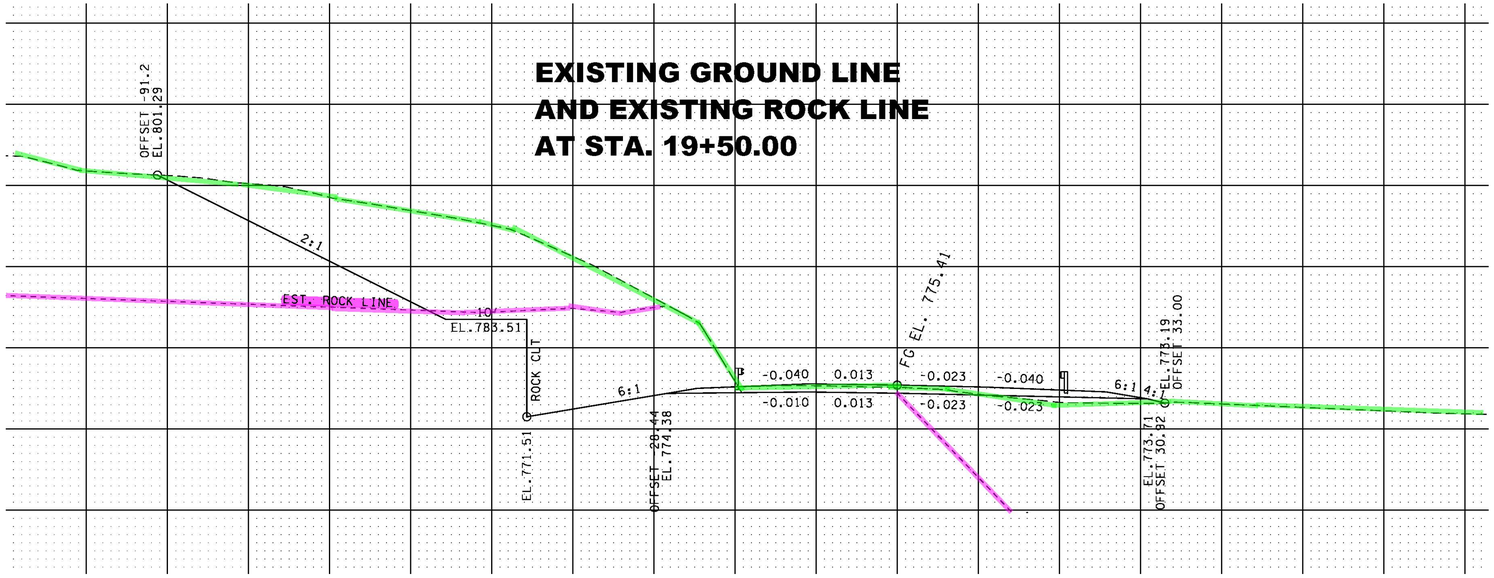
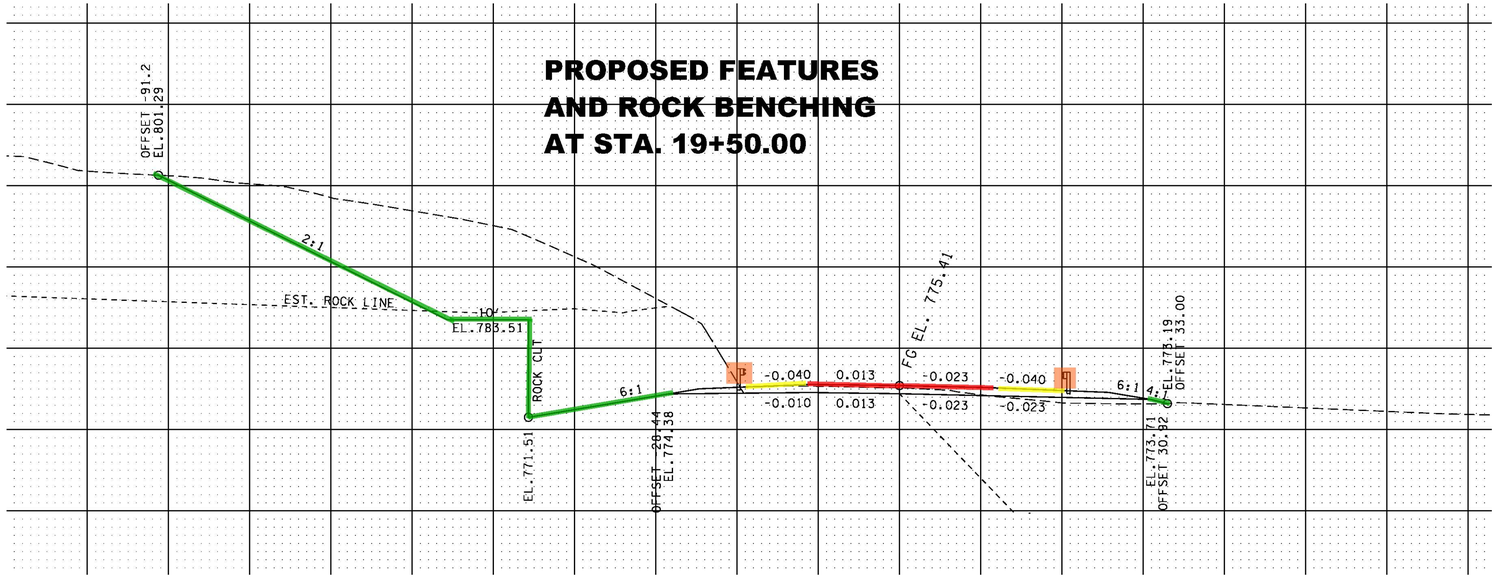
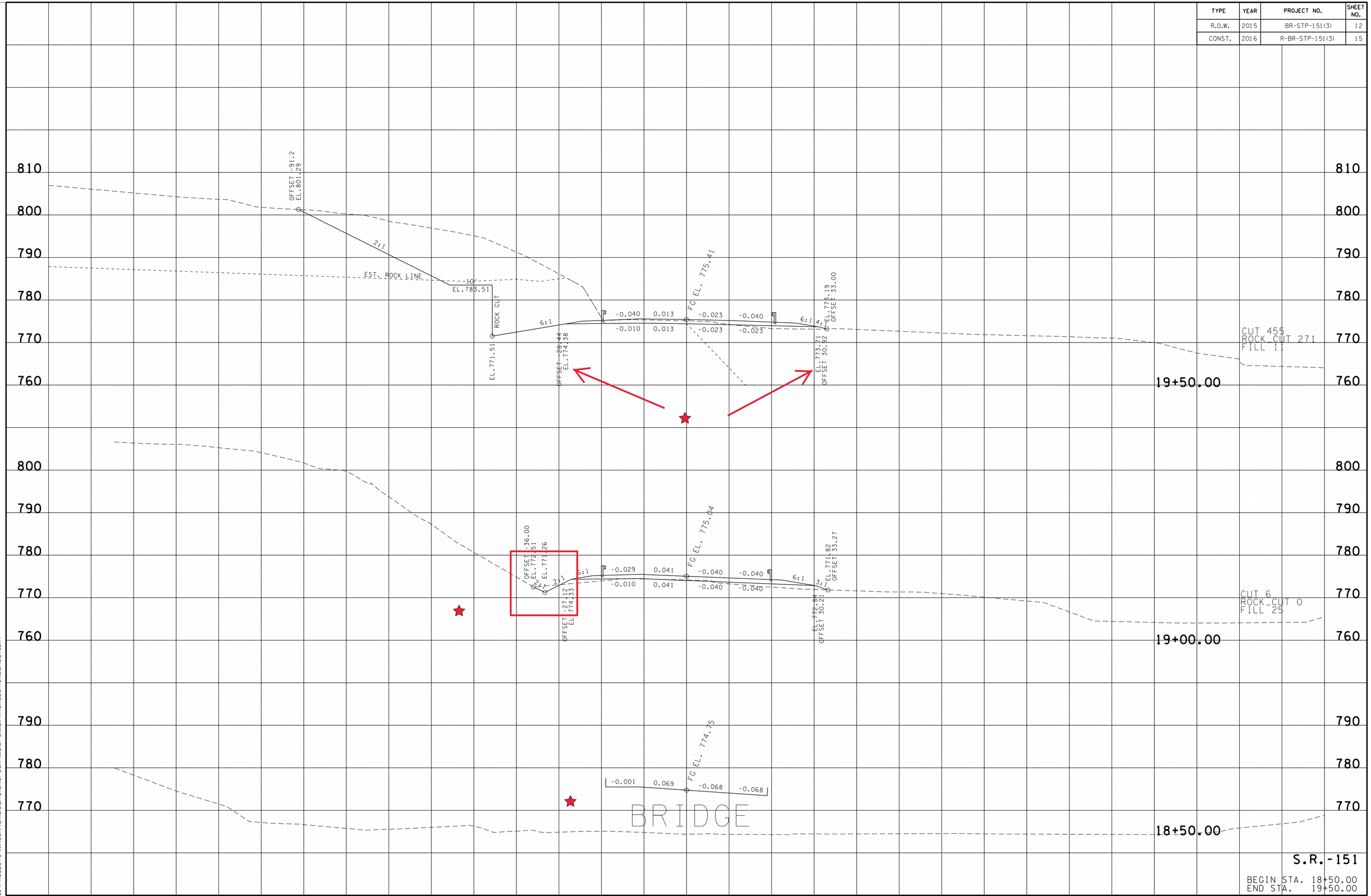

EXISTING GROUND LINE
AND EXISTING ROCK LINE
AT STA. 19+50.00
OFFSET -91.2
EL.801.29
2:1
EST. ROCK LINE
10'
EL.783.51
ROCK CUT
EL.771.51
6:1
OFFSET 20.44
EL.774.38
-0.040
0.013
-0.010
0.013
FG EL. 775.41
-0.023
-0.040
-0.023
-0.023
6:1
EL.773.19
OFFSET 33.00
EL.773.71
OFFSET 30.92


PROPOSED FEATURES
AND ROCK BENCHING
AT STA. 19+50.00
OFFSET -91.2
EL.801.29
2:1
EST. ROCK LINE
10'
EL.783.51
ROCK CUT
EL.771.51
6:1
OFFSET 20.44
EL.774.38
-0.040
0.013
-0.010
0.013
FG EL. 775.41
-0.023
-0.040
-0.023
-0.023
6:1
EL.773.19
OFFSET 33.00
EL.773.71
OFFSET 30.92

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	12
CONST.	2016	R-BR-STP-151(3)	15



S.R.-151

BEGIN STA. 18+50.00
END STA. 19+50.00

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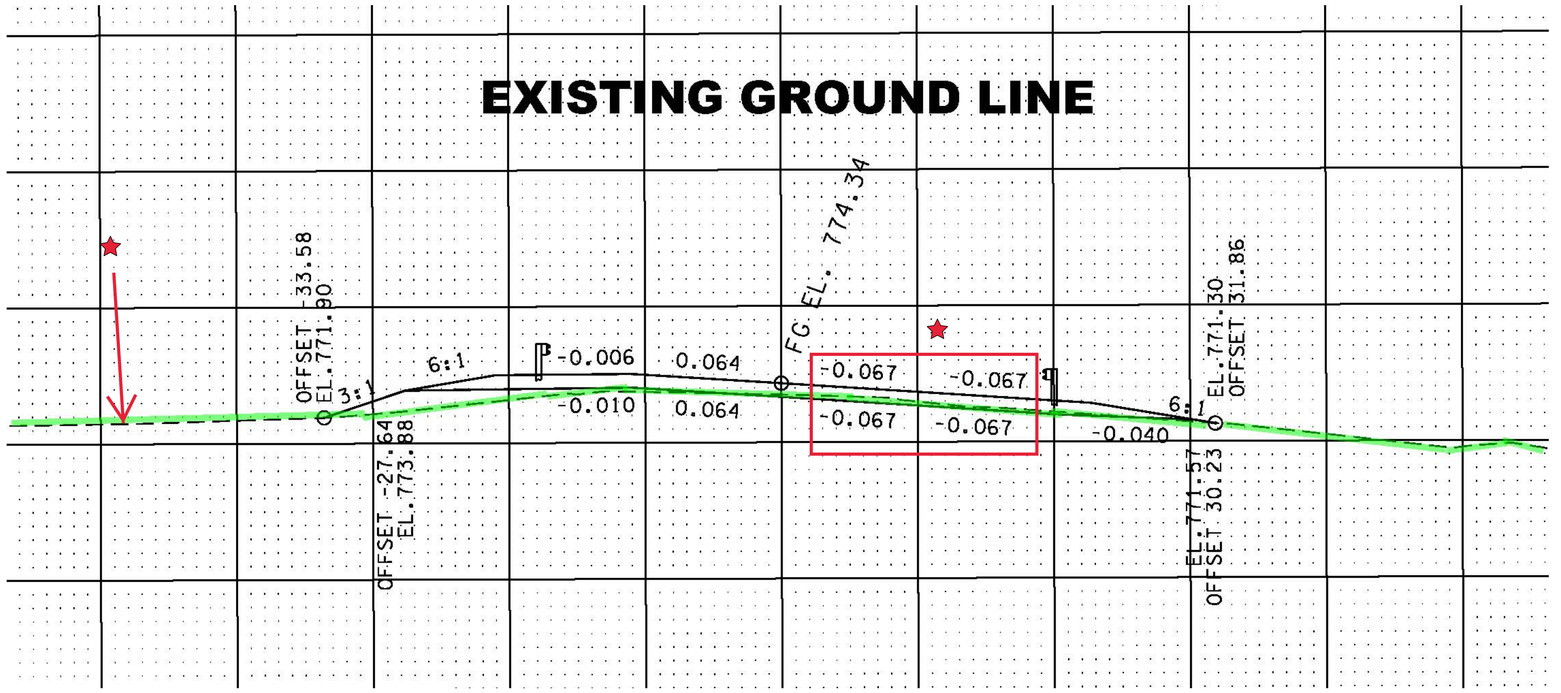
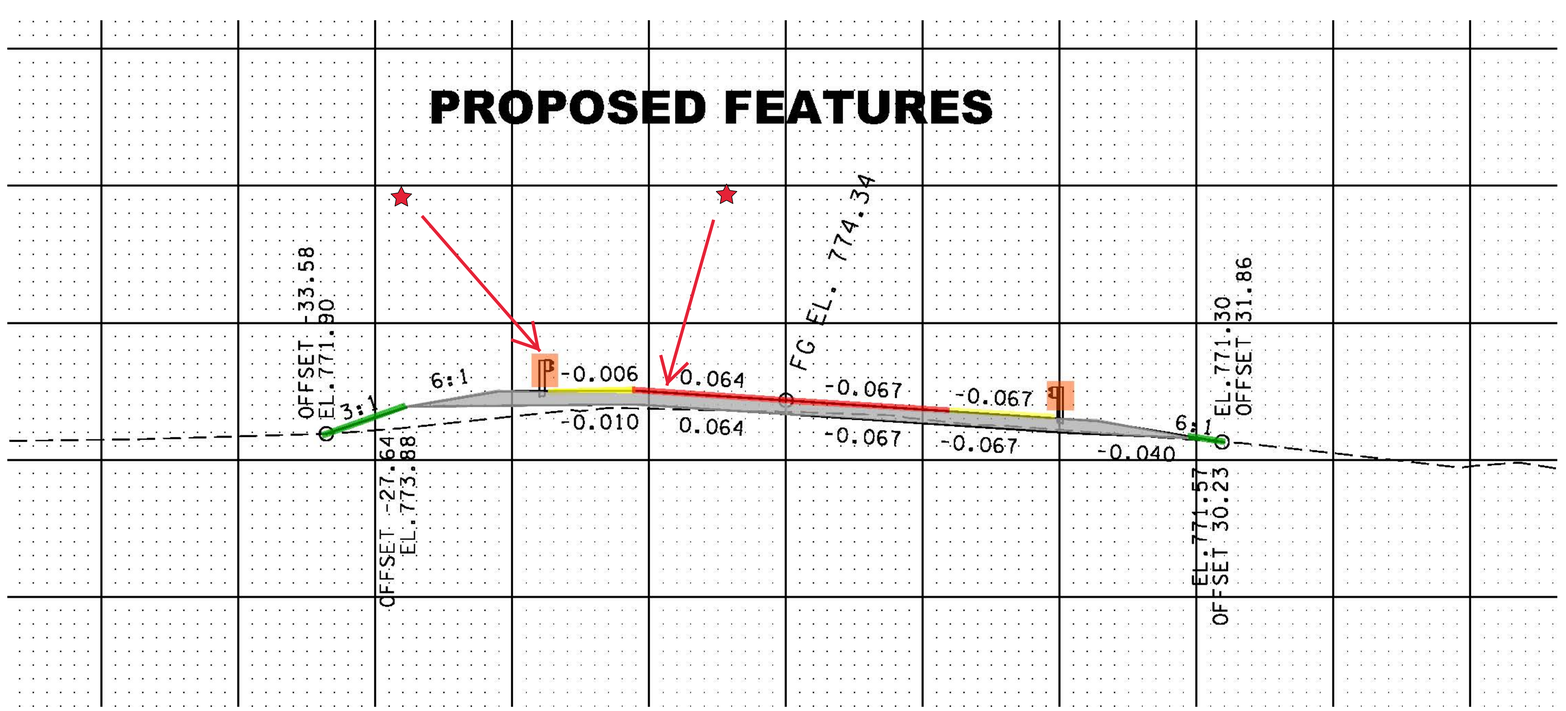

EXISTING GROUND LINE
OFFSET -33.58
EL.771.90
3:1
6:1
-0.006
0.064
-0.010
0.064
FG EL. 774.34
-0.067
-0.067
-0.067
-0.067
6:1
-0.040
EL.771.30
OFFSET 31.86
OFFSET -27.64
EL.773.88
EL.771.57
OFFSET 30.23


PROPOSED FEATURES
OFFSET -33.58
EL.771.90
3:1
6:1
-0.006
0.064
-0.010
0.064
FG EL. 774.34
-0.067
-0.067
-0.067
-0.067
6:1
-0.040
EL.771.30
OFFSET 31.86
OFFSET -27.64
EL.773.88
EL.771.57
OFFSET 30.23

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	13
CONST.	2016	R-BR-STP-151(3)	16

TIE TO EXIST.

790
780
770

FG EL. 777.45
-0.006
-0.043

20+70.00

790
780
770

OFFSET 23.
EL.783.96
CUT TO DRAIN
EL.776.25
6:1
FG EL. 777.21
-0.011
-0.040
-0.040
-0.040
-0.040
EL.776.32
OFFSET 22.84
EL.774.56
OFFSET 27.62
EL.774.42
OFFSET 34.62
S.W.
-0.020
3:1
EL.771.78
OFFSET 42.55
EL.775.29
OFFSET 23.38

790
780
770

20+50.00

CUT 47
ROCK_CUT 0
FILL 33

800
790
780
770

OFFSET -67.86
EL.795.09
2:1
EST. ROCK LINE
10:1
EL.784.46
ROCK CUT
6:1
EL.772.46
OFFSET -21.40
EL.775.00
FG EL. 776.30
-0.040
-0.014
-0.014
-0.014
-0.031
-0.031
-0.031
-0.040
S.W.
-0.020
3:1
EST. ROCK LINE
EL.775.34
OFFSET 26.45
EL.775.20
OFFSET 33.74
EL.772.44
OFFSET 42.02
EL.774.24
OFFSET 33.07

800
790
780
770

20+00.00

CUT 228
ROCK_CUT 192
FILL 33

S.R.-151

BEGIN STA. 20+00.00
END STA. 20+70.00

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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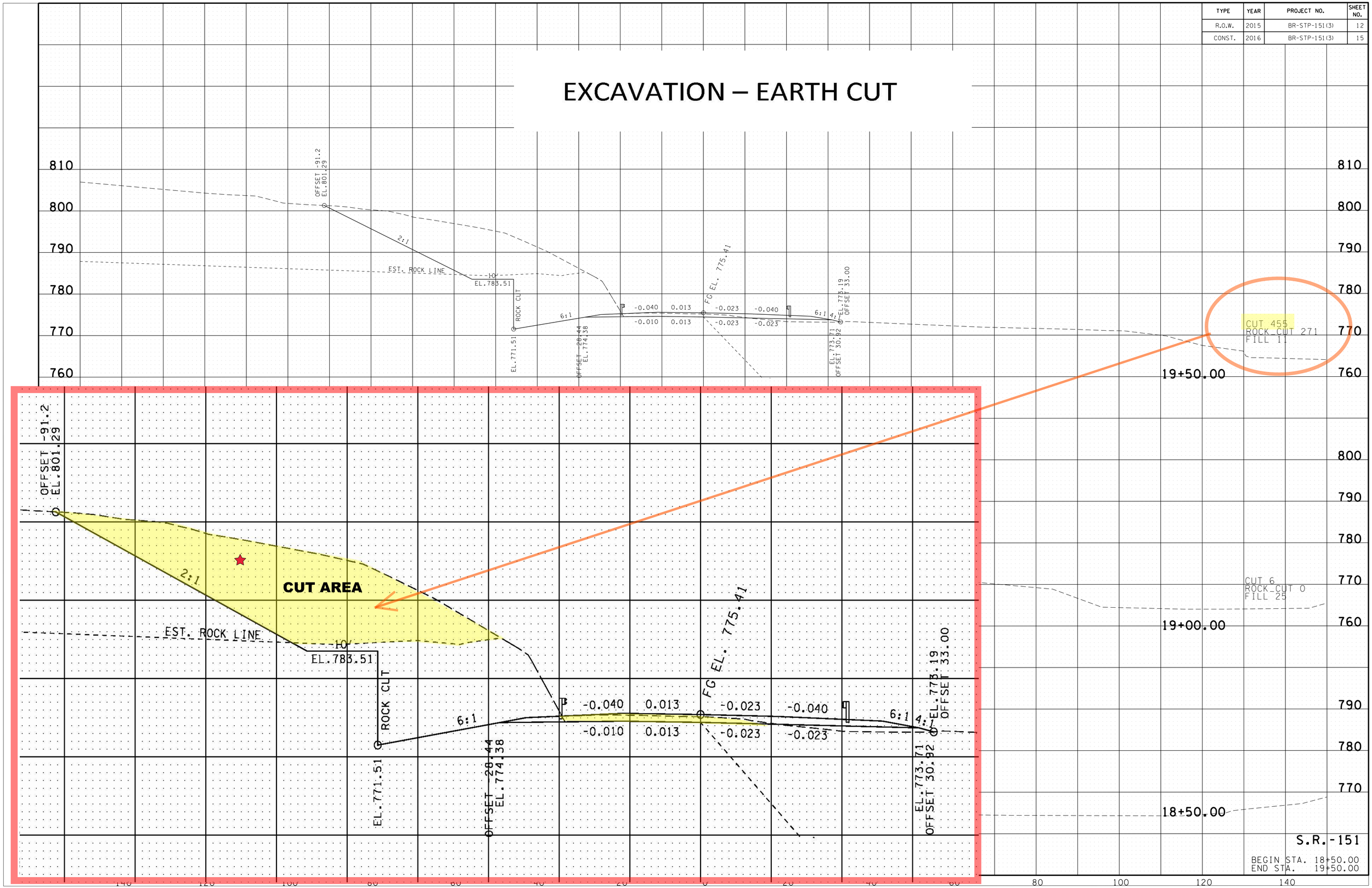
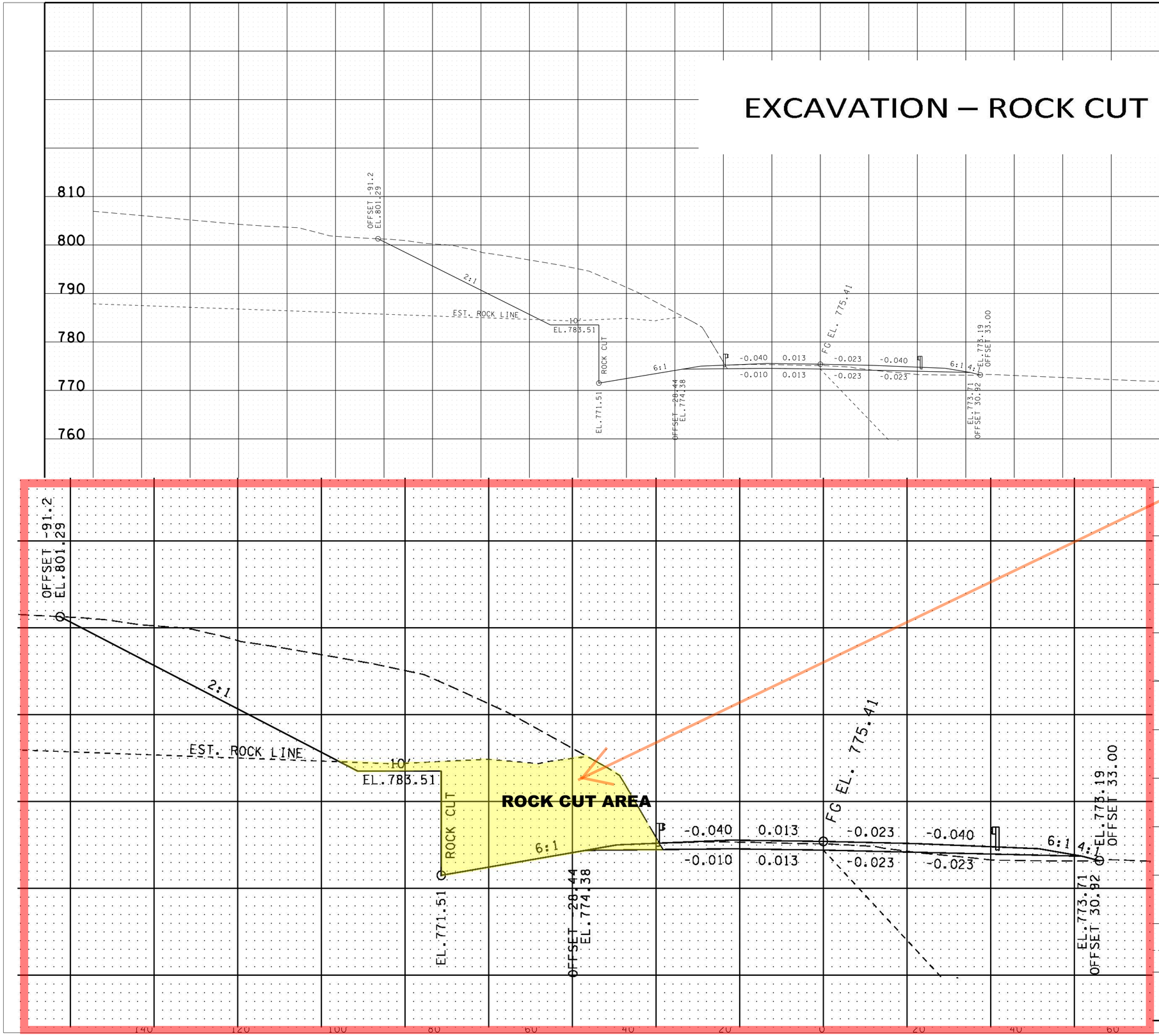
CONST.	2016	BR-STP-151(3)	15

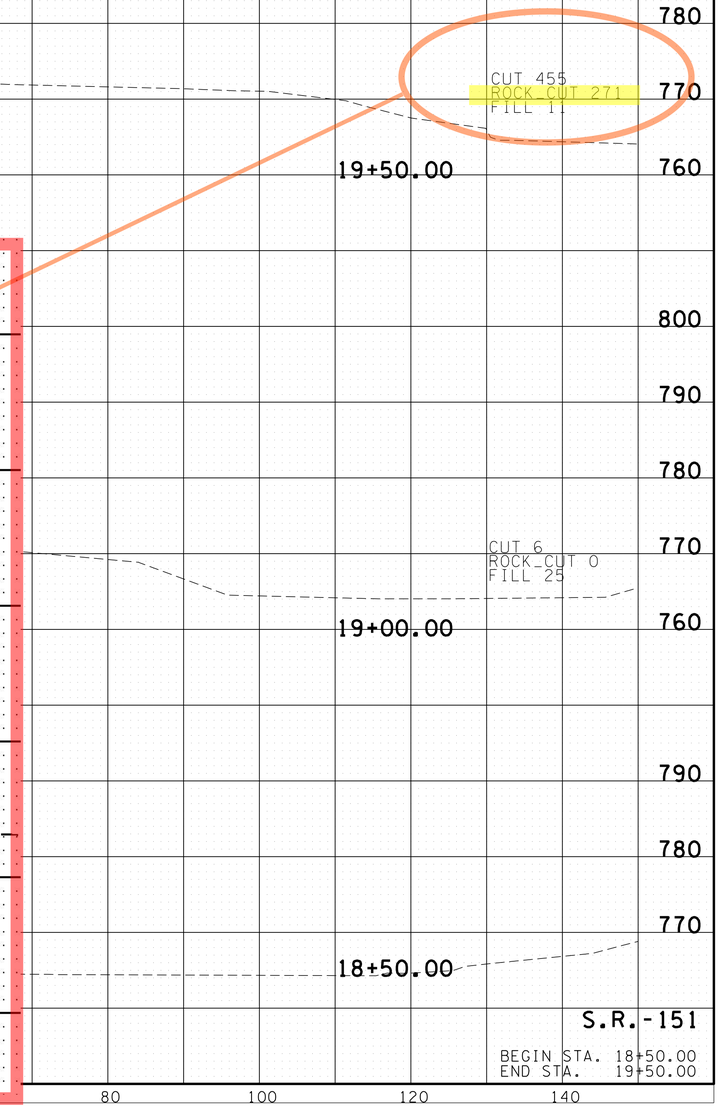
EXCAVATION – EARTH CUT



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	BR-STP-151(3)	12
CONST.	2016	BR-STP-151(3)	15

EXCAVATION – ROCK CUT





TYPE	YEAR	PROJECT NO.	SHEET No.
R.O.W	2015	BR-STP-151 3)	12
CONST.	2016	BR-STP-151(3)	15

EMBANKMENT – EARTH FILL

OFFSET -91.2
EL.801.29
2:1
EST. ROCK LINE
10
EL.783.51
ROCK CLT
EL.771.51
OFFSET -28.44
EL.774.38
6:1
-0.040
0.013
-0.010
0.013
FG EL. 775.41
-0.023
-0.023
-0.040
-0.023
6:1
4:1
EL.773.19
OFFSET 33.00
FILL AREA
19+50.00
CUT 455
ROCK CUT 271
FILL 1
19+00.00
CUT 6
ROCK CU
FILL 25T 0
18+50.00
S.R. - 151
N STA
BEGI STA. . 18+50.00
END 19+50.00
17-FEB-2016 13:20

TRAFFIC CONTROL PLAN(S) AND PHASING NOTES

The Traffic Control Plans and Phasing Notes sheet(s) contains plan view and details information showing how the contractor should maintain the flow of existing traffic during construction of the project. The traffic control phases should correlate with the EPSC stages.

The first sheet shows the Pavement Edge Drop Off Notes which specify what safety measures must be taken at the edge of any pavement drop off in the work zone according to the height of the drop off and proximity to traveled lanes.

The Legend is a table that contains the symbol and item description for each traffic control measure included the traffic control plan.

The Traffic Control Quantities Tabulation block is a table that contains the item number, description, unit, and quantity for each traffic control measure included the traffic control plan. Additional notes may be included in this sheet to clarify the legend and/or quantities tabulation.

The traffic control plans sheet(s) also includes the following information:

- Pavement Edge Drop Off Notes - first sheet of traffic control plans
- Legend
- Traffic Control Quantities tabulation block
- Begin/end project labeled with Federal and State construction project numbers and Northing/Easting coordinates
- Sequence of construction, phases of construction (if applicable)
- Traffic flow direction arrows
- Work zone area hatched
- Type and location of traffic control measures, such as temporary signals, pavement markings, portable barriers, barricades, arrow boards, lights, etc.
- Type and location of traffic control signs

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	11

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 LANES (W8-11) AND/OR SHOULDER DROP-OFF WITH PLAQUE (W8-17 AND W8-17P), SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

   b. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY ADDED PAVEMENT SHALL BE ELIMINATED WITHIN THREE WORKDAYS.

   c. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY COLD PLANING SHALL BE ELIMINATED WITHIN THREE WORKDAYS.

   d. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC LANE BEING UTILIZED BY TRAFFIC AND SHOULDER THE DIFFERENCE IN ELEVATION SHALL BE ELIMINATED WITHIN SEVEN WORKDAYS AFTER THE CONDITION IS CREATED.

2. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 2 INCHES AND NOT EXCEEDING 6 INCHES. TRAFFIC IS NOT TO BE ALLOWED TO TRAVERSE THIS DIFFERENCE IN ELEVATION.

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

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

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

   b. IF THE DIFFERENCE IN ELEVATION IS ELIMINATED OR DECREASED TO 2 INCHES OR LESS BY THE END OF EACH WORKDAY, CONES MAY BE USED DURING DAYLIGHT HOURS IN LIEU OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES MENTIONED IN PARAGRAPH a, PROVIDED WARNING SIGNS ARE ERECTED. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

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

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

3. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 6 INCHES BUT NOT EXCEEDING 18 INCHES, THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, MAY UTILIZE ONE OF THE FOLLOWING:

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

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

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

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

   b. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a, AND CONSTRUCT A STONE WEDGE WITH A 4:1 SLOPE, OR FLATTER, TO ELIMINATE THE VERTICAL OFFSET IF THE LOWER ELEVATION IS AT OR BELOW SUBGRADE AT THE END OF EACH DAY.

   c. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a AND IF THE LOWER ELEVATION IS BASE STONE OR ASPHALT PAVEMENT, PLACEMENT OF SUBSEQUENT LAYERS OF PAVEMENT MUST BEGIN THE NEXT WORK DAY AND PROGRESS CONTINUOUSLY UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED OR REDUCED TO SIX INCHES OR LESS.

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

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

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

   SEPARATION WILL BE PROVIDED BY USE OF PORTABLE BARRIER RAIL.

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

B. IF THE DIFFERENCE IN ELEVATION IS WITHIN 30 FEET OF THE NEAREST TRAFFIC LANE BEING USED BY TRAFFIC CAUSED BY GRADING, EXCAVATION FOR UTILITIES, DRAINAGE STRUCTURES, UNDERCUTTING, ETC.:

1. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 3/4 INCH AND NOT EXCEEDING 2 INCHES.

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

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

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

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

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

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

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

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

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

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

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

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.

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE DROP OFF NOTES

03-OCT-2016 07:09
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THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	BR-STP-292(7)	31A

TRAFFIC CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	CODE	REMARKS
		END ROAD WORK		2	9	36"X18"	G20-2		
		STOP HERE ON RED		2	12	24"X36"	R10-6		
		STAY IN LANE TO EXTEND GREEN		2	17.5	30"X42"	R10-6(mod)		
		SIGNAL AHEAD (symbol)		2	18	36"X36"	W3-3		
		BE PREPARED TO STOP		2	18	36"X36"	W3-4		
		ROAD WORK 1/2 MILE		2	18	36"X36"	W20-1		
		ONE LANE ROAD 1500 FT.		2	18	36"X36"	W20-4		
		1000 FT. (plaque)		2	6	24"X18"	W16-2		
		FLAGGER		2	18	36"X36"	W20-7a		
		RIGHT SHOULDER CLOSED AHEAD		1	9	36"X36"	W21-5B		
		LEFT SHOULDER CLOSED AHEAD		1	9	36"X36"	W21-5B		
	705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL3	EACH	4					
	712-01	TRAFFIC CONTROL	L.S.	1					
	712-02.02	INTERCONNECTED PORTABLE BAARRIER RAIL	L.F.	2200					
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	60					
	712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	110					
	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	48					
	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2					
	716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	1					
	716-05.02	PAINTED PAVEMENT MARKING (8" BARRIER LINE)	L.F.	4470					
1)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1					
	TOTAL				**152.5**				

TABULATION

NOTES:

1) COST TO INCLUDE ANY NECESSARY ADJUSTMENTS FROM PHASE 1 TO PHASE 2.

PHASING NOTES

TRAFFIC CONTROL PHASE 1 SCOPE OF WORK:

1) FOR WORK DONE ON INSIDE SHOULDER, THE INSIDE LANE SHALL BE CLOSED TO TRAFFIC. SEE STD. DWG. T-WZ-15 FOR DETAILS.
2) WORK ON INSIDE SHOULDER SHALL BE DONE AT NIGHTS (8:00 PM - 6:00 AM) AND WEEKENDS AS DIRECTED BY THE T.D.O.T. CONSTRUCTION ENGINEER.
3) COLD PLANE INSIDE SHOULDERS 1.5" AND PAVE WITH 1.5" ASPHALT, ITEM NO. 411-03.10.
4) STRIPE LANE SHIFT.

TRAFFIC CONTROL PHASE 2 SCOPE OF WORK:

1) SHIFT TRAFFIC.
2) PLACE PORTABLE BARRIER RAIL ALONG OUTSIDE SHOULDER.
3) BUILD TRUCK CLIMBING LANE.
4) COLD PLANE EXISTING LANES.
5) RESURFACE EXISTING LANES AND PAVE TRUCK CLIMBING LANE AND OUTSIDE SHOULDER.
6) PLACE PERMANENT PAVEMENT MARKINGS.
7) SCORE INSIDE AND OUTSIDE SHOULDERS.

LEGEND

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
◑	FLEXIBLE DRUMS (CHANNELIZING)
◁	TEMPORARY ATTENUATOR
▭	PORTABLE BARRIER RAIL
▸	SIGN (CONSTRUCTION)
▨	WORK ZONE

SEALED BY

KATHERINE J. LLOYD
REGISTERED ENGINEER
XVI
AGRICULTURE
OF
COMMERCE
NO. 105472
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL LEGEND AND TABULATION

05-JAN-2017 lsl2
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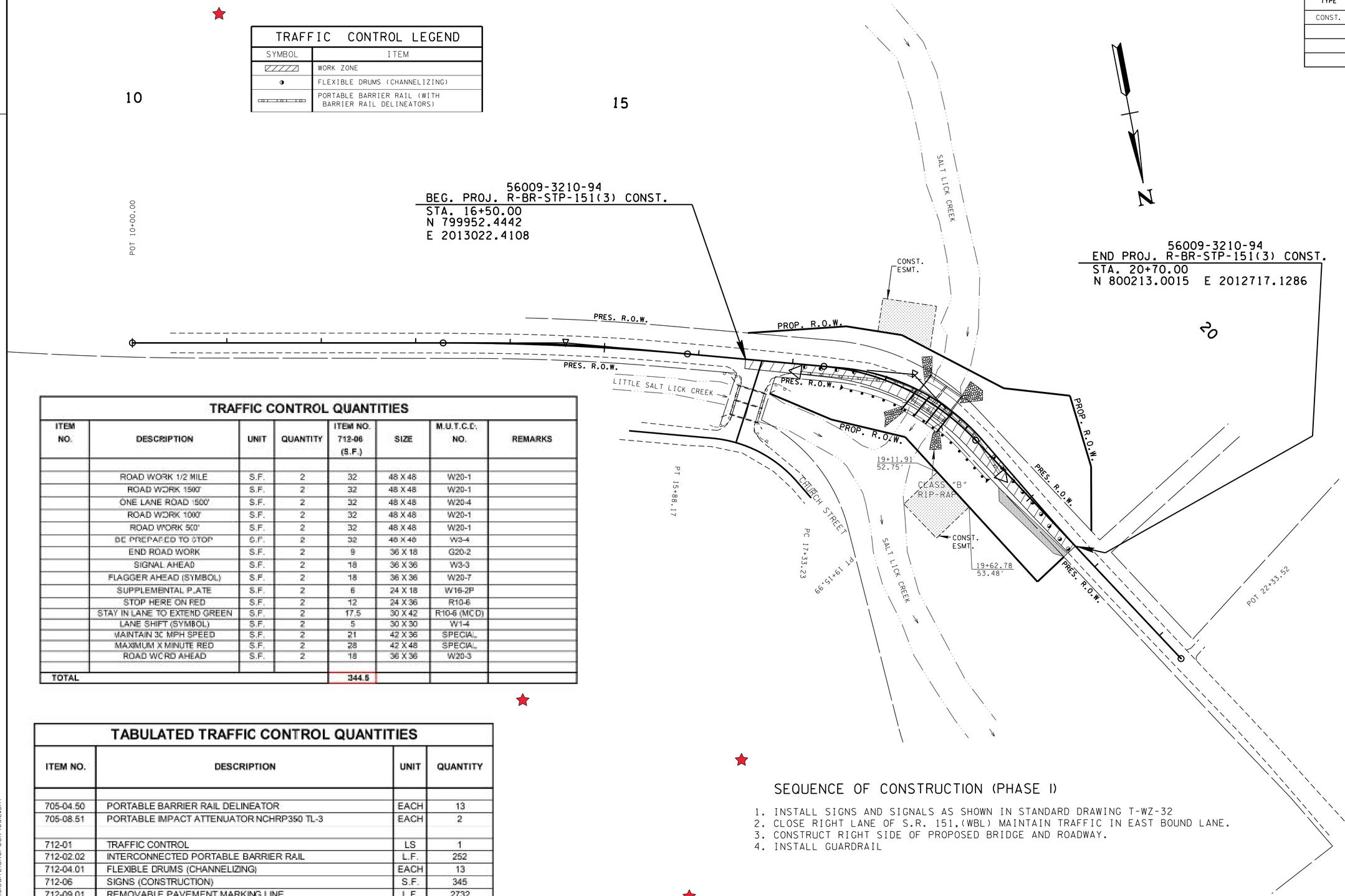
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	12

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)



TRAFFIC CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
	ROAD WORK 1/2 MILE	S.F.	2	32	48 X 48	W20-1	
	ROAD WORK 1500'	S.F.	2	32	48 X 48	W20-1	
	ONE LANE ROAD 1500'	S.F.	2	32	48 X 48	W20-4	
	ROAD WORK 1000'	S.F.	2	32	48 X 48	W20-1	
	ROAD WORK 500'	S.F.	2	32	48 X 48	W20-1	
	BE PREPARED TO STOP	S.F.	2	32	48 X 48	W3-4	
	END ROAD WORK	S.F.	2	9	36 X 18	G20-2	
	SIGNAL AHEAD	S.F.	2	18	36 X 36	W3-3	
	FLAGGER AHEAD (SYMBOL)	S.F.	2	18	36 X 36	W20-7	
	SUPPLEMENTAL PLATE	S.F.	2	6	24 X 18	W16-2P	
	STOP HERE ON RED	S.F.	2	12	24 X 36	R10-6	
	STAY IN LANE TO EXTEND GREEN	S.F.	2	17.5	30 X 42	R10-6 (MCD)	
	LANE SHIFT (SYMBOL)	S.F.	2	5	30 X 30	W1-4	
	MAINTAIN 30 MPH SPEED	S.F.	2	21	42 X 36	SPECIAL	
	MAXIMUM X MINUTE RED	S.F.	2	28	42 X 48	SPECIAL	
	ROAD WORD AHEAD	S.F.	2	18	36 X 36	W20-3	
TOTAL				344.5			

TABULATED TRAFFIC CONTROL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
705-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	13
705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	2
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	252
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	13
712-06	SIGNS (CONSTRUCTION)	S.F.	345
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	2732
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	24
730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1

SEQUENCE OF CONSTRUCTION (PHASE I)

1. INSTALL SIGNS AND SIGNALS AS SHOWN IN STANDARD DRAWING T-WZ-32
2. CLOSE RIGHT LANE OF S.R. 151,(WBL) MAINTAIN TRAFFIC IN EAST BOUND LANE.
3. CONSTRUCT RIGHT SIDE OF PROPOSED BRIDGE AND ROADWAY.
4. INSTALL GUARDRAIL

NOTE: FOR ADDITIONAL SIGNS SEE STANDARD DWG. T-WZ-32
ONE LANE TO REMAIN OPEN WITH USE OF TRAFFIC SIGNAL

SEALED BY

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE I

SCALE: 1"= 50'

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TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.
POT 10+00.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	R-BR-STP-151(3)	12A

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)

15

56009-3210-94
BEG. PROJ. R-BR-STP-151(3) CONST.
STA. 16+50.00
N 799952.4442
E 2013022.4108

56009-3210-94
END PROJ. R-BR-STP-151(3) CONST.
STA. 20+70.00
N 800213.0015 E 2012717.1286

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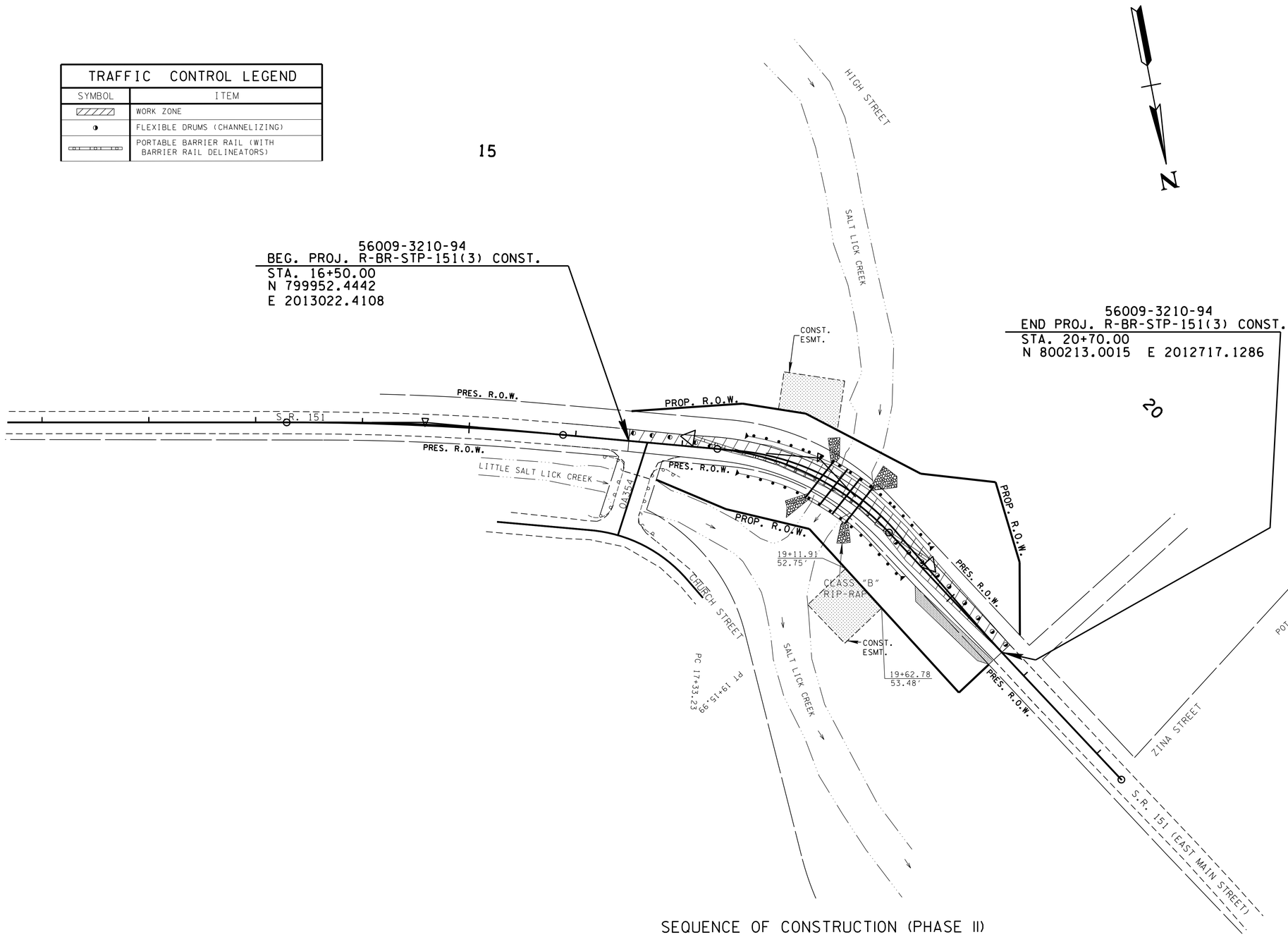

SEQUENCE OF CONSTRUCTION (PHASE II)

1. INSTALL SIGNS AND SIGNALS AS SHOWN IN STANDARD DRAWING T-WZ-32
2. CLOSE LEFT LANE OF S.R. 151,(EBL) MAINTAIN TRAFFIC IN WAST BOUND LANE.
3. CONSTRUCT LEFT SIDE OF PROPOSED BRIDGE AND ROADWAY.
4. INSTALL GUARDRAIL

NOTE: FOR ADDITIONAL SIGNS SEE STANDARD DWG. T-WZ-32
ONE LANE TO REMAIN OPEN WITH USE OF TRAFFIC SIGNAL

SEALED BY

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN PHASE II

SCALE: 1"= 50'

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ESTIMATED BRIDGE QUANTITIES AND BRIDGE INDEX

The Estimated Bridge Quantities and Bridge Index sheet contains a table of the estimated quantities of the bridge items included in the contract plans and a list of the bridge sheets in sequence included in the contract plans. The table of estimated quantities contains the item number, description, unit and quantity of each item. This sheet may also include footnotes that help clarify quantity values.

If the bridge is designed by Structures Division, then there will be an Estimated Bridge Quantities and Bridge Index sheet.

If the bridge that is to be replaced is a box culvert, then there will be no Estimated Bridge Quantities and Bridge index sheet. All the quantities will be listed as Roadway Quantities.

THIS SHEET IS FROM A DIFFERENT PROJECT

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	STP-253(8)	2

CONST. NO. 94053-3221-14

RE. 03/25/2013
1) ADDED RET. WALL NO.3 AND ITEM 604-07.03.

RE. 08/26/2013
2) REV. QUANTITIES FOR ITEM 604-02.03, 604-03.01, 604-03.02 & 604-07.03

LIST OF STANDARD DRAWINGS

TITLE	DWG. NO.	LATEST REV. DATE
PAVEMENT AT BRIDGE ENDS	STD-1-5	06-01-11
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS	STD-4-1	04-08-05
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS DESIGN CRITERIA	STD-4-2	04-08-05
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS GENERAL DETAILS	STD-4-3	03-02-02
STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS CONSTRUCTION DETAILS	STD-4-4	06-10-96
PILE DETAILS	STD-5-2	04-08-05
STANDARD SEISMIC DETAILS	STD-6-1	11-01-10
REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS	STD-9-1	10-07-08
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1	04-08-05
BRIDGE RAILING WITH STRUCTURAL TUBING	STD-11-1	08-13-02
STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR I BEAMS	STD-14-2	11-01-10
STANDARD DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10-15-08

LIST OF EXISTING DRAWINGS (BR. NO. 2)

(SR 253 OVER MILL CREEK)

TITLE	DWG. NO.
EXISTING BRIDGE PLANS	E-01 THRU E-10

ESTIMATED BRIDGE QUANTITIES

	X081	X081					
	SR 253 CONCORD RD OVER OWL CREEK WILLIAMSON COUNTY PRESTRESSED CONCRETE BOX BEAMS (17" X 36") WITH COMPOSITE CONCRETE DECK SLAB 3 SPAN BRIDGE TOTAL LENGTH = 135'-0" SPAN 1 = 45'-0" SPAN 2 = 45'-0" SPAN 3 = 45'-0" 64'-0" ROADWAY WITH STD-11-1 BRIDGERAIL 75° SKEW LAYOUT DRAWING NO. U-52-45	SR 253 CONCORD RD OVER MILL CREEK WILLIAMSON COUNTY PRESTRESSED CONCRETE TYPE III - BEAMS WITH COMPOSITE CONCRETE DECK SLAB 2 SPAN BRIDGE TOTAL LENGTH = 150'-0" SPAN 1 = 75'-0" SPAN 2 = 75'-0" 64'-0" ROADWAY WITH STD-11-1 BRIDGERAIL 75° SKEW LAYOUT DRAWING NO. U-52-60	RETAINING WALL NO. 1 SR 253 CONCORD ROAD WILLIAMSON COUNTY STATION 101+75.00 RT TO STATION 104+50.00 RT LAYOUT DRAWING NO. U-50-83	RETAINING WALL NO. 2 SR 253 CONCORD ROAD WILLIAMSON COUNTY STATION 183+00.00 LT TO STATION 188+97.41 LT LAYOUT DRAWING NO. U-50-86	RETAINING WALL NO. 3 SR 253 CONCORD ROAD DAVIDSON COUNTY STATION 191+92.79 LT TO STATION 192+34.21 RT LAYOUT DRAWING NO. U-50-87A		

ITEM NO.	DESCRIPTION	QUANTITIES	QUANTITIES	QUANTITIES	QUANTITIES	QUANTITIES	TOTAL QUANTITIES	UNIT
202-04.01	REMOVAL OF STRUCTURES	1					1	L.S.
202-04.02	REMOVAL OF STRUCTURES		1				1	L.S.
204-02.01	DRY EXCAVATION (BRIDGES)		170				170	C.Y.
204-04.01	ROCK EXCAVATION (BRIDGES)	44	5				49	C.Y.
204-04.10	STRUCTURE EXCAVATION UNCLASSIFIED	870	76				946	C.Y.
204-05	ROCK DRILLING (BRIDGES)	120	24				144	L.F.
204-10.01	FOUNDATION PREPARATION (ABUTMENT NO. 1)	1					1	L.S.
204-10.02	FOUNDATION PREPARATION (PIER NO. 1)	1					1	L.S.
204-10.03	FOUNDATION PREPARATION (PIER NO. 2)	1					1	L.S.
204-10.04	FOUNDATION PREPARATION (ABUTMENT NO. 2)	1					1	L.S.
204-10.05	FOUNDATION PREPARATION (BENT NO. 1)		1				1	L.S.
303-01.02	GRANULAR BACKFILL (BRIDGES)	862	184				1046	TON
△1 604-02.03	EPOXY COATED REINFORCING STEEL	62,026	94,411				156,437	LB.
△1 604-03.01	CLASS "A" CONCRETE (BRIDGES)	459	167				626	C.Y.
△1 604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	41,239	26,145				67,384	LB.
604-03.04	PAVEMENT AT BRIDGE ENDS	427	427				854	S.Y.
604-03.09	CLASS "D" CONCRETE (BRIDGE DECK)	370	354				724	C.Y.
604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	1316	855				2171	S.Y.
604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	1301	1769				3070	S.Y.
604-07.01	RETAININIG WALL (WALL NO. 1)			3962			3962	S.F.
604-07.02	RETAINING WALL (WALL NO. 2)				14,382		14,382	S.F.
△1 604-07.03	RETAINING WALL (WALL NO. 3)					1,516	1,516	S.F.
606-02.03	STEEL PILES (10")		240				240	L.F.
606-02.06	PILE TIPS (STEEL PILES, 10-INCH)		20				20	EA.
610-10.45	DECK DRAINS (GRATE TYPE 2) (STD-2-1)		12				12	EA.
615-01.03	PRESTRESSED CONCRETE I-BEAM (TYPE III)		876				876	L.F.
615-02.02	PRESTRESSED CONCRETE BOX-BEAM (17"X36")	1299					1299	L.F.
617-02	BRIDGE DECK CRACK SEALING	135	300				435	L.F.
620-05	CONCRETE PARAPET WITH STRUCTURAL TUBING	370	355				725	L.F.
710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	216	206				422	L.F.
710-09.02	6" PIPE UNDERDRAIN	128	104				232	L.F.

LIST OF DRAWINGS (BR. NO. 1)

(SR 253 OVER OWL CREEK)

TITLE	DWG. NO.
LAYOUT OF BRIDGE	U-52-45
GENERAL NOTES & ESTIMATED QUANTITIES	U-52-46
FOUNDATION DATA	U-52-47
CONSTRUCTION PHASING	U-52-48
SUPERSTRUCTURE	U-52-49
SUPERSTRUCTURE DETAILS	U-52-50
SUPERSTRUCTURE DETAILS	U-52-51
PRESTRESSED BEAM DETAILS	U-52-52
ABUTMENT NO. 1	U-52-53
ABUTMENT NO. 1 DETAILS	U-52-54
ABUTMENT NO. 2	U-52-55
ABUTMENT NO. 2 DETAILS	U-52-56
PIER DETAILS	U-52-57
FINAL FOUNDATION DATA	U-52-58
BILL OF STEEL	U-52-59

LIST OF DRAWINGS (BR. NO. 2)

(SR 253 OVER MILL CREEK)

TITLE	DWG. NO.
LAYOUT OF BRIDGE	U-52-60
GENERAL NOTES & EST. QUANTITIES	U-52-61
FOUNDATION DATA	U-52-62
CONSTRUCTION PHASING	U-52-63
TYPICAL BRIDGE SECTION	U-52-64
SUPERSTRUCTURE DETAILS	U-52-65
PLAN OF MAIN REINFORCING	U-52-66
PLAN OF MAIN REINFORCING	U-52-67
FRAMING PLAN	U-52-68
PRESTRESSED BEAM DETAILS	U-52-69
ABUTMENT NO. 1	U-52-70
ABUTMENT NO. 2	U-52-71
ABUTMENT WINGWALL DETAILS	U-52-72
ABUTMENT DETAILS	U-52-73
BENT NO. 1 & 2	U-52-74
BENT DETAILS	U-52-75
FINAL FOUNDATION DATA	U-52-76
BILL OF STEEL	U-52-77

LIST OF DRAWINGS (RET. WALLS)

TITLE	DWG. NO.
RET. WALL NO. 1 SHEET 1	U-50-83
RET. WALL NO. 1 SHEET 2	U-50-84
RET. WALL NO. 1 SHEET 3	U-50-85
RET. WALL NO. 2 SHEET 1	U-50-86
RET. WALL NO. 2 SHEET 2	U-50-87
RET. WALL NO. 3 SHEET 1	U-50-87A

SEALED BY

TED A. KNIAZEWYCZ
REGISTERED ENGINEER
XVI
AGRICULTURE COMMERCE
NO. 020757
STATE OF TENNESSEE
08/26/2013

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$

GEOTECHNICAL SHEET(S)

The Geotechnical Sheet(s) contain information regarding the soil properties in the project area.

TDOT's Geotechnical Engineering Section of the Materials and Test Division prepare the geotechnical sheet for the contract plans.

Geotechnical sheets may indicate required slope stability measures and directions regarding site preparations, pre-benching, compaction of fill, temporary sheeting and shoring, placement of graded solid rock and maximum cut and fill slopes.

Geotechnical sheets may also include note sheets, plan view sheets, profile view sheets and cross section sheets.

For more information on Geotechnical sheets, click here.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	IM/NH-40-3(149)	38

GENERAL NOTES SHEET

Construction activities and materials shall conform with applicable sections of the Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.

A. SITE PREPARATION

1. The proposed right-of-way should be cleared of trees, stumps, brush, and other undesirable materials. Trees, stumps, and roots should be completely grubbed, except sound undisturbed stumps which will be at least 5 feet below subgrade. Clearing and grubbing should extend to the limits of the proposed right-of-way or 10 feet outside the construction limits, whichever is less.

2. Topsoil should be stripped from the construction area, except in deep (i.e., greater than 5 feet) fill areas where it may be left in-place. Topsoil may be stockpiled to dress slope areas.

3. No materials should be stockpiled within 10 feet of the top of cut slopes or embankment slopes.

4. The exposed subgrade in both roadway and embankment areas should be proofrolled to delineate unstable areas. The proofrolling should be done after a suitable period of dry weather to avoid degrading the subgrade. The proofrolling equipment should make several passes over each section of the subgrade.

5. Soft, organic, and unstable soils within 10 feet of planned grade (i.e., at cut subgrades, or in embankment areas where fills of 10 feet or less will be constructed) should be undercut as recommended. Some undercutting or remediation is expected, particularly in low lying areas near existing drainage features or drainage ditches.

   While the location requiring repair will be dependent on conditions encountered at the time of construction, stations identified as possible remediation sites are in low areas between Stations 718+75 and 719+25, as outlined the applicable typical section. Repairs include using the appropriate treatment methods outlined below.

   - For areas requiring less than 5 feet of new fill, undercut materials to allow for placement of at least 3 feet of Graded Solid Rock over Type 4 Geotextile Fabric.
   - For areas requiring more than 5 feet of fill, place Type 4 Geotextile Fabric across softened subgrade and place 36 inches of Graded Solid Rock fill as an initial lift.

   The completed repair should be capped with a final layer of Type 4 Geotextile Fabric. For repair budget purposes, we estimate about 250 cubic yards of rock and 1,500 square yards of geotextile fabric. Other remedial methods may be considered besides undercut and replacement or bridging as described. Unit rates for proposed alternate repair procedures should be included at the time of bidding. Alternates must be approved by the geotechnical engineer or engineering geologist at the time of construction based on actual conditions.

6. When extending existing fill embankments that are steeper than 4H:1V, the new fill should be suitably benched into the existing fill embankment to remove weak surficial materials and facilitate compaction. Pre-benching can be accomplished by cutting into the existing embankment one blade width of a bulldozer or a minimum of 5 feet.

7. The top 6 inches of roadway subgrade in cut areas should be scarified and recompacted according to the criteria in Section 207.04 of the TDOT Standard Specifications. These areas should be reworked after the area is excavated to grade and proofrolled.

8. Cut and fill slope faces (except where constructed with graded solid rock) should be protected from erosion using a vegetative cover. Due to the gravelly nature of the soils encountered along the alignment, they may be highly erodible and thus the exposed surfaces need to be protected as soon as practical. Seed and mulch, or erosion matting with embedded seed, are options for developing a vegetative cover. Erosion control measures should be constructed in general accordance with TDOT guidelines.

B. COMPACTED FILL

1. Excavations will likely generate clayey soils, sandy/gravelly clays, and clayey sands/gravels. Importing of materials, such as non-degradable rock (graded solid rock / shot-rock limestone) will also be needed. Use the table to the right as a guide for imported materials as well as on-site excavated soils. These materials should be free of organics and roots. Procedures for placement and compaction of soil and rock materials in embankment fills are provided in Section 205 of the TDOT Standard Specifications for Road and Bridge Construction (latest edition). The table right includes a summary of the TDOT soil and rock guidelines, as well as additional guidelines for placement of mixed materials which may be generated on this project. The TDOT Standard Specifications should be consulted for occasional permissible exceptions to the guidelines presented herein.

2. The laboratory data reveals the natural moisture content of some soils along the alignment, particularly in deep cuts, is up to several percentage points above or below the expected optimum moisture content. Depending upon the actual conditions encountered at the time of construction, these soils may require moisture conditioning (drying or wetting) prior to reuse as embankment fill. Further, some of the clays along the alignment were classified as moderately to highly plastic clays (primarily AASHTO type A-7-6). These soils have a relatively wide range of moisture content over which they can achieve the desired compaction but a relatively narrow moisture range over which they are stable. Careful control of moisture content will be required when using these soils.

3. Positive surface drainage should be maintained during grading operations to prevent water from ponding on the exposed subgrade. The surface should be rolled smooth to enhance drainage if precipitation is expected. The geotechnical engineer or engineering geologist should provide recommendations for treatment if the soils become excessively wet or dry, or frozen.

C. TEMPORARY SHEETING AND SHORING

The Contractor shall be responsible for making excavations 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 absolutely necessary. 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.

Temporary sheeting and shoring will be required to construct proposed excavations near existing ROW between Stations 705+00 to 707+50 and Stations 713+50 to 717+00. The contractor is responsible for design and construction of any temporary sheeting or shoring, which should be completed under the direction of a licensed engineer in the state of Tennessee. The costs for temporary sheeting and shoring shall be included in the costs of excavation.

SUMMARY OF COMPACTED FILL CRITERIA

MATERIAL TYPE	CHARACTERISTICS	COMPACTION PROCEDURES *	COMPACTION CONTROL
SOIL FILL	Maximum particle size - 4 inches Maximum gravel and oversize particle content - 30 percent retained on a 3/4-inch sieve Maximum allowable organic content - 5 percent by weight, but no large roots should be allowed	Maximum loose lift thickness - 10 inches Compaction Requirement - The fill should be compacted by making multiple passes with a Caterpillar 815 or equivalent. Compaction should be to at least 95 percent of the standard Proctor maximum (AASHTO T-99/ASTM D 698), increased to 100 percent in the upper 6 inches in pavement areas, and decreased to 90 percent in non-structural areas. Moisture content at time of compaction - within the limits defined as a compactable moisture range and reduced to minus 2 percent to plus 1 percent for top 6 inches.	At least one compaction test every 100 linear feet along centerline or per TDOT guidelines, whichever results in the greatest number of tests.

* If smaller compaction equipment used, then the lift thickness and particle sizes will need to be adjusted downward based on the capacity of the equipment used. A qualified geotechnical engineer or engineering geologist should be consulted to modify the recommendations contained in the table prior to field implementation.

Item No. 203-02.01 Graded Solid Rock

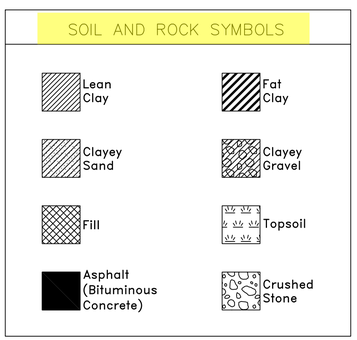
Borrow excavation (Graded Solid Rock) shall consist of the removal and satisfactory placement of sound, non-degradable rock with a maximum size of 3 feet (1 M). At least 50 percent of the rock shall be uniformly distributed between 1-foot (30 CM) and 3 feet (1M) in diameter and no greater than 10 percent shall be less than 2 inches (50 MM) in diameter. The material shall be roughly EQUI – Dimensional in shape. Thin, slabby material will not be accepted. The contractor shall be required to process the material with an acceptable mechanical screening process that produces the required gradation. When the material is subjected to five alterations of the sodium sulfate soundness test (AASHTO T-104), the weighted percentage of loss shall not be more than 12. The material shall be approved by the engineer before use.

SUMMARY OF SOIL LABORATORY TESTS

Boring No.	Sample Depth (feet)	Station Location	Description	Proctor Maximum Dry Density (pcf)	Optimum Moisture (%)	Compactable Moisture Range (%)	LL	PI	AASHTO Classification	USCS Classification	CBR Value*
B-02	3-9	Station 629+50, 45 feet Left	Sandy Lean Clay, reddish brown	110	16	14-19	42	21	A-7-6	CL	n/a
B-09	2-7	Station 657+00, 45 feet Left	Sandy Lean Clay, reddish brown	105.5	20.5	18-22.5	49	26	A-7-6	CL	6
B-12	2-10	Station 666+50, 50 feet Left	Clayey Sand with Chert, reddish brown	103.5	19.5	17.5-21	48	24	A-7-6	SC	4.5
B-15	1-10	Station 675+00, 45 feet Left	Sandy Fat Clay with Chert, orangish brown	100.5	21.5	19-24	61	33	A-7-6	CH	n/a
B-23	1-10	Station 701+25, 70 feet Left	Clayey Sand, orangish brown	112	16	14-18	30	11	A-6	SC	11
B-27	1-8	Station 714+00, 25 feet Left	Sandy Lean Clay, orangish brown	111.5	15	13-17	43	26	A-7-6	CL	3

Note: *Reported CBR value is at 100% compaction at optimum moisture content.

SOIL AND ROCK SYMBOLS



ABBREVIATIONS

2:1 -- 2 Horizontal : 1 Vertical (Slope)
3:1 -- 3 Horizontal : 1 Vertical (Slope)
4:1 -- 4 Horizontal : 1 Vertical (Slope)
AR = Auger Refusal
BT = Boring Terminated

BORING LEGEND

B-32 Boring Location and Identifier

TP-2 Test Pit Location and Identifier

FOR ADDITIONAL INFORMATION, PLEASE REFER TO SOIL AND GEOLOGICAL SURVEY REPORT PREPARED BY TTL, INC., DATED JANUARY 2015.

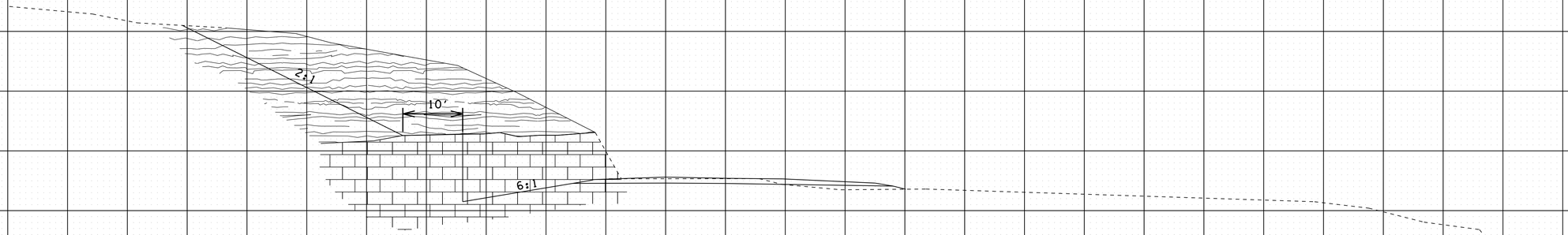
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL NOTES

\\10.1.1.9\Tuscaloosa Projects\2013\100813 Nashville\096 Hickman Co I-40 Truck Lane\Hickman40 MISC.dwg

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2016	BR-STP-151(3)	13

REPRESENTATIVE TYPICAL SECTION OF STATION 19+50 TO STATION 20+00



LEGEND

SHALE (TYPE C MATERIAL)

LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF TERMS USED FOR EARTHWORK GRADING CALCULATIONS SHEET.

19+50.00

SEALED BY

TRAVIS W. SMITH
REGISTERED ENGINEER
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

STATE ROUTE 151

MACON COUNTY

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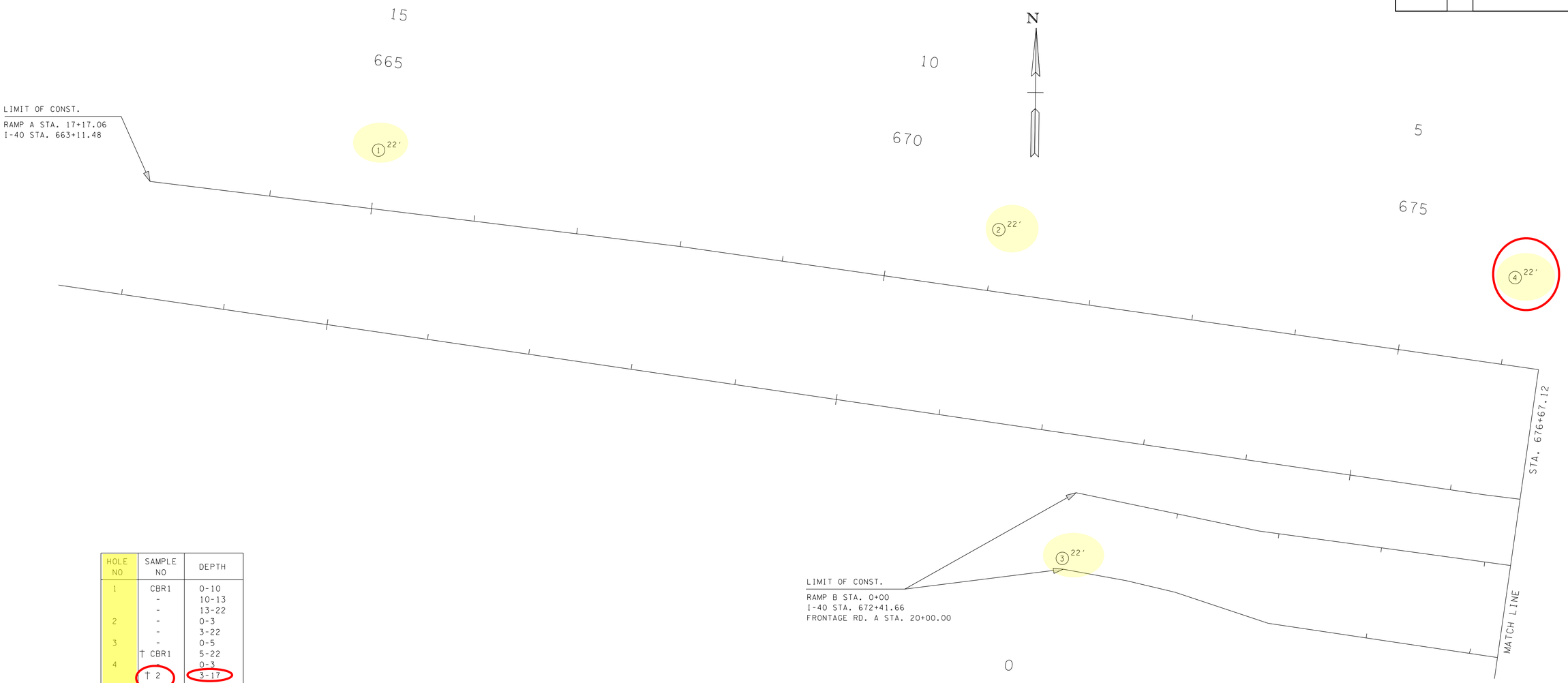
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.



HOLE NO	SAMPLE NO	DEPTH
1	CBR1	0-10
	-	10-13
	-	13-22
2	-	0-3
	-	3-22
3	-	0-5
	† CBR1	5-22
4	-	0-3
	† 2	3-17
	-	17-22

† INDICATES LOCATION WHERE SAMPLE WAS TAKEN AND LAB TEST PERFORMED. ALL OTHER SAMPLE NUMBER LABELS INDICATE AN APPARENT SIMILARITY BASED ON VISUAL IDENTIFICATION IN THE FIELD.

SAMPLE NO.	DESCRIPTION	DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS
2	SILT - with clay, moist, brown	105.0	17.2	13.0-22.8	23.5	33	23	A-4(8)	CL

CBR NO.	DESCRIPTION	DENSITY	OPTIMUM MOISTURE	MOISTURE RANGE	IN-SITU MOISTURE	LL	PL	AASHTO CLASS	USCS CLASS	CBR
1	CLAY - silty, moist, brown, with chert	107.1	15.2	12.1-19.8	16.3	30	22	A-4(4)	CL	7.0

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SOILS
I-40 AT S.R. 50
INTERCHANGE
BEGIN OF PROJECT
TO
STATION 676+76.12
HUMPHREYS/HICKMAN COUNTIES

2/4/2013
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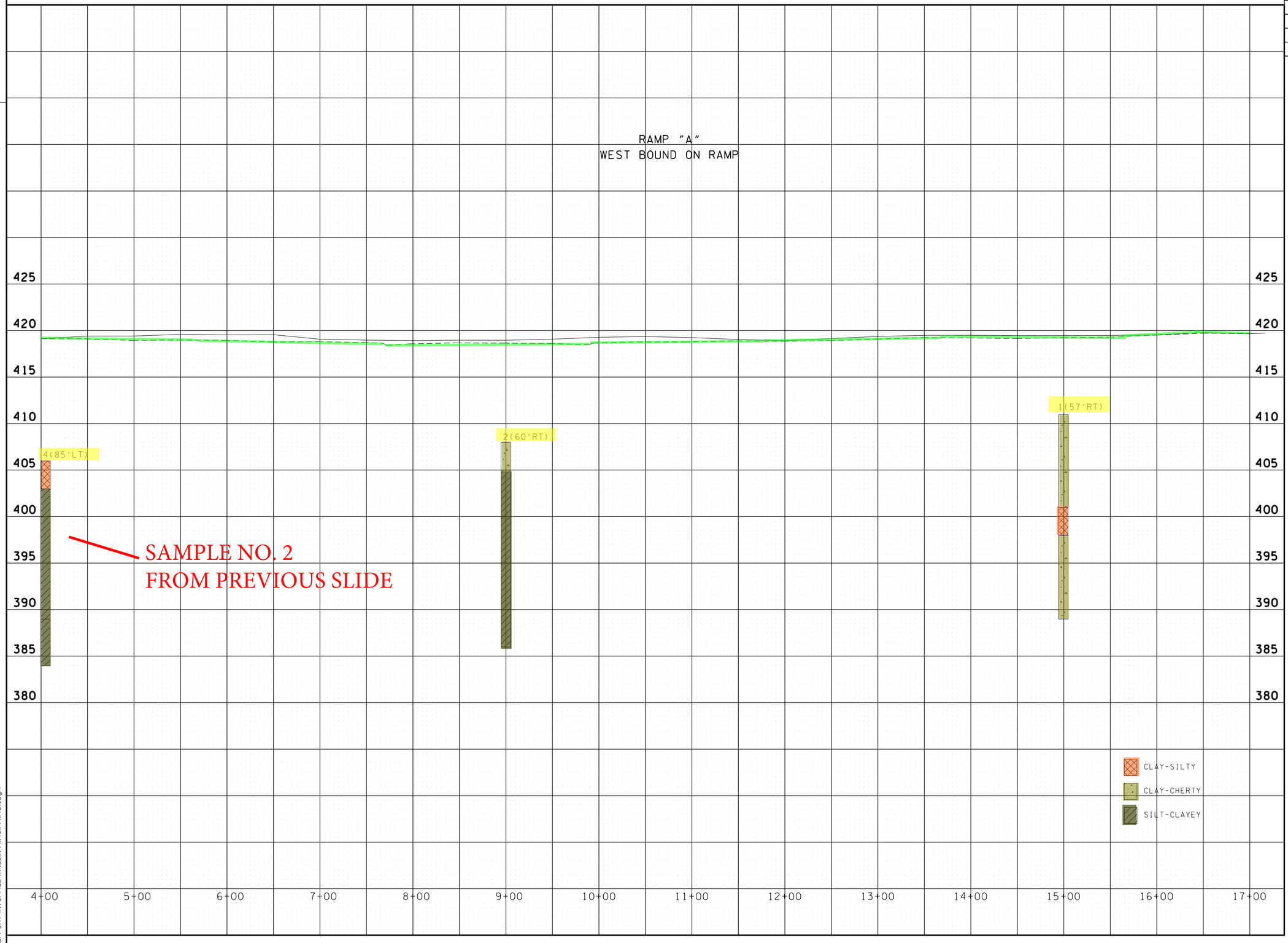
THIS SHEET IS FROM A DIFFERENT PROJECT

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

TYPE	YEAR	PROJECT NO.	SHEET NO.

RAMP "A"
WEST BOUND ON RAMP



SEALED BY

MELVIN L. OLIVER
REGISTERED ENGINEER
DEPARTMENT OF AGRICULTURE
COMMERCE
No. 016559
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SOILS
I-40 AT S.R. 50
INTERCHANGE

RAMP A
WEST BOUND ON RAMP

HUMPHREYS/HICKMAN COUNTIES

2/4/2013
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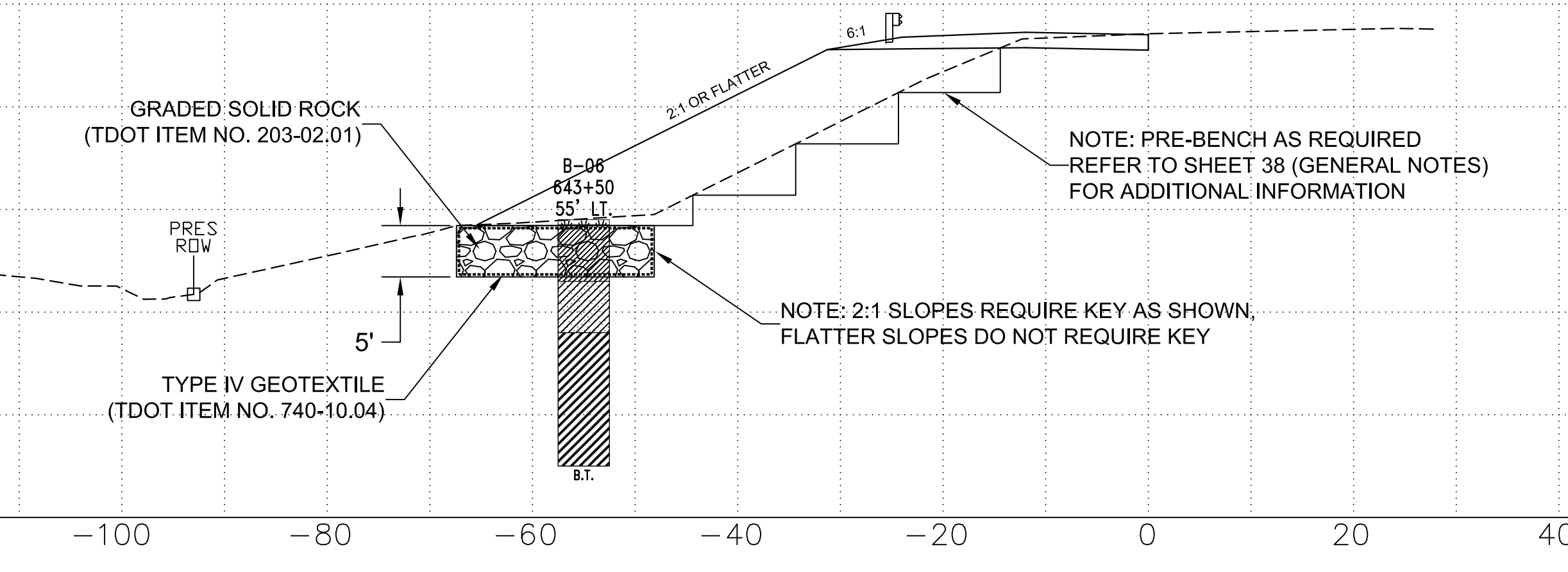
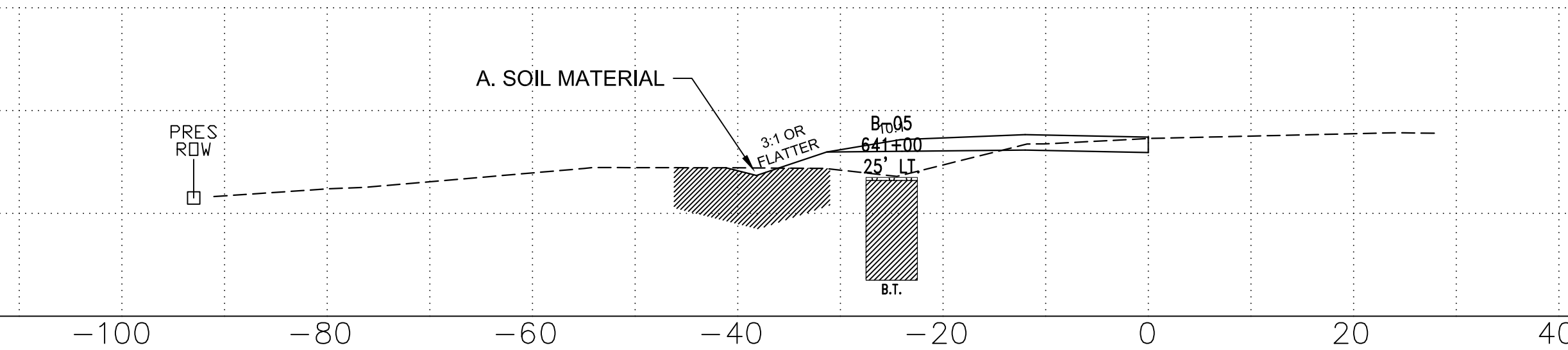
THIS SHEET IS FROM A DIFFERENT PROJECT



STATION 643+50

STA. 642+50 TO STA. 644+00



STATION 641+00

STA. 636+50 TO STA. 642+50
STA. 644+00 TO STA. 650+50

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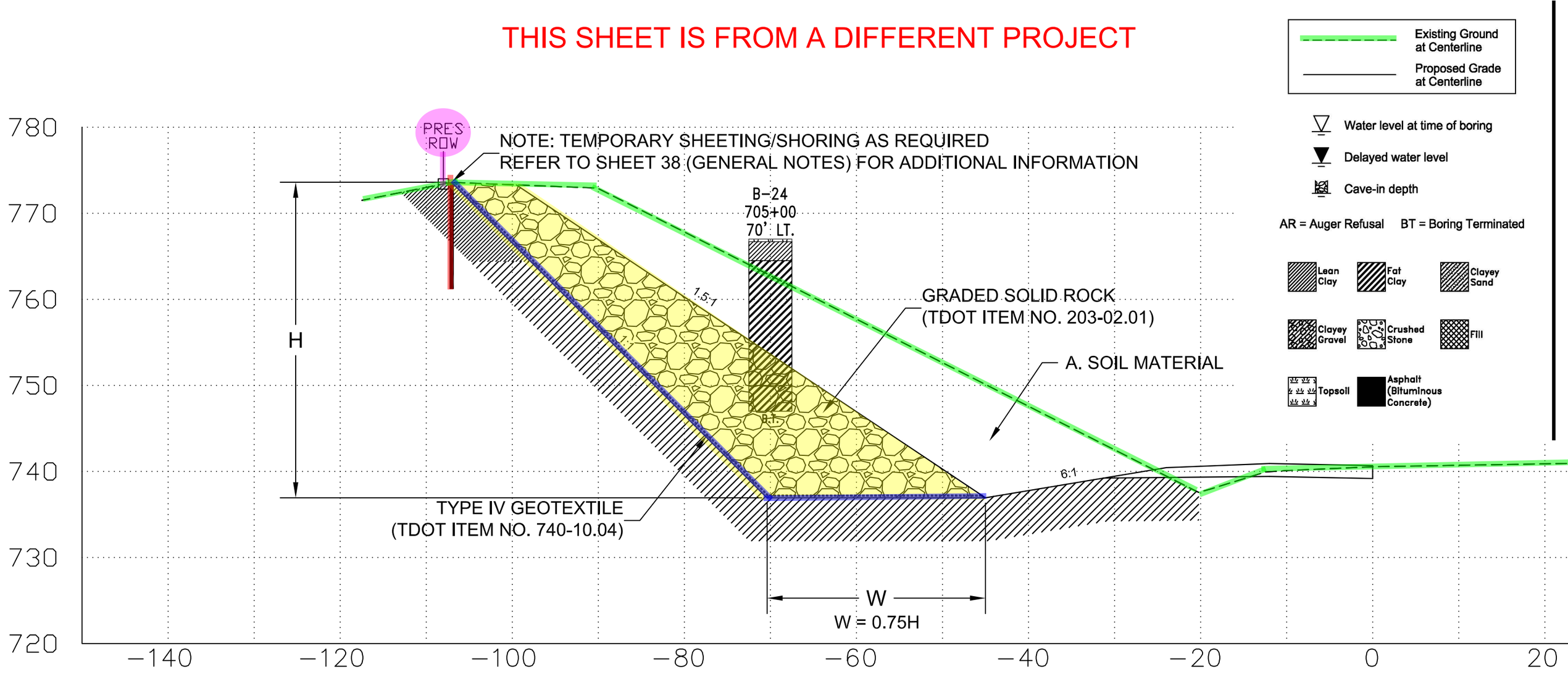


STATION 705+00

STA. 705+00 TO STA. 707+50

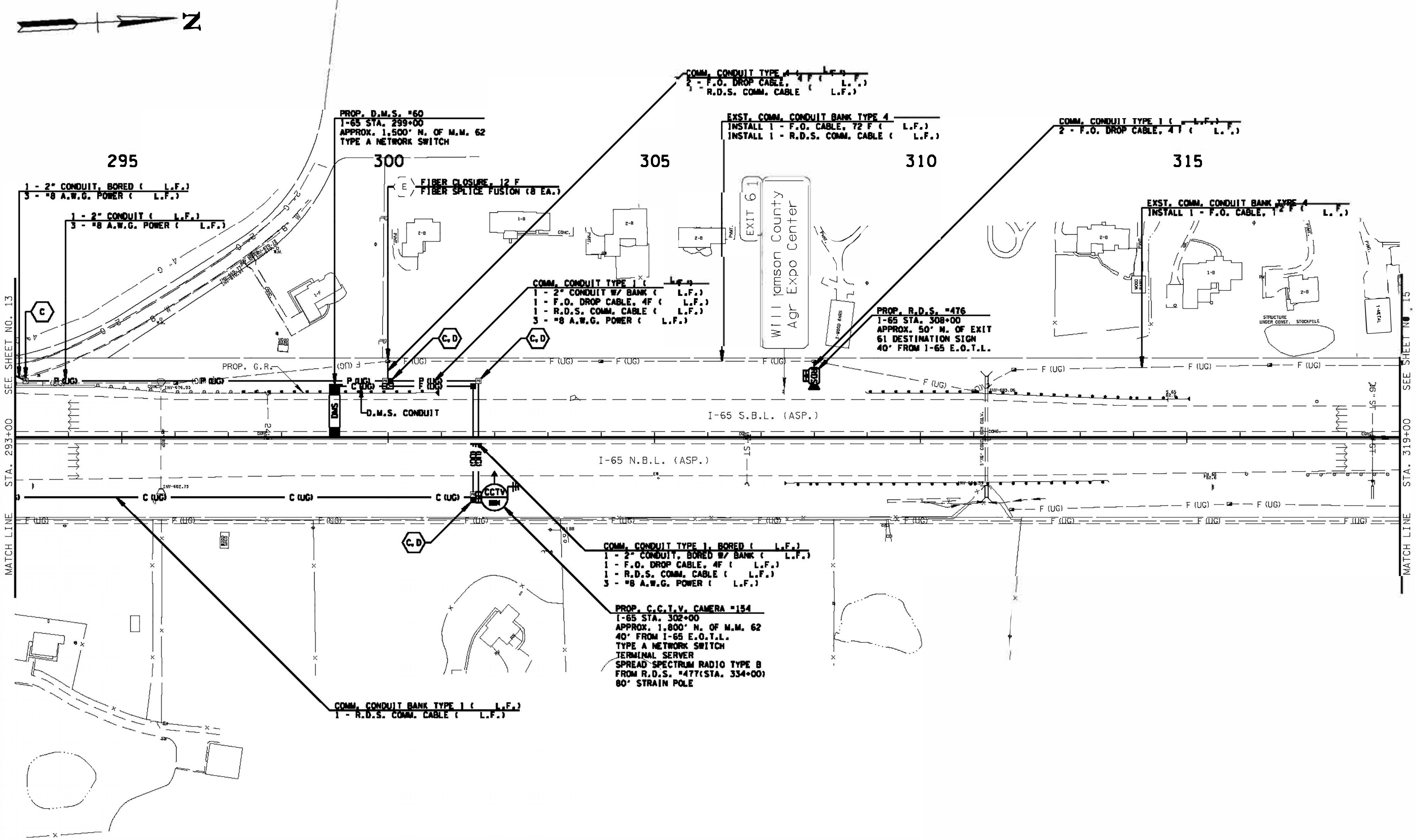
INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PLANS

- NOT INCLUDED IN SAMPLE PROJECT
- Traffic Signal Systems
    - Adaptive Signal Control Technology
    - Transit Signal Property
    - Centrally Controlled Management
- ATDM Systems (Active Traffic & Demand Management)
    - Dynamic Lane Control Systems
    - HOV toll lane implementation
- Smartway – Monitors Traffic Operations & Communications
    - CCTV Cameras
    - Dynamic Message Signs
    - Highway Advisory Radio
    - Speed Detectors
    - Help Vehicles
    - Refer to ITS Office for layout.

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
70%	2012	94002-1184-04	14

THIS SHEET IS FROM A DIFFERENT PROJECT



THIS SHEET SHOWS FUTURE CONST. PROJ. NOS. IM/HPP-65-2(89) AND IM-65-2(95).

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000084 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

I.T.S. PLANS

I-65
STA. 293+00 TO 319+00
SCALE: 1" = 100'

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LIGHTING LAYOUT(S)

The Lighting Layout sheet(s) contain plan view and details information showing the type and location of all permanent lighting to be installed along the proposed road to be built. Refer to the TDOT Traffic Operations Division for more information regarding lighting layout.

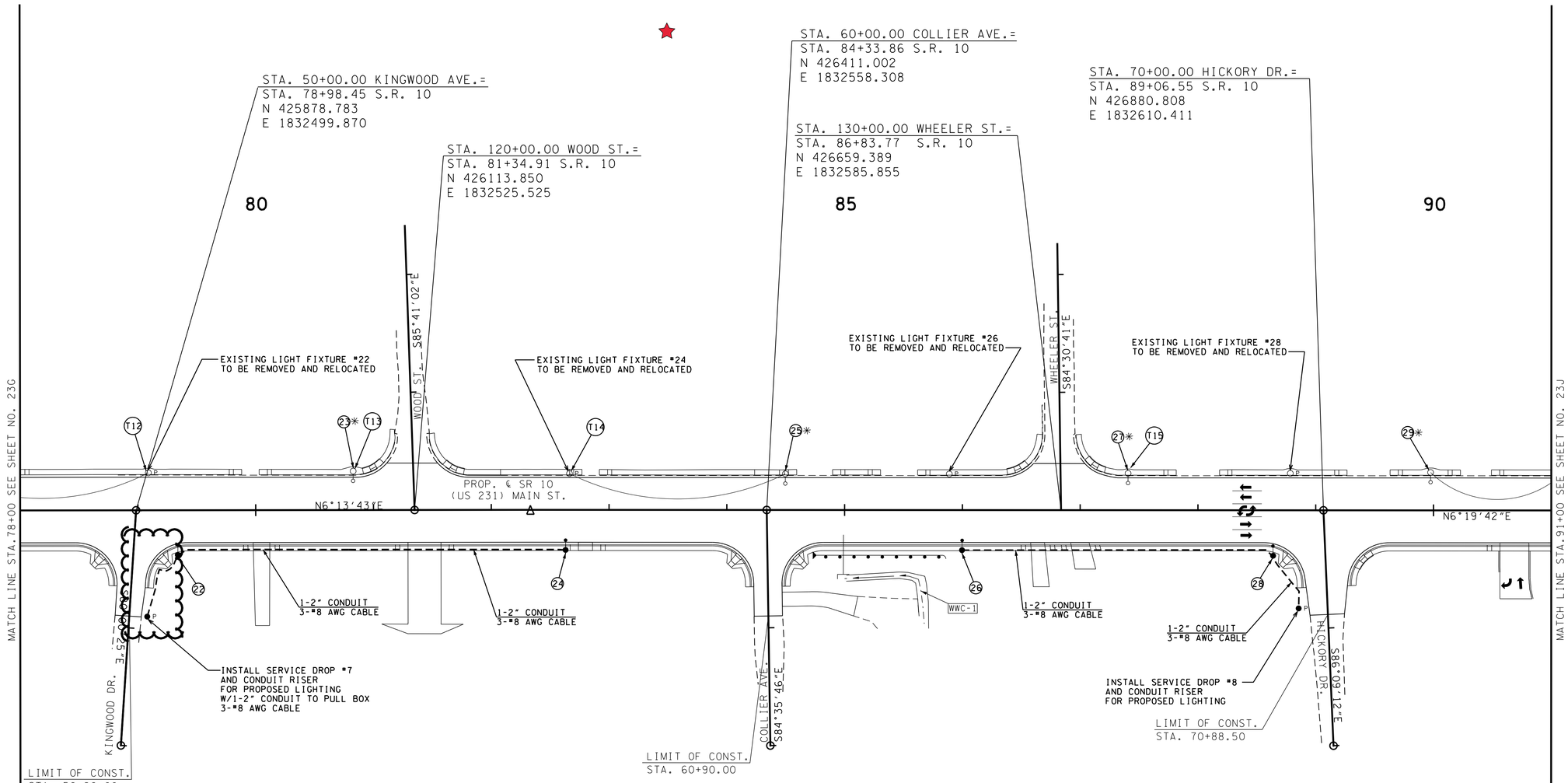
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	NH/STP-M-10(31)	23H

REV. 08-12-14

1) MOVED SERVICE POLE #7 AND MODIFED CONDUIT.



LEGEND

- UNDERGROUND CONDUIT
- JACK AND BORE CONDUIT
- EXISTING AERIAL ELECTRICAL SERVICE
- OFFSET LIGHT FIXTURE
- ELECTRICAL PULL BOX
- (1) FIXTURE NUMBER
- * FIXTURE MOUNTED ON UTILITY POLE
- ●P UTILITY POLE - SERVICE
- ○ EXISTING OFFSET LIGHT FIXTURE TO REMAIN
- ○P EXISTING UTILITY POLE
- (T#) TRANSFORMER

NOTE: ALL FIXTURES ARE EXISTING AND WILL BE RE-LAMPED AND RE-USED.

SEE STANDARD DRAWINGS RD-L-2, RD-L-3, & RD-L-4 FOR STANDARD LIGHTING LEGENDS.

ROADWAY PHOTOMETRICS					
Roadway	AVG	MIN	MAX	AVG/MIN	MAX/MIN
S.R. 10 SOUTH OF EXCLUSION	1.3 fc	0.3 fc	4.5 fc	4.3:1 fc	15:1 fc
S.R. 10 NORTH OF EXCLUSION	1.3 fc	0.3 fc	4.3 fc	4.3:1 fc	14.3:1 fc

SEALED BY

MARK H. WASHING
REGISTERED ENGINEER
AGRICULTURE
CERTIFICATE NO. 107908
STATE OF TENNESSEE

COORDINATE VALUES ARE NAD/83(1995) AND ARE DATUM ADJUSTED BY THE FACTOR 1.0000677 & TIED TO THE TGRN.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LIGHTING LAYOUT

STA.78+00 TO STA.91+00

SCALE: 1"=50'

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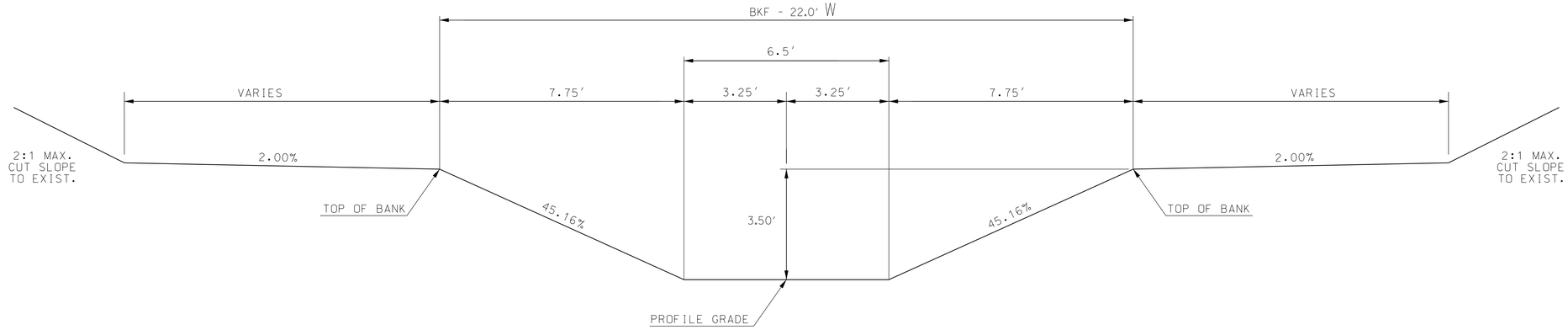
NATURAL STREAM DESIGN PLAN

The Natural Stream Design Plan Index Sheet is a list of the natural stream design plan sheets in sequence included in a set of contract plans.

This sheet is necessary with significant stream relocation in a project.

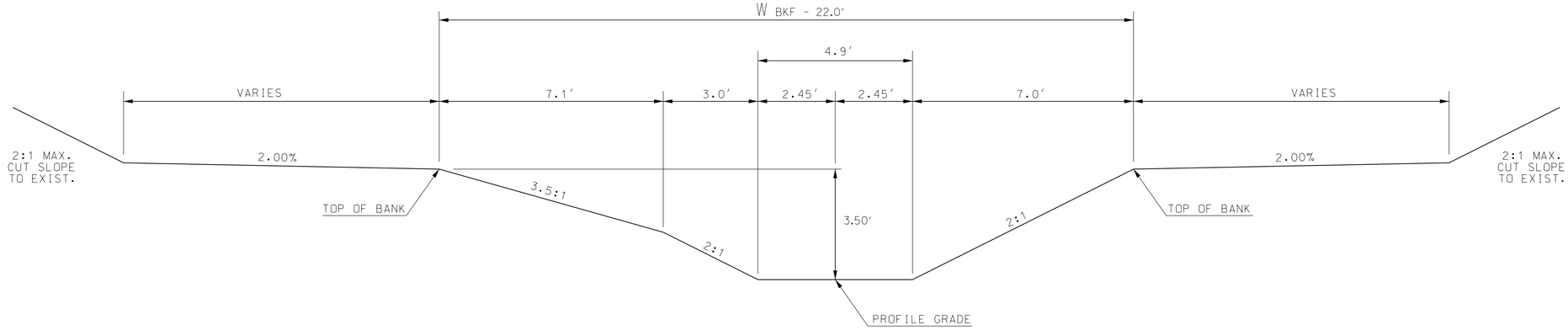
Refer to the Natural Stream Design Standard Drawings (D-NSD Series) for more details.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	BR-STP-174 (27)	NS2B



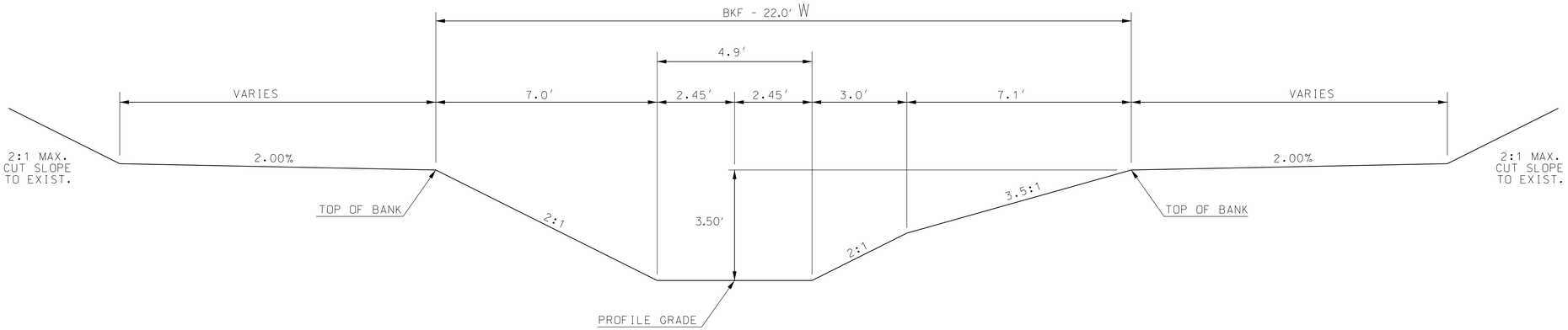
STR-2 POOL

STA. 15+04.62
STA. 16+01.10
BANKFULL AREA: 49.87 S.F.
BKF MAX DEPTH: 3.5 FT.



STR-2 POOL

STA. 11+43.64
STA. 13+23.80
BANKFULL AREA: 44.74 S.F.
BKF MAX DEPTH: 3.5 FT.



STR-2 POOL

STA. 10+27.01
STA. 12+36.33
STA. 14+14.30
BANKFULL AREA: 44.74 S.F.
BKF MAX DEPTH: 3.5 FT.

R.O.W.

PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STREAM MITIGATION TYPICAL SECTIONS

NOT TO SCALE

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	BR-STP-174 (27)	NS2F

PROTECTED AREA

NO TREE CLEARING OR CUTTING OR MOWING ALLOWED

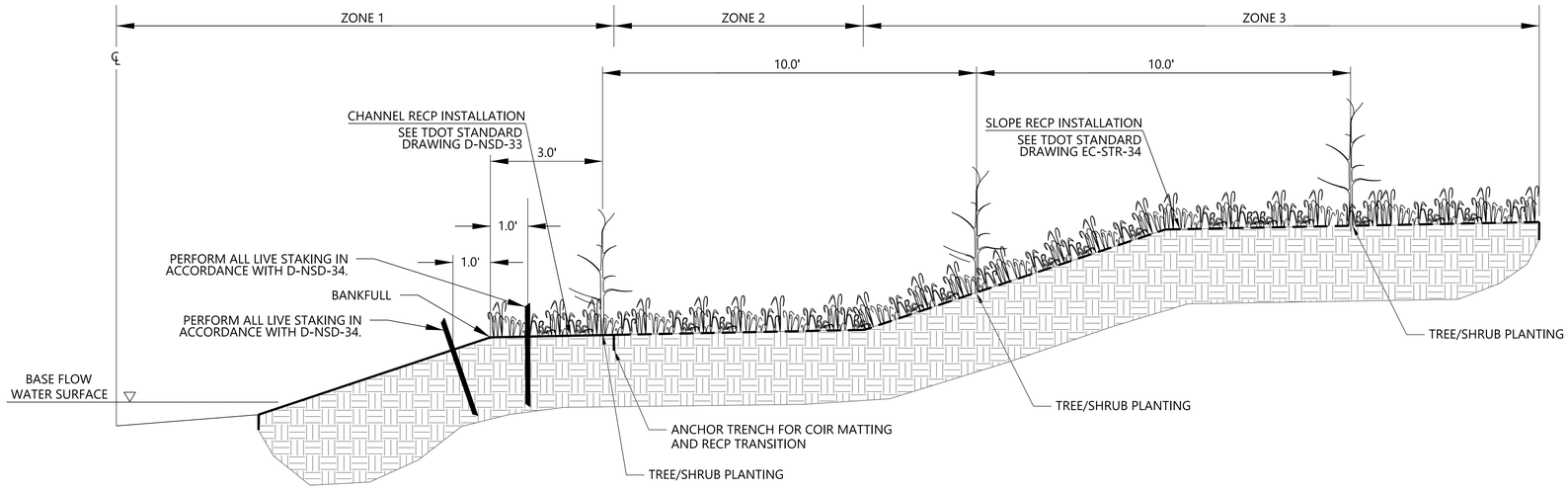
CONTACT TDOT ENVIRONMENT DIVISION (615) 741-3655

NOTES:

1. THE PROTECTED AREA SIGN SHALL BE WHITE WITH BLACK LETTERING.
2. LINES 1, 2, 3, & 4 SHALL BE 2 INCHES IN HEIGHT. LINES 5 & 6 SHALL BE 1 INCH IN HEIGHT.
3. PROTECTED AREA SIGN SHALL BE PAID FOR UNDER ITEM NO. 713-16.20, PROTECTED AREA SIGN, PER EACH, AS SHOWN IN DETAIL ON THIS SHEET. PAYMENT SHOULD INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT AS SHOWN IN DETAIL.

PROTECTED AREA SIGN

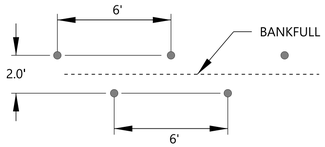
NOT TO SCALE



VEGETATIVE STABILIZATION

NOT TO SCALE

PLANTING TABLE			
ZONE 1			
Common Name	SCIENTIFIC NAME	MATERIAL	QUANTITY
SILKY DOGWOOD	*Cornus amomum*	LIVE STAKE	100
ELDERBERRY	*Sambucus nigra*	LIVE STAKE	100
BLACK WILLOW	*Salix nigra*	LIVE STAKE	100
HAZZEL ALDER	*Alnus serrulata*	LIVE STAKE	100
PIN OAK	*Quercus palustris*	BARE ROOT	35
RIVER BIRCH	*Betula nigra*	BARE ROOT	35
SYCAMORE	*Platanus occidentalis*	BARE ROOT	35



LIVE STAKE SPACING DETAIL

NOT TO SCALE

SEEDING TABLE		
ZONE 1 & 2		
Common Name	SCIENTIFIC NAME	PERCENT COMPOSITION
BEAKED PANICGRASS	*Panicum anceps*	40.00%
INDIANGRASS	*Sorghastrum nutans*	15.00%
VIRGINIA WILDRYE	*Elymus virginicus*	14.00%
BIG BLUESTEM	*Andropogon gerardii*	10.00%
REDTOP PANICGRASS	*Panicum rigidulum*	10.00%
AUTUMN BENTGRASS	*Agrostis perennans*	5.00%
PURPLEHEAD SNEEZEWEED	*Helenium flexuosum*	2.00%
WILD SENNA	*Senna hebecarpa*	2.00%
JOE PYE WEED	*Eupatorium fistulosum*	1.00%
IRONWEED	*Vernonia noveboracensis*	1.00%
ZONE 3		
Common Name	SCIENTIFIC NAME	PERCENT COMPOSITION
BIG BLUESTEM	*Andropogon gerardii*	34.90%
SWITCHGRASS	*Panicum virgatum*	27.00%
VIRGINIA WILDRYE	*Elymus virginicus*	21.00%
INDIANGRASS	*Sorghastrum nutans*	9.00%
BLACKEYED SUSAN	*Rudbeckia hirta*	3.00%
PARTRIDGE PEA	*Chamaecrista fasciculata*	2.00%
OXEYE SUNFLOWER	*Heliopsis helianthoides*	1.50%
PLAINS COREOPSIS	*Coreopsis tinctoria*	1.00%
SHOWY TICKTREFOIL	*Desmodium canadense*	0.40%
WILD BERGAMOT	*Monarda fistulosa*	0.20%

SEEDING RATE:

1. SEED AT 20 LBS/ACRE WITH A COVER CROP. FOR A COVER CROP ON AREAS THAT SHOULD NOT EXPERIENCE FLOODING, USE ONE OF THE FOLLOWING: GRAIN OATS (30 LBS/ACRE; 1 JAN TO 30 APR), BROWN TOP MILLET (10 LBS/ACRE; 1 MAY TO 31 AUG), OR GRAIN RYE (30 LBS/ACRE; 1 SEP TO 31 DEC).
2. IF FLOODING MAY OCCUR, USE GRAIN RYE (30 LBS/ARE; 1 SEP TO 30 APR) OR JAPANESE MILLET (10 LBS/ACRE; 1 MAY TO 31 AUG).

PLANTING TABLE			
ZONE 2			
Common Name	SCIENTIFIC NAME	MATERIAL	QUANTITY
SILKY DOGWOOD	*Cornus amomum*	BARE ROOT	8
ELDERBERRY	*Sambucus nigra*	BARE ROOT	8
SPICEBUSH	*Lindera benzoin*	BARE ROOT	8
SERVICEBERRY	*Amelanchier arborea*	BARE ROOT	8
VIRGINIA SWEETSPIRE	*Itea virginica*	BARE ROOT	8
EASTERN SWEETSHRUB	*Calycanthus floridus*	BARE ROOT	8
TULIP POPLAR	*Liriodendron tulipfera*	BARE ROOT	7
EASTERN REDBUD	*Cercis canadensis*	BARE ROOT	7
BLACK WALNUT	*Juglans nigra*	BARE ROOT	7
WILLOW OAK	*Quercus phellos*	BARE ROOT	7
SOUTHERN RED OAK	*Quercus falcata*	BARE ROOT	7
REDMAPLE	*Acer rubrum*	BARE ROOT	7
SWEET GUM	*Liquidambar styraciflua*	BARE ROOT	7
SILKY DOGWOOD	*Cornus amomum*	CONTAINER	8
ELDERBERRY	*Sambucus nigra*	CONTAINER	8
SPICEBUSH	*Lindera benzoin*	CONTAINER	8
SERVICEBERRY	*Amelanchier arborea*	CONTAINER	8
VIRGINIA SWEETSPIRE	*Itea virginica*	CONTAINER	8
EASTERN SWEETSHRUB	*Calycanthus floridus*	CONTAINER	8
TULIP POPLAR	*Liriodendron tulipfera*	CONTAINER	6
EASTERN REDBUD	*Cercis canadensis*	CONTAINER	6
BLACK WALNUT	*Juglans nigra*	CONTAINER	6
WILLOW OAK	*Quercus phellos*	CONTAINER	6
SOUTHERN RED OAK	*Quercus falcata*	CONTAINER	6
REDMAPLE	*Acer rubrum*	CONTAINER	6
SWEET GUM	*Liquidambar styraciflua*	CONTAINER	6

PLANTING TABLE			
ZONE 3			
Common Name	SCIENTIFIC NAME	MATERIAL	QUANTITY
SILKY DOGWOOD	*Cornus amomum*	BARE ROOT	5
ELDERBERRY	*Sambucus nigra*	BARE ROOT	5
SPICEBUSH	*Lindera benzoin*	BARE ROOT	9
SERVICEBERRY	*Amelanchier arborea*	BARE ROOT	9
WITCH HAZEL	*Hamamelis viginiana*	BARE ROOT	9
EASTERN SWEETSHRUB	*Calycanthus floridus*	BARE ROOT	9
REDMAPLE	*Acer rubrum*	BARE ROOT	7
SWEET GUM	*Liquidambar styraciflua*	BARE ROOT	7
EASTERN REDBUD	*Cercis canadensis*	BARE ROOT	7
BLACK WALNUT	*Juglans nigra*	BARE ROOT	7
WILLOW OAK	*Quercus phellos*	BARE ROOT	7
SOUTHERN RED OAK	*Quercus falcata*	BARE ROOT	7
TULIP POPLAR	*Liriodendron tulipfera*	BARE ROOT	7
SILKY DOGWOOD	*Cornus amomum*	CONTAINER	4
ELDERBERRY	*Sambucus nigra*	CONTAINER	4
SPICEBUSH	*Lindera benzoin*	CONTAINER	9
SERVICEBERRY	*Amelanchier arborea*	CONTAINER	9
WITCH HAZEL	*Hamamelis viginiana*	CONTAINER	9
EASTERN SWEETSHRUB	*Calycanthus floridus*	CONTAINER	9
REDMAPLE	*Acer rubrum*	CONTAINER	6
SWEET GUM	*Liquidambar styraciflua*	CONTAINER	6
EASTERN REDBUD	*Cercis canadensis*	CONTAINER	6
BLACK WALNUT	*Juglans nigra*	CONTAINER	6
WILLOW OAK	*Quercus phellos*	CONTAINER	6
SOUTHERN RED OAK	*Quercus falcata*	CONTAINER	6
TULIP POPLAR	*Liriodendron tulipfera*	CONTAINER	6

R.O.W.

PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DETAILS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	BR-STP-174 (27)	NS4A

STR-2 HORIZONTAL ALIGNMENT

POT 10+00.00
N=839146.920
E=1890884.033

N1°01'36"E

PI 10+46.69
N=839193.602
E=1890884.869
Δ 19° 12' 42" (RT)
D 28° 38' 52"
R 200.00
L 67.06
T 33.85

N20°14'18"E

PI 11+42.20
N=839287.816
E=1890918.130
Δ 16° 14' 44" (LT)
D 38° 49' 03"
R 147.60
L 41.85
T 21.07

N3°59'34"E

PI 12+32.03
N=839373.711
E=1890924.405
Δ 6° 12' 35" (RT)
D 17° 04' 03"
R 335.70
L 36.38
T 18.21

N10°12'10"E

PI 13+23.63
N=839463.890
E=1890940.635
Δ 17° 01' 20" (LT)
D 37° 14' 34"
R 153.84
L 45.71
T 23.02

N6°49'10"W

PI 14+13.75
N=839553.711
E=1890929.894
Δ 14° 11' 50" (RT)
D 32° 18' 41"
R 177.32
L 43.94
T 22.08

N7°22'40"E

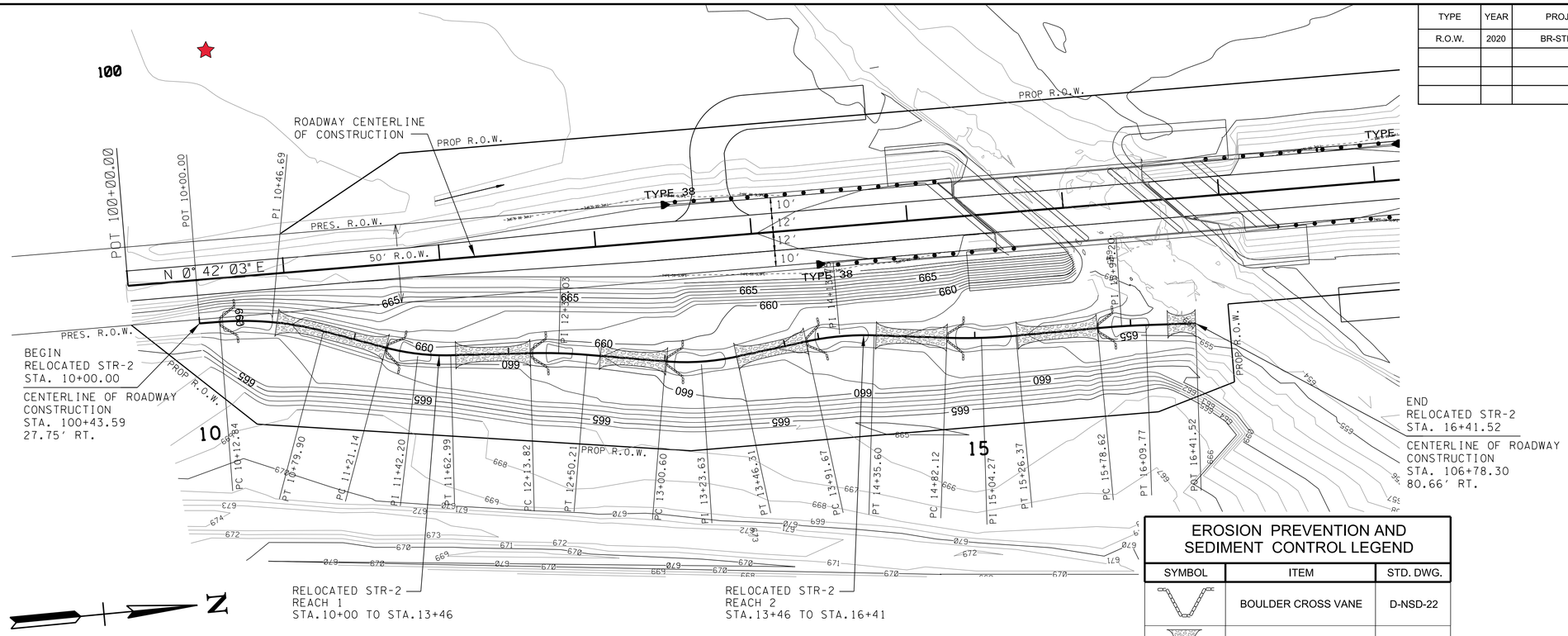
PI 15+04.27
N=839643.711
E=1890941.547
Δ 7° 13' 49" (LT)
D 16° 20' 23"
R 350.66
L 44.25
T 22.15

N0°08'51"E

PI 15+94.20
N=839733.693
E=1890941.779
Δ 3° 23' 39" (RT)
D 10° 53' 44"
R 525.87
L 31.15
T 15.58

N3°32'30"E

POT 16+41.52
N=839780.932
E=1890944.702

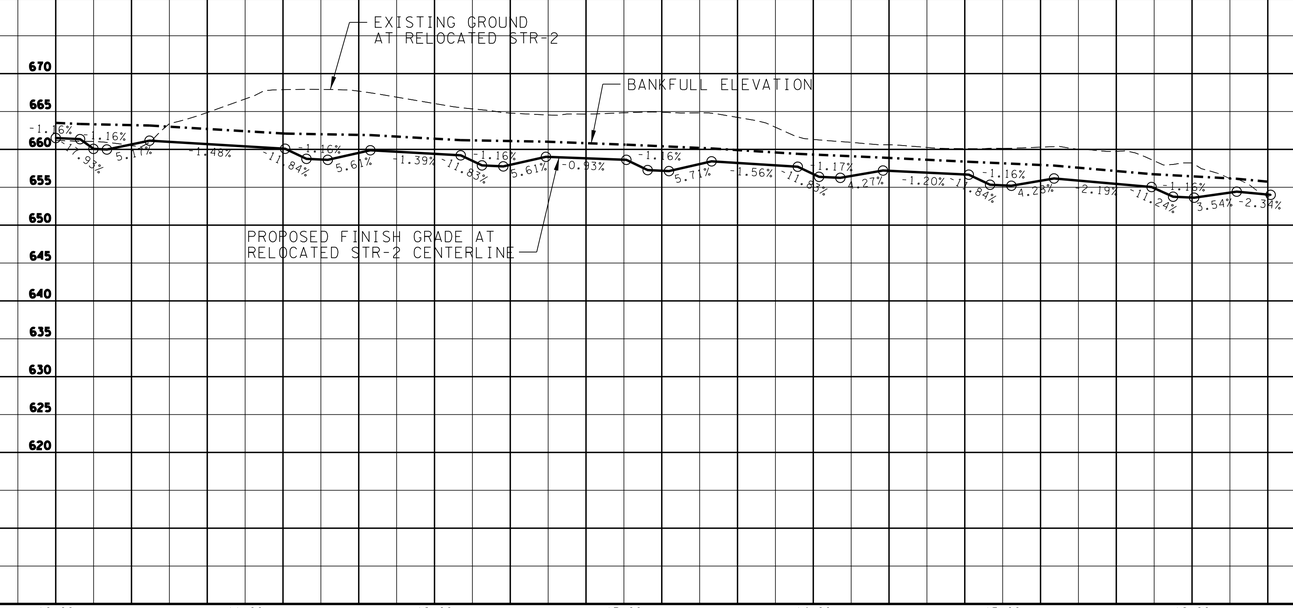


EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.
	BOULDER CROSS VANE	D-NSD-22
	CONSTRUCTED ALLUVIAL RIFFLE	D-NSD-29

STR-2 VERTICAL ALIGNMENT

VPI 10+00.00 EL. 661.50	VPI 13+23.80 EL. 657.13
VPI 10+12.84 EL. 661.35	VPI 13+46.30 EL. 658.42
VPI 10+20.00 EL. 660.06	VPI 13+91.80 EL. 657.70
VPI 10+27.01 EL. 659.98	VPI 14+03.05 EL. 656.37
VPI 10+49.52 EL. 661.14	VPI 14+14.30 EL. 656.24
VPI 11+21.14 EL. 660.08	VPI 14+36.82 EL. 657.20
VPI 11+32.38 EL. 658.75	VPI 14+82.12 EL. 656.66
VPI 11+43.64 EL. 658.62	VPI 14+93.36 EL. 655.33
VPI 11+66.14 EL. 659.88	VPI 15+04.62 EL. 655.19
VPI 12+13.83 EL. 659.21	VPI 15+27.12 EL. 656.16
VPI 12+25.07 EL. 657.88	VPI 15+78.62 EL. 655.03
VPI 12+36.33 EL. 657.75	VPI 15+90.00 EL. 653.75
VPI 12+58.83 EL. 659.01	VPI 16+01.10 EL. 653.62
VPI 13+01.30 EL. 658.62	VPI 16+23.59 EL. 654.42
VPI 13+12.55 EL. 657.26	VPI 16+41.52 EL. 654.00



R.O.W. PLANS

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COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00010 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.10+00 TO STA.16+41.52
SCALE: 1"=40' HORIZ.
SCALE: 1"=5' VERT.

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RETAINING WALL DETAILS

During the development of many roadway design projects, a retaining wall is proposed due to right-of-way limitations, environmental impacts, drainage issues, or the need to reduce damage to adjacent properties. The development of a retaining wall involves TDOT personnel including Project Development, Structures, and the Geotechnical Engineering section of the Materials and Test Division.

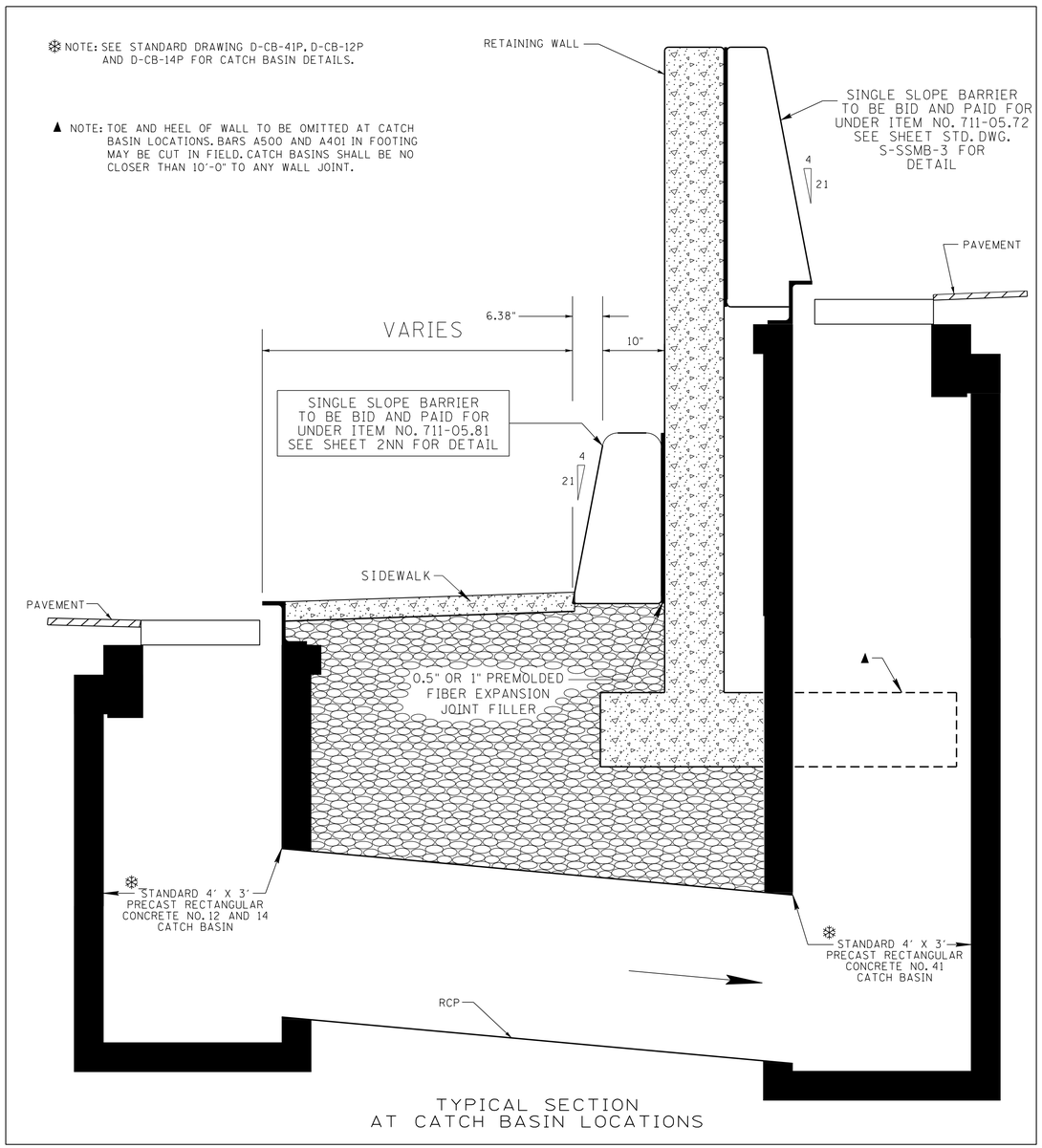
All retaining wall detail sheets shall be designed as an “R” Series. Refer to RDG Ch 1 for information on the placement of the sheets in the index and plan sets for each phase.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	NH-I-65-2(99)	2MM

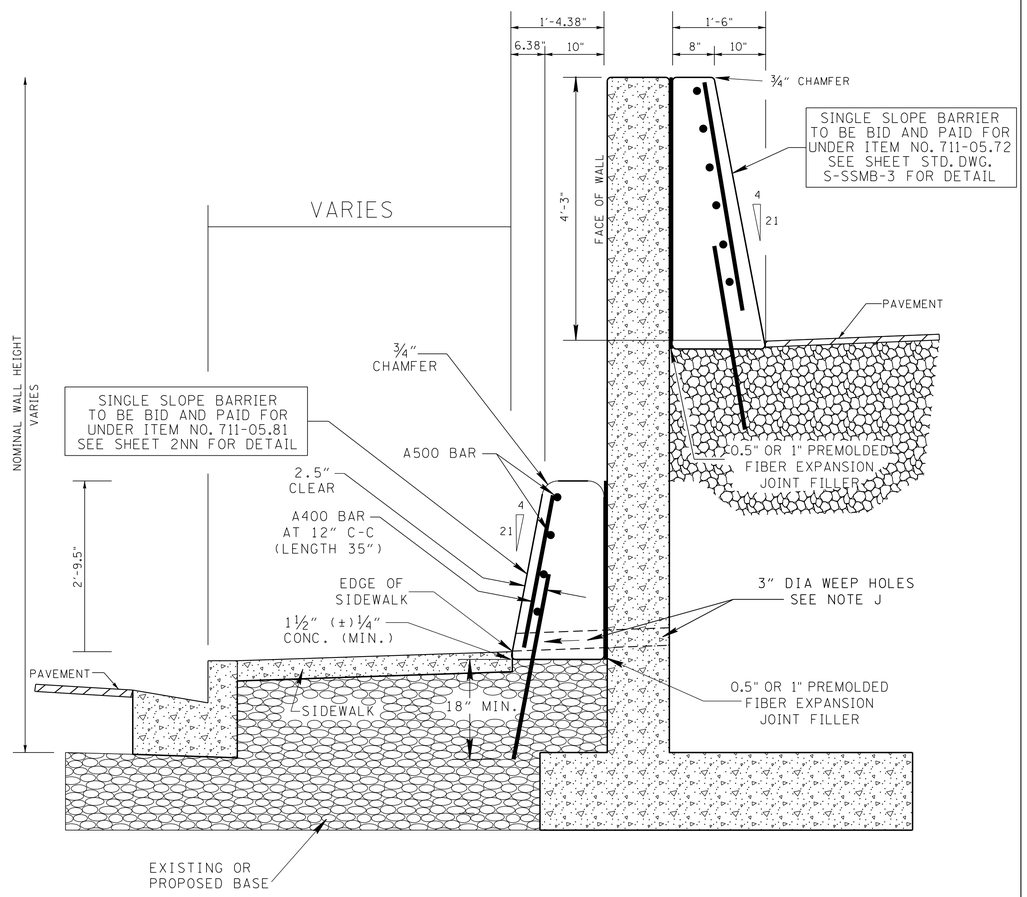
REVISED 07-09-2013:
ADDED SHEET TO PLANS.

❄ NOTE: SEE STANDARD DRAWING D-CB-41P, D-CB-12P AND D-CB-14P FOR CATCH BASIN DETAILS.

▲ NOTE: TOE AND HEEL OF WALL TO BE OMITTED AT CATCH BASIN LOCATIONS. BARS A500 AND A401 IN FOOTING MAY BE CUT IN FIELD. CATCH BASINS SHALL BE NO CLOSER THAN 10'-0" TO ANY WALL JOINT.



TYPICAL SECTION
AT CATCH BASIN LOCATIONS



TYPICAL SECTION

32" SINGLE SLOPE HALF WALL DETAIL FOR RETAINING WALL 6A AND 6B

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RETAINING WALL DETAILS

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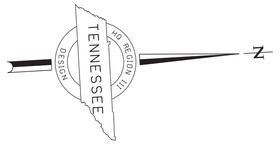
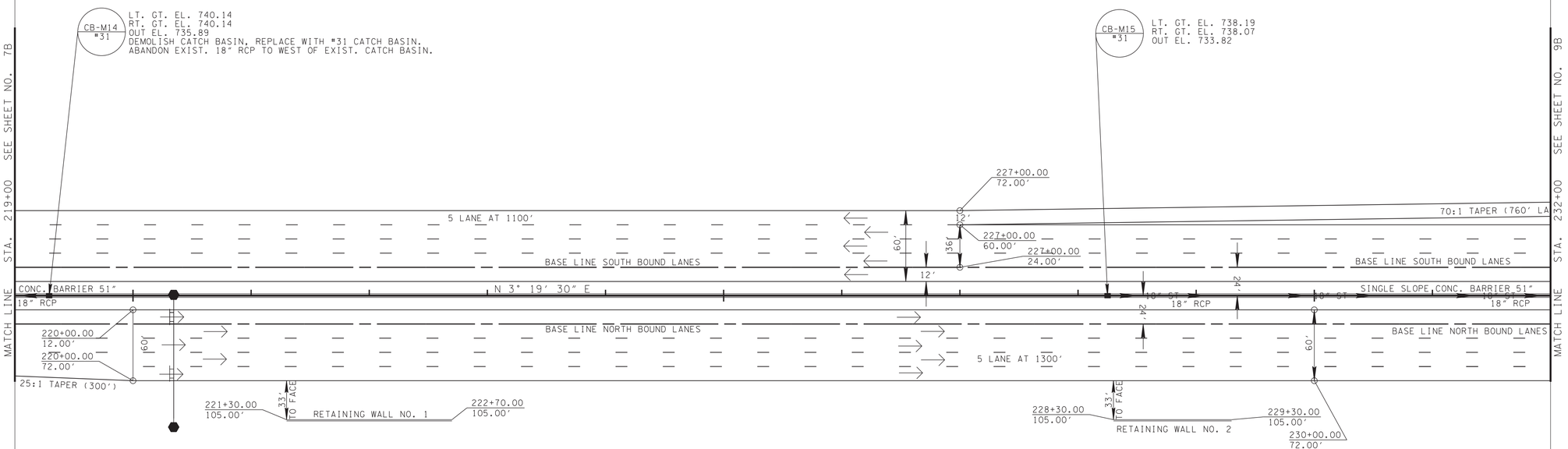
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2011	IM/HPP-65-2(89)	7B
CONST.	2013	NH-I-65-2(99)	8B

REVISED: 06/08/12, ADDED RETAINING WALLS NO. 1 AND 2.



220 225 230



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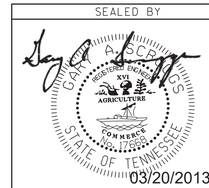

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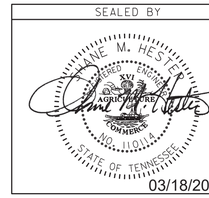

03/18/2013

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000084 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT I-65

STA. 219+00 TO STA. 232+00
SCALE: 1"= 50'

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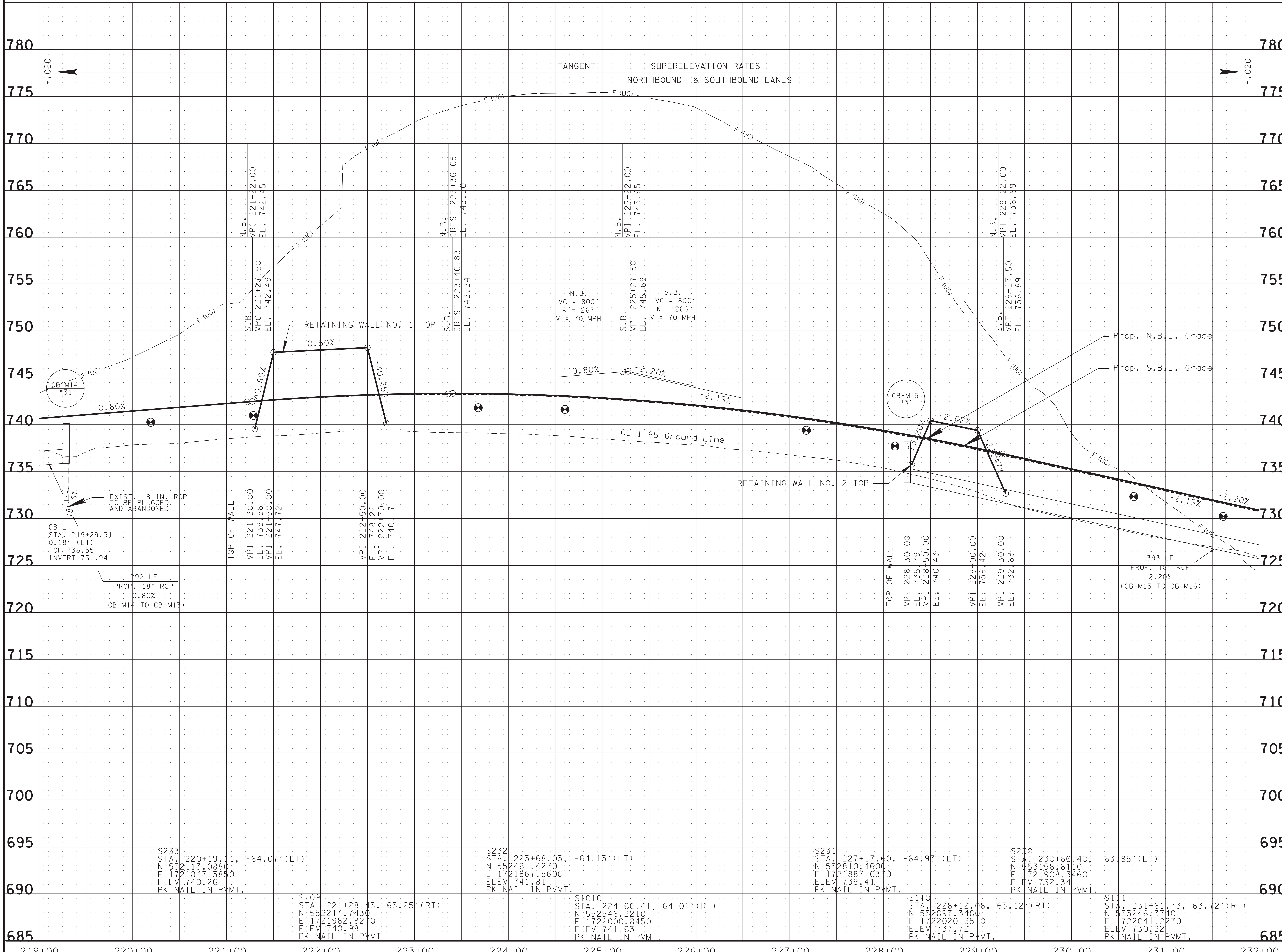
TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2011	IM/HPP-65-2(89)	7C
CONST.	2013	NH-I-65-2(99)	8C

REVISED: 06/08/12, ADDED RETAINING WALLS NO. 1 AND 2.



TANGENT
SUPERELEVATION RATES
NORTHBOUND & SOUTHBOUND LANES
-.020
-.020
F (UG)
N.B. VPC 221+22.00 EL. 742.45
S.B. VPC 221+27.50 EL. 742.49
N.B. CREST 223+36.05 EL. 743.30
S.B. CREST 223+40.83 EL. 743.34
N.B. VPI 225+22.00 EL. 745.65
S.B. VPI 225+27.50 EL. 745.69
N.B. VC = 800' K = 267 V = 70 MPH
S.B. VC = 800' K = 266 V = 70 MPH
N.B. VPT 229+22.00 EL. 736.89
S.B. VPT 229+27.50 EL. 736.89
RETAINING WALL NO. 1 TOP
0.50%
40.80%
-40.25%
0.80%
-2.20%
-2.19%
CB-M14 #31
CB-M15 #31
Prop. N.B.L. Grade
Prop. S.B.L. Grade
-2.02%
CL I-65 Ground Line
RETAINING WALL NO. 2 TOP
EXIST. 18 IN. RCP TO BE PLUGGED AND ABANDONED
CB - STA. 219+29.31 0.18' (LT) TOP 736.55 INVERT 731.94
292 LF PROP. 18" RCP 0.80% (CB-M14 TO CB-M13)
TOP OF WALL
VPI 221+30.00 EL. 739.56
VPI 221+50.00 EL. 747.72
VPI 222+50.00 EL. 748.22
VPI 222+70.00 EL. 740.17
TOP OF WALL
VPI 228+30.00 EL. 735.79
VPI 228+50.00 EL. 740.43
VPI 229+00.00 EL. 739.42
VPI 229+30.00 EL. 732.68
393 LF PROP. 18" RCP 2.20% (CB-M15 TO CB-M16)
S233 STA. 220+19.11, -64.07'(LT) N 552113.0880 E 1721847.3850 ELEV 740.26 PK NAIL IN PVMT.
S232 STA. 223+68.03, -64.13'(LT) N 552461.4270 E 1721867.5600 ELEV 741.81 PK NAIL IN PVMT.
S231 STA. 227+17.60, -64.93'(LT) N 552810.4600 E 1721887.0370 ELEV 739.41 PK NAIL IN PVMT.
S230 STA. 230+66.40, -63.85'(LT) N 553158.6110 E 1721908.3460 ELEV 732.34 PK NAIL IN PVMT.
S109 STA. 221+28.45, 65.25'(RT) N 552214.7430 E 1721982.8270 ELEV 740.98 PK NAIL IN PVMT.
S1010 STA. 224+60.41, 64.01'(RT) N 552546.2210 E 1722000.8450 ELEV 741.63 PK NAIL IN PVMT.
S110 STA. 228+12.08, 63.12'(RT) N 552897.3480 E 1722020.3510 ELEV 737.72 PK NAIL IN PVMT.
S111 STA. 231+61.73, 63.72'(RT) N 553246.3740 E 1722041.2270 ELEV 730.22 PK NAIL IN PVMT.
780 775 770 765 760 755 750 745 740 735 730 725 720 715 710 705 700 695 690 685
219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00 232+00

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03/18/2013

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILES I-65 N.B.L. & S.B.L.

STA. 219+00 TO STA. 232+00
SCALE: 1"= 50' HORIZ & 1"= 5' VERT

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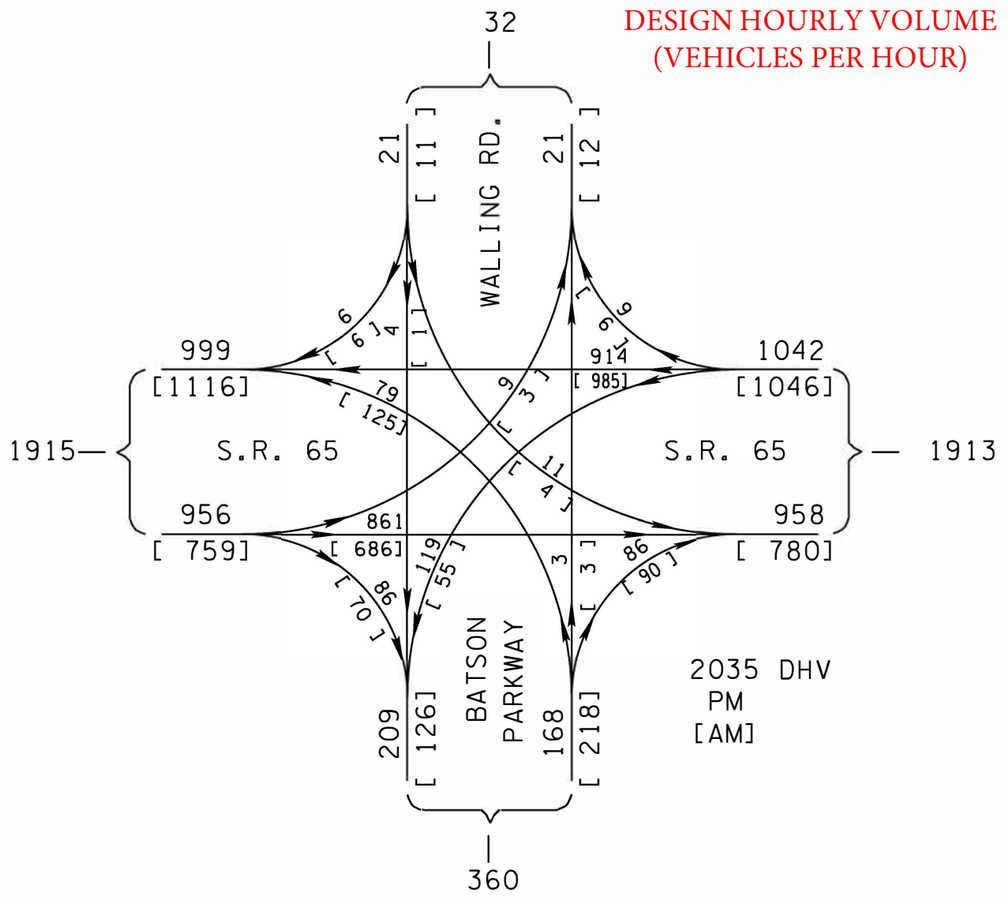
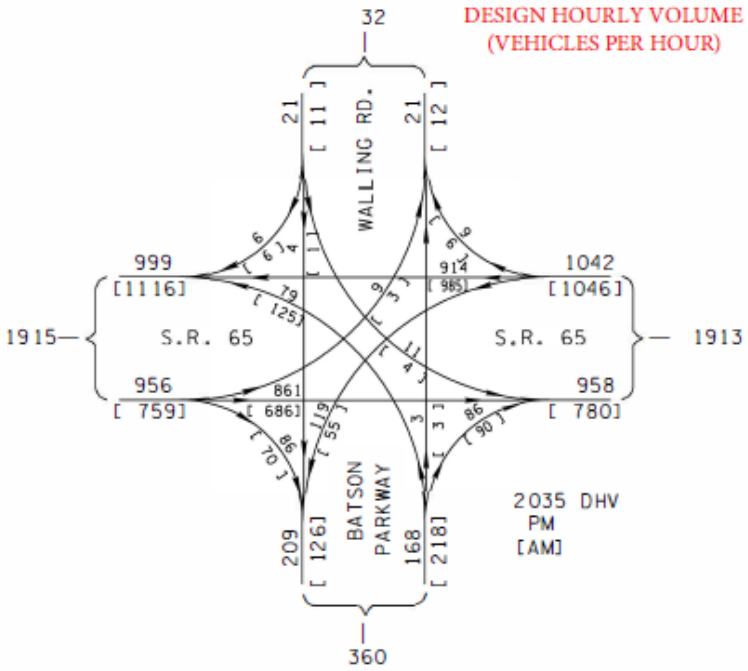
SIGNAL LAYOUT(S)

The Signing Layout sheet(s) contains plan view and details information showing the type and location of all permanent signals to be installed along the proposed road to be built. Refer to the TDOT Traffic Operations Division for more information regarding signal layout.



SIGNAL LAYOUT(S)

The Signal Layout sheet(s) contain plan view and details information showing the type and location of all permanent signals to be installed along the proposed road to be built. Refer to the TDOT Traffic Operations Division for more information regarding signal layout.



THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	STP/NH/DEMO-65(8)	38

SIGNAL SUPPORT POLE DATA				
POLE NO.	NORTHING	EASTING	GROUND ELEV @ POLE	ARM LENGTH
1	777872.3799	1705794.6598	595.21'	50.0'
2	777883.6958	1705914.3467	595.98'	60.0'
3	777749.7246	1705887.0756	597.94'	65.0'
4	777759.1401	1705791.5384	596.16'	45.0'

NOTE: POLE LENGTHS TO BE FIELD VERIFIED PRIOR TO FABRICATION

40

45

N

STA. 41+14.90 S.R. 65
STA. 50+00.00 BATSON PARKWAY
N 777819.1152
E 1705844.6769

STA. 41+11.84 S.R. 65
STA. 14+00.00 WALLING ROAD
N 777816.0674
E 1705844.3765

WALLING ROAD
S 85° 42' 20" E

VOLUME DENSITY LOOPS
TO BE 285' FROM STOP BAR

PROPOSED MAST ARM POLE #4
STA. 40+50.00, 47.00' LT.

2" C (PVC)

TYPE A

1" C (PVC)

2" C (RGS)

2 ø 2" C (PVC)

PROPOSED MAST ARM POLE #1
STA. 41+63.00, 55.00' LT.

3" C (PVC)

PROPOSED PEDESTAL POLE #1
STA. 41+66.00, 47.00' LT.

TYPE A

1" C (PVC)

SR-65

1" C (PVC)

TYPE A

TYPE B

1" C (PVC)

PROPOSED MAST ARM POLE #3
STA. 40+50.00, 49.00' RT.

2" C (PVC)

1" C (PVC)

2" C (RGS)

TYPE A

BATSON PKWY

N 87° 46' 06" E

3" C (RGS)

2" C (PVC)

TYPE B

PROPOSED PEDESTAL POLE #2
STA. 41+94.00, 50.00' RT.

2" C (PVC)

PROPOSED MAST ARM POLE #2
STA. 41+86.00, 63.00' RT.

1" C (PVC)

SR-65

PROPOSED SIGNAL HEADS W/BACKPLATES
1,2,3,4 — 1L

P3
PROPOSED COUNTDOWN PEDESTRIAN SIGNAL HEADS

E1,E2,E3
PROPOSED EMERGENCY VEHICLE PREEMPT DETECTORS

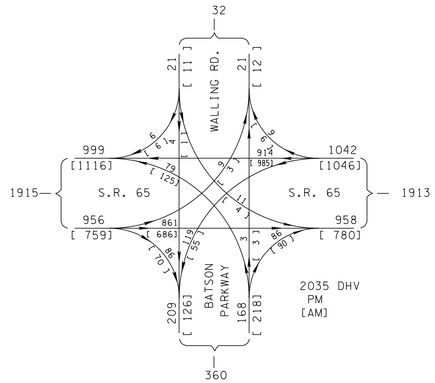
CROSSWALK DETAIL

PROPOSED MAST ARM POLE #1
PROPOSED PEDESTAL POLE #1
PROPOSED PEDESTAL POLE #2
PROPOSED MAST ARM POLE #2

SEE STANDARD DRAWINGS RD-L-2, RD-L-3, AND RD-L-4 FOR STANDARD LEGENDS

PROPOSED STREET NAME SIGNS
SEE SIGN SCHEDULE ON SHEETS 36D AND 36E FOR SIGN DETAILS

Tom Austin Hwy — S1
← W A Batson Pky — S2
W A Batson Pky → — S3
← Walling Rd — S4
Walling Rd → — S5



INTERSECTION #1

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.000020 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED SIGNAL LAYOUT
INTERSECTION OF S.R. 65 AT BATSON PKWY/WALLING RD

SCALE: 1"=30 '

5/4/2015 11:32:56 AM
C:\Melissa\PROJECTS\SIGNALS\Robertson\SR 65\Updated Files 4-24-15\Signal_Walling.dgn

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INDEX

The Storm Water Pollution Prevention Plan Index sheet lists the various sheets in the SWPPP plan. Detailed information about SWPPP requirements, site description, order of construction activities, ecology information, EPSC measures, maintenance and inspection, site assessments, certifications and permits may be found in the SWPPP sheets.

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

THIS SHEET IS FROM A DIFFERENT PROJECT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	STP/NH/DEMO-65(8)	S-1
P.E.	2015	74010-1218-14	

SWPPP INDEX OF SHEETS

NOTE: CITATIONS IN PARENTHESIS INDICATE SECTIONS OF THE CURRENT CGP.

1. SWPPP REQUIREMENTS (3.0)

1.1. HAS THE SWPPP TEMPLATE BEEN PREPARED BY AN INDIVIDUAL THAT HAS THE FOLLOWING CERTIFICATIONS (3.1.1)?
YES ☒ NO ☐ (CHECK ALL THAT APPLY BELOW)
1.1.1. ☒ CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC); OR
1.1.2. ☒ TDEC LEVEL II

1.2. DO THE EPSC PLANS INVOLVE STRUCTURAL DESIGN, HYDRAULIC, HYDROLOGIC OR OTHER ENGINEERING CALCULATIONS FOR EPSC STRUCTURAL MEASURES (SEDIMENT BASINS, ETC.)?(3.1.1)? YES ☒ NO ☐
IF YES, HAVE THE EPSC PLANS BEEN PREPARED, STAMPED AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT?
☒YES ☐ NO

1.3. DO THE PROJECT STORMWATER OUTFALLS DIRECTLY DISCHARGE INTO THE FOLLOWING (5.4.1)? YES ☐ NO ☒ (CHECK ALL THAT APPLY BELOW)
1.3.1. ☐ IMPAIRED WATERS (303d FOR SILTATION OR HABITAT ALTERATION)
1.3.2. ☐ KNOWN EXCEPTIONAL TENNESSEE WATERS
IF YES TO SECTION 1.3, HAVE THE EPSC PLANS BEEN PREPARED BY AN INDIVIDUAL WHO HAS COMPLETED TDEC LEVEL II? (5.4.1.b)
☐YES ☐ NO ☐ N/A (MAY 23, 2013 CGP EXEMPTION); AND
IF YES TO SECTION 1.3, HAS THE SWPPP TEMPLATE BEEN PREPARED BY AN INDIVIDUAL WHO HAS COMPLETED TDEC LEVEL II? (5.4.1.b)
☐YES ☐ NO ☐ N/A (MAY 23, 2013 CGP EXEMPTION)

2. SITE DESCRIPTION (3.5.1)

2.1. PROJECT LIMITS (3.5.1.g): REFER TO TITLE SHEET
2.2. PROJECT DESCRIPTION (3.5.1.a):
TITLE: SR 65 FROM SPRINGFIELD CITY LIMITS, NEAR WALLING RD TO SR 11 (MEMORIAL BLVD. US 41)
COUNTY: ROBERTSON
PIN: 102239.00
2.3. SITE MAP(S) (3.5.1.g): REFER TO TITLE SHEET
2.4. DESCRIPTION OF EXISTING SITE TOPOGRAPHY (3.5.1.d): REFER TO EXISTING CONTOURS SHEET(S) 32, 32A-32J, DRAINAGE MAP SHEET(S) 23-25, USGS QUAD MAP, AND THE OUTFALL TABLE IN SECTION 4.2.3 BELOW.
2.5. MAJOR SOIL DISTURBING ACTIVITIES (3.5.1.b) (CHECK ALL THAT APPLY):
2.5.1. ☒ CLEARING AND GRUBBING
2.5.2. ☒ EXCAVATION
2.5.3. ☒ CUTTING AND FILLING
2.5.4. ☒ FINAL GRADING AND SHAPING
2.5.5. ☒ UTILITIES
2.5.6. ☐ OTHER (DESCRIBE): ____
2.6. TOTAL PROJECT AREA (3.5.1.c): 69.6 ACRES
2.7. TOTAL AREA TO BE DISTURBED (3.5.1.c): 44.9 ACRES
IF GREATER THAN 50 ACRES, HAS CONSTRUCTION PROJECT PHASING BEEN SPECIFIED IN SECTION 3 BELOW AND IN THE PLANS (3.5.3.1.k)?
YES ☐ NO ☐ N/A ☒
2.8. ARE THERE ANY SEASONAL LIMITATIONS ON WORK? YES ☐ NO ☒
IF YES, DESCRIBE AND LIST THE CORRESPONDING PLAN SHEET: ____
2.9. WAS ROW FINALIZED PRIOR TO FEBRUARY 1, 2010 (4.1.2.2)?
YES ☐ _____ (DATE) NO ☒

IF ROW WAS FINALIZED PRIOR TO FEBRUARY 1, 2010, THIS PROJECT IS CONSIDERED A PRE-APPROVED SITE (4.1.2.2)

2.10. ARE UTILITIES INCLUDED IN THE CONTRACT? YES ☒ NO ☐
2.11. SOIL PROPERTIES (3.5.1.e)(4.1.1).
SOIL PROPERTIES FOR THE PRIMARY SOILS ARE LISTED IN THE TABLE BELOW.

SOIL PROPERTIES			
PRIMARY SOIL NAME	HSG	% OF SITE	ERODIBILITY (k value)
BaE-BAXTER CHERTY SILT LOAM	B	2.6	0.20
BaF-SENGTOWN GRAVELLY SILT LOAM	B	1.1	0.17
BcC3-BAXTER CHERTY SILTY CLAY LOAM	B	6.2	0.17
BcD3-BAXTER CHERTY SILTY CLAY LOAM	B	5.8	0.17
BoD-BODINE CHERTY SILT LOAM	A	5.3	0.15
BoF-BODINE CHERTY SILT LOAM	A	5.8	0.15
DmC3-DEWEY SILTY CLAY LOAM	B	0.4	0.32
DsB-DICKSON SILT LOAM	C/D	12.8	0.43
DsC2-DICKSON SILT LOAM	C/D	1.1	0.43
Gu-GUTHRIE SILT LOAM	C/D	2.3	0.43
Hb-HAMBLEN SILT LOAM	C	6.4	0.37
MoB-MOUNTVIEW SILT LOAM	C	7.7	0.43
MoC2-MOUNTVIEW SILT LOAM	C	16.5	0.43
PeC2-PEMBROKE SILT LOAM	B	0.1	0.37
Ro-ROCK LAND		0.5	
Sa-SANGO SILT LOAM	C/D	0.5	0.55
SeC-SENGTOWN GRAVELLY SILT LOAM	B	16.8	0.17
SeD-SENGTOWN GRAVELLY SILT LOAM	B	6.2	0.17
Ss-STASER SILT LOAM	B	1.9	0.37

2.12. IS ACID PRODUCING ROCK (APR) (i.e. PYRITE) LOCATED WITHIN THE PROJECT LIMITS? YES ☐ NO ☒
2.12.1. IF YES TO SECTION 2.12, HAVE APR LOCATIONS BEEN IDENTIFIED WITHIN THE CONSTRUCTION PLANS AND/OR THE GEOTECHNICAL REPORT? ☐YES ☐ NO; AND
2.12.2. IF YES TO SECTION 2.12.1, HAS A SPECIAL HANDLING PLAN AND/OR ADAPTIVE MANAGEMENT PLAN (AMP) BEEN PREPARED FOR THE PROJECT? ☐YES ☐ NO ☐ N/A (TDOT SP107L WILL BE APPLIED.)

2.13. PROJECT RUNOFF COEFFICIENTS AND AREA PERCENTAGES (3.5.1.f).

RUNOFF COEFFICIENTS FOR EXISTING CONDITIONS				
AREA TYPE	AREA(AC)	PERCENTAGE OF TOTAL AREA (%)	RUNOFF CN	C FACTOR
IMPERVIOUS	16.4	24	98	
PERVIOUS(GRASS, FORESTS, ETC.)	53.2	76	49	
WEIGHTED CURVE NUMBER =			61	

RUNOFF COEFFICIENTS FOR POST-CONSTRUCTION CONDITIONS				
AREA TYPE	AREA(AC)	PERCENTAGE OF TOTAL AREA (%)	RUNOFF CN	C FACTOR
IMPERVIOUS	24.9	36	98	
PERVIOUS(GRASS, FORESTS, ETC.)	44.7	64	65	
WEIGHTED CURVE NUMBER =			77	

3. ORDER OF CONSTRUCTION ACTIVITIES (3.5.1.b, 3.5.2.a):

3.1. SPECIAL SEQUENCING REQUIREMENTS (SEE SHEETS 2J, 31-31A)
3.2. INSTALL STABILIZED CONSTRUCTION EXITS.
3.3. INSTALL PERIMETER PROTECTION WHERE RUNOFF SHEETS FROM THE SITE.
3.4. INSTALL INITIAL EPSC (EROSION PREVENTION AND SEDIMENT CONTROL) MEASURES.
3.5. PERFORM CLEARING AND GRUBBING (NOT MORE THAN 15 DAYS PRIOR TO GRADING OR EARTH-MOVING. REFER TO THE STABILIZATION PRACTICES BELOW.).
3.6. REMOVE AND STORE TOPSOIL.
3.7. STABILIZE DISTURBED AREAS WITHIN 14 DAYS OF COMPLETING ANY STAGE AND/OR PHASE OF ACTIVITY.
3.8. INSTALL UTILITIES, STORM SEWERS, CULVERTS AND BRIDGE STRUCTURES.
3.9. INSTALL INLET AND CULVERT PROTECTION ONCE STRUCTURES ARE IN PLACE AND CAPABLE OF INTERCEPTING FLOW.
3.10. PERFORM FINAL GRADING AND INSTALL BASE STONE.
3.11. COMPLETE FINAL PAVING AND SEALING OF CONCRETE.
3.12. INSTALL TRAFFIC CONTROL AND PROTECTION DEVICES.
3.13. COMPLETE FINAL STABILIZATION (TOPSOIL, SEEDING, MULCH, EROSION CONTROL BLANKET, SOD, ETC.)
3.14. REMOVE TEMPORARY EROSION CONTROLS AND ACCUMULATED SEDIMENT FROM AREAS THAT HAVE ESTABLISHED AT LEAST 70 PERCENT PERMANENT VEGETATIVE COVER.
3.15. RE-STABILIZE AREAS DISTURBED BY REMOVAL ACTIVITIES.

4. STREAM, OUTFALL, WETLAND, TMDL AND ECOLOGY INFORMATION

4.1. STREAM INFORMATION
4.1.1. WILL CONSTRUCTION AND/OR EROSION PREVENTION AND SEDIMENT CONTROLS IMPACT ANY STREAMS WITHIN THE PROJECT LIMITS?
YES ☒ NO ☐
4.1.2. IF NO TO SECTION 4.1.1, WILL THIS PROJECT DISCHARGE INTO STATE WATERS THAT ARE LESS THAN OR EQUAL TO 1 FLOW MILE DOWN GRADIENT OF THE PROJECT LIMITS? YES ☐ NO ☐

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

UTILITIES INDEX

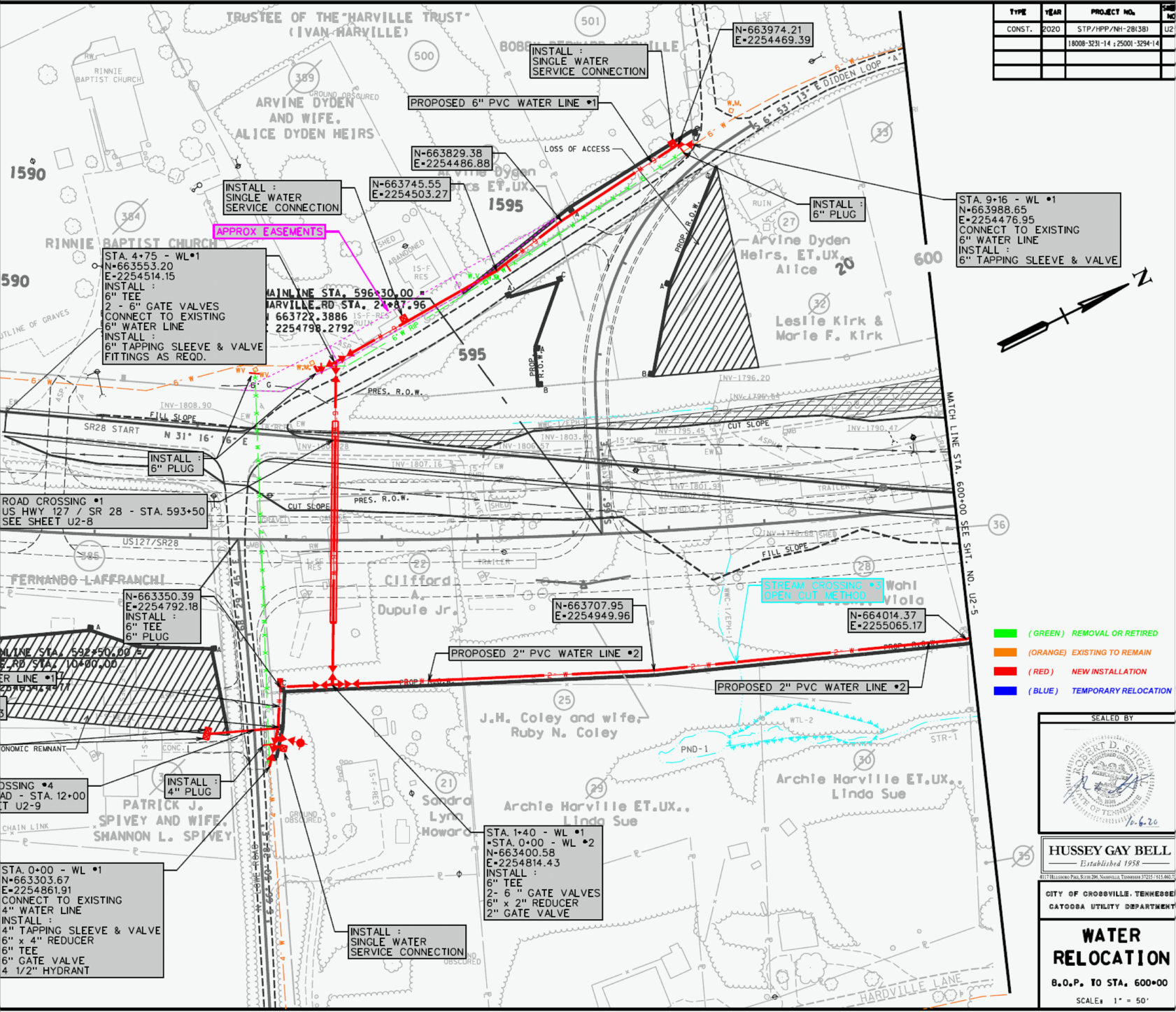
The Utilities Index sheet contains the utilities index. The index is a list of the utilities sheets in sequence that are included in a set oof contract plans. Detailed information about utility owners, utility locations and utility relocation quantities are found in these sheets.

For more information, see the TDOT Utilities Office.

The utilities sheets are:

- Created by Regional Utilities Offices
- Necessary for Utilities relocation
    - Water, Electric, Sewer, Telephone, Gas, etc
- A list of the utilities sheets in the relocation plans

For more information refer to the Utilities Division.



TYPE	YEAR	PROJECT NO.	SHEET NO
CONST.	2020	STP/HPP/NH-28(38)	U2
		18008-3231-14 ; 25001-3294-14	

SEALED BY

ROBERT D. STIGALL — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE

10-6-20

HUSSEY GAY BELL
Established 1958
417 Hillsboro Pike, Suite 206, Nashville, Tennessee 37215 / 615.660.7

CITY OF CROSSVILLE, TENNESSEE
CATOOSA UTILITY DEPARTMENT

WATER RELOCATION

B.O.P. TO STA. 600+00

SCALE: 1" = 50'

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

INDEX OF SHEETS	
SHEET NAME	SHEET NUMBER
UTILITIES INDEX, UTILITIES OWNERS, AND UTILITY SHEETS	UI-1 - UI-2
CITY OF RED BOILING SPRINGS WATER RELOCATION	U2-1 - U2-6
TRI-COUNTY ELECTRIC MEMBERSHIP CORP. ELECTRIC RELOCATION	U3-1 - U3-3

TENN.	YEAR	SHEET NO.
	2016	UI-1
FED. AID PROJ. NO.	BR-STP-151(3)	
STATE PROJ. NO.	56009-3210-94	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

MACON COUNTY

SR-151, BRIDGE OVER SALT LICK CREEK
(L.M. 2.47)

STATE HIGHWAY NO. 151 F.A.H.S. NO.

*NORTH CENTRAL TELEPHONE WILL
MOVE AFTER TRI-COUNTY ELECTRIC
HAS RELOCATED THEIR FACILITIES

UTILITY OWNERS AND CONTACTS:

ELECTRIC: TRI-COUNTY ELECTRIC
MEMBERSHIP CORPORATION
405 COLLEGE ST.
LAFAYETTE, TN 37083
STEVE LINVILLE
slinville@tcemc.org
O: 615-688-2119

TELEPHONE: NORTH CENTRAL TELEPHONE
872 HWY 52 BYPASS E
LAFAYETTE, TN 37083
TROY DAVIS
trdavis@nctc.com
O: 615-888-6058

WATER: CITY OF RED BOILING SPRINGS
361 LAFAYETTE RD.
PO BOX 190
RED BOILING SPRINGS, TN 37150
CHAD OWENS
chadowens@nctc.com
O: 615-699-2011

FIBER OPTIC: COMCAST
2501 MCGAVOCK PIKE
NASHVILLE, TN 37214
LARRY K. WINBURN
larry_winburn@cable.comcast.com
O: 615-244-7462 X 1115140
C: 615-295-9069

SEWER: CITY OF RED BOILING SPRINGS
361 LAFAYETTE RD.
PO BOX 190
RED BOILING SPRINGS, TN 37150
CHAD OWENS
chadowens@nctc.com
O: 615-699-2011

STANDARD LEGEND

EXISTING UTILITES

POWER — P — P —
TELEPHONE — T — T —
WATER — W — W —
CABLE TV — C — C —
SANITARY SEWER — SA — SA —
UNDERGROUND TELEPHONE — T (UG) —
GAS — G — G —
FORCE MAIN SEWER — FMS —
UNDERGROUND POWER — P (UG) —

POWER POLE
TELEPHONE POLE
POWER/TELEPHONE POLE
MANHOLE
WATER METER W.M.
WATER VALVE W.V.
LIGHT POLE

PROPOSED UTILITIES

POWER — P — P —
UNDERGROUND POWER — P (UG) —
TELEPHONE — T — T —
WATER — W — W —
CABLE TV — C — C —
UNDERGROUND TELEPHONE — T (UG) —
GAS — G — G —
FORCE MAIN SEWER — FMS —

POWER POLE P
TELEPHONE POLE T
WATER METER W.M.

(R) REMOVE

(P) PROPOSED

SPECIAL NOTES

SOME UTILITIES CAN BE LOCATED BY CALLING THE
TENNESSEE ONE CALL SYSTEM, INC.
AT 1-800-351-1111

11/9/2015 8:09:32 AM
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STANDARD ABBREVIATIONS

AASHTO - - - - - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORATION OFFICIALS
ABUT.- - - - - - ABUTMENT
AC.- - - - - - - ACRE
AC - - - - - - - ASPHALT CEMENT
ACC. - - - - - - ACCESS
ACCEL. - - - - - ACCELERATION
ACS - - - - - - ASPHALTIC CONCRETE SURFACE
ADL - - - - - - AVERAGE DAILY LOADING
ADT - - - - - - AVERAGE DAILY TRAFFIC
AGG. - - - - - - AGGREGATE
AH. - - - - - - AHEAD
ALUM. - - - - - ALUMINUM
APPR. - - - - - APPROACH
APPROX. - - - - APPROXIMATE
ASP. - - - - - - ASPHALT
ASTM - - - - - - AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG. - - - - - - AVERAGE

B - - - - - - - BRICK
BAR. - - - - - - BARRIER
BAL. - - - - - - BALANCE
BCCMP- - - - - - BITUMINOUS COATED CORRRUGATED METAL PIPE
BEG. - - - - - - BEGINNING
B.G. - - - - - - BELOW GRADE
BK. - - - - - - BACK
BIT. - - - - - - BITUMINOUS
BL. - - - - - - BLOCK
BLDG. - - - - - - BUILDING
BLVD. - - - - - BOULEVARD
B.M. - - - - - - BENCH MARK
BN. - - - - - - BARN
BOR. - - - - - - BORROW
BOTT. - - - - - BOTTOM
BR. - - - - - - BRIDGE
BTWN. - - - - - BETWEEN

CATV - - - - - - CABLE TV
C.A. - - - - - - CONTROLLED ACCESS
CALC. - - - - - CALCULATED
C.B. - - - - - - CATCH BASIN
C.C. - - - - - - CENTER TO CENTER
CFS - - - - - - CUBIC FEET PER SECOND
C & G - - - - - CURB AND GUTTER
CH. - - - - - - CHANNEL
CH.CH. - - - - - CHANNEL CHANGE
C.I.P. - - - - - CAST IRON PIPE
C.I.S. - - - - - CONSTRUCTION IDENTIFICATION SIGN
CK. - - - - - - CREEK
CL. - - - - - - CLASS
℄ - - - - - - - CENTER LINE
CM - - - - - - - CORRUGATED METAL
CMP - - - - - - CORRUGATED METAL PIPE
CMPA - - - - - - CORRUGATED METAL PIPE ARCH
CO. - - - - - - COUNTY or COMPANY
COM. - - - - - - COMMON
CONC. - - - - - CONCRETE
CONN. - - - - - CONNECTION
CONST. - - - - - CONSTRUCTION
CONT. - - - - - CONTINUOUS
CR. - - - - - - CRUSHED
C.R.S.I. - - - - CONCRETE REINFORCING STEEL INSTITUTE
C.S. - - - - - - CURVE TO SPIRAL
CULV. - - - - - CULVERT
C.Y. - - - - - - CUBIC YARD

D - - - - - - - DEGREE OF CURVATURE ON CURVE WITHOUT SPIRALS
D.A. - - - - - - DRAINAGE AREA
DBST - - - - - - DOUBLE BITUMINOUS SURFACE TREATMENT
DBYL - - - - - - DOUBLE BROKEN YELLOW LINE
DECEL - - - - - DECELERATION
D_S - - - - - - - DEGREE OF CURVATURE ON CURVE WITH SPIRALS
DHV - - - - - - DESIGN HOURLY VOLUME
D.I. - - - - - - DROP INLET
DIA. - - - - - - DIAMETER
DR. - - - - - - DRIVE
DWG. - - - - - - DRAWING
DSYL - - - - - - DOUBLE SOLID YELLOW LINE
DWL - - - - - - DOTTED WHITE LINE
DYL - - - - - - DOTTED YELLOW LINE

E - - - - - - - EXTERNAL DISTANCE ON CURVE WITH NO SPIRALS
E - - - - - - - EAST
EBL - - - - - - EASTBOUND LANE
ECM - - - - - - EXISTING CONCRETE MONUMENT
ECP - - - - - - EXISTING CORNER POST
EL. or ELEV. - - ELEVATION
ELONG. - - - - - ELONGATED
EMB. - - - - - - EMBANKMENT
ENGR. - - - - - ENGINEER
ENT. - - - - - - ENTRANCE
E.P. - - - - - - EDGE OF PAVEMENT
EQ. - - - - - - EQUATION
E_S - - - - - - - EXTERNAL DISTANCE ON CURVE WITH SPIRALS
E.S. - - - - - - EDGE OF SHOULDER
ESMT.- - - - - - EASEMENT

E.W. - - - - - - END WALL
EX. - - - - - - EXISTING
EXC. - - - - - - EXCAVATION
EXCL. - - - - - EXCLUDING
EXT. - - - - - - EXTENSION

F - - - - - - - FRAME
F.A. - - - - - - FEDERAL AID
FAP - - - - - - FEDERAL AID PRIMARY
FAS - - - - - - FEDERAL AID SECONDARY
FED. - - - - - - FEDERAL
F.G. - - - - - - FINISHED GRADE
F.H.W.A. - - - - FEDERAL HIGHWAY ADMINISTRATION
FIN. - - - - - - FINISHED
FL.EL. - - - - - FLOOR ELEVATION
F.L. - - - - - - FLOW LINE
FLG. - - - - - - FLANGE
FOC - - - - - - FIBER OPTIC CABLE
F.P. - - - - - - FIRE PLUG
FR.RD. - - - - - FRONTAGE ROAD
FT. - - - - - - FOOT or FEET
F/F - - - - - - FOOT PER FOOT
FUT. - - - - - - FUTURE

G - - - - - - - GAS (PUMP or UTILITY)
GA. - - - - - - GAUGE
GAL. - - - - - - GALLON
GALV. - - - - - GALVANIZED
GAR. - - - - - - GARAGE
GPH - - - - - - GALLONS PER HOUR
GPM - - - - - - GALLONS PER MINUTE
GR. - - - - - - GRADE or GRADED or GRAVEL
G.R. - - - - - - GUARD RAIL
GRAN. - - - - - GRANULAR
GT. - - - - - - GRATE
G.V. - - - - - - GAS VALVE
GW - - - - - - GUY WIRE

H.C.M. - - - - - HIGHWAY CAPACITY MANUAL
HD. - - - - - - HEAD
HO - - - - - - HORIZONTAL OVAL
HOCPC - - - - - HORIZONTAL OVAL CONCRETE PIPE CULVERT
HOR. - - - - - - HORIZONTAL
HSE. - - - - - - HOUSE
HT. - - - - - - HEIGHT
H.W. - - - - - - HIGH WATER
HWY. - - - - - - HIGHWAY
H.S. - - - - - - HIGH STRENGTH
HWL - - - - - - HASH WHITE LINE
HYL - - - - - - HASH YELLOW LINE

I - - - - - - - INTERSTATE
I.D. - - - - - - INSIDE DIAMETER
IN. - - - - - - INLET
INCL. - - - - - - INCLUDE
INV. - - - - - - INVERT
I.P. - - - - - - IRON PIN

JCT - - - - - - JUNCTION
JT. - - - - - - JOINT

L - - - - - - - LENGTH OF CIRCULAR CURVE WITH NO SPIRALS
L_C - - - - - - - LENGTH OF CIRCULAR CURVE BETWEEN SPIRALS
LB. - - - - - - POUND
LB/FT - - - - - POUND PER FOOT
L.C. - - - - - - STRAIGHT LINE DISTANCE BETWEEN T.S. AND S.C.
L.F. - - - - - - LINEAR FEET
LIN.FT. - - - - - LINEAR FEET
LGTH. - - - - - - LENGTH
LIN. - - - - - - LINEAR
LOC. - - - - - - LOCATION
L.P. - - - - - - LIGHT POLE
L_S - - - - - - - LENGTH OF SPIRAL
L.S. - - - - - - LUMP SUM
L.T. - - - - - - LONG TANGENT OF SPIRAL
LT. - - - - - - LEFT

MATL. - - - - - MATERIAL
MAX. - - - - - - MAXIMUM
MCPL. - - - - - MUNICIPAL
MED. - - - - - - MEDIAN
M.G. - - - - - - THOUSAND GALLONS
M.H. - - - - - - MANHOLE
MI. - - - - - - MILE
MIN. - - - - - - MINIMUM
MIN.AGG. - - - - MINERAL AGGREGATE
MOD. - - - - - - MODIFY or MODIFIED
MON. - - - - - - MONUMENT
MPH - - - - - - MILES PER HOUR
MUTCD - - - - - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

N - - - - - - - NORTH
N.A.D. - - - - - NORTH AMERICAN DATUM
NBL - - - - - - NORTHBOUND LANE
N.G.S. - - - - - NATIONAL GEODETIC SURVEY
N.I.C. - - - - - NOT IN CONTRACT
NO. - - - - - - NUMBER

O.D. - - - - - - OUTSIDE DIAMETER
O.H. - - - - - - OVERHEAD
O.H.W. - - - - - ORDINARY HIGH WATER
O.P. - - - - - - OVERPASS
OUT - - - - - - OUTLET

PB - - - - - - - PEDESTRIAN PUSHBUTTON
P.C. - - - - - - POINT OF CURVATURE
P.C.F. - - - - - POUNDS PER CUBIC FOOT
P.C.O. - - - - - PILE CUT OFF
P.I. - - - - - - POINT OF INTERSECTION
PKWY. - - - - - PARKWAY
PL. - - - - - - PLACE
P.L. - - - - - - PAPER LOCATED
P.O.C. - - - - - POINT ON CURVE
P.O.S.T. - - - - POINT ON SUBTANGENT
P.O.T. - - - - - POINT ON TANGENT
PRES. - - - - - PRESENT
PROJ. - - - - - PROJECT
PROP. - - - - - PROPOSED
P.S.F. - - - - - POUND PER SQUARE FOOT
P.S.I. - - - - - POUND PER SQUARE INCH
P.S.Y. - - - - - POUND PER SQUARE YARD
PT. - - - - - - POINT
P.T. - - - - - - POINT OF TANGENCY
PVC - - - - - - POLYVINYL CHOLRIDE
PVMT. - - - - - PAVEMENT
PVT. - - - - - - PRIVATE
PWR. - - - - - - POWER

Q - - - - - - - DESIGN DISCHARGE (CUBIC FEET PER SECOND)
QUAN. - - - - - QUANTITY

R - - - - - - - RADIUS OF CIRCULAR CURVE WITH NO SPIRALS
R_C - - - - - - - RADIUS OF CIRCULAR CURVE WITH SPIRALS
RCP - - - - - - REINFORCED CONCRETE PIPE
RCPA - - - - - - REINFORCED CONCRETE PIPE ARCH
RDSYL - - - - - REMOVABLE DOUBLE SOLID YELLOW LINE
RD. - - - - - - ROAD
RDY. - - - - - - ROADWAY
REF. - - - - - - REFUSAL
REINF. - - - - - REINFORCED
RELOC. - - - - - RELOCATION
REM. - - - - - - REMAINDER
REQD. - - - - - - REQUIRED
RES. - - - - - - RESIDENCE
REV. - - - - - - REVISED
R.L. - - - - - - REFUSAL LINE
R.O.W. - - - - - RIGHT-OF-WAY
R.R. - - - - - - RAILROAD
RSSWL - - - - - REMOVABLE SINGLE SOLID WHITE LINE
RT. - - - - - - RIGHT
RTE. - - - - - - ROUTE
RY. - - - - - - RAILWAY

S - - - - - - - SOUTH
SBL - - - - - - SOUTHBOUND LANE
SBST - - - - - - SINGLE BITUMINOUS SURFACE TREATMENT
S.C. - - - - - - SPIRAL TO CURVE
SCH. - - - - - - SCHOOL
S.D. - - - - - - SIDE DRAIN
S.E. - - - - - - SUPERELEVATION
SEC. - - - - - - SECTION
S.F. - - - - - - SQUARE FOOT
SHLD. - - - - - SHOULDER
SHR. - - - - - - SHRINKAGE
SHT. - - - - - - SHEET
SL. - - - - - - SLOPE
S.L. - - - - - - STATE LINE
S.P. - - - - - - SUPPORT POLE
SPA. - - - - - - SPACE
SPEC. - - - - - SPECIAL
SPECS. - - - - - SPECIFICATIONS
SPR.D. - - - - - SPRING DRAIN
SQ. - - - - - - SQUARE
S.R. - - - - - - SOLID ROCK
S.R. or ST.RT. - STATE ROUTE
ST. - - - - - - STREET or STATE
S.T. - - - - - - SPIRAL TO TANGENT or SHORT TANGENT OF SPIRAL
STA. - - - - - - STATION
STAB. - - - - - - STABILIZED
STD. - - - - - - STANDARD
STL. - - - - - - STEEL
STN. - - - - - - STONE
ST.P. - - - - - - STRAIN POLE
STR. - - - - - - STRENGTH or STRAIGHT
STRUC. - - - - - STRUCTURE
SURV. - - - - - - SURVEY
SWL. - - - - - - SWELL
S.W. - - - - - - SIDEWALK
S.Y. - - - - - - SQUARE YARD
SBWL - - - - - - SINGLE BROKEN WHITE LINE
SBYL - - - - - - SINGLE BROKEN YELLOW LINE
SSWL - - - - - - SINGLE SOLID WHITE LINE
SSYL - - - - - - SINGLE SOLID YELLOW LINE

T - - - - - - - SUBTANGENT LENGTH ON CURVE WITHOUT SPIRALS
T_C - - - - - - - TANGENT LENGTH FROM S.C. OR C.S. TO INTERSECTION OF TANGENTS
TD - - - - - - - TRENCH DEPTH
TDOT - - - - - - TENNESSEE DEPARTMENT OF TRANSPORTATION
TEMP. - - - - - TEMPORARY
TGRN - - - - - - TENNESSEE GEODETIC REFERENCE NETWORK
THK. - - - - - - THICKNESS
TNPK. - - - - - TURNPIKE
T.P. - - - - - - TURNING POINT
TR. - - - - - - TRACK
T_S - - - - - - - SUBTANGENT LENGTH ON CURVE WITH SPIRAL
T.S. - - - - - - TANGENT TO SPIRAL
T.V.A. - - - - - TENNESSEE VALLEY AUTHORITY
TYP. - - - - - - TYPICAL

UG - - - - - - - UNDERGROUND
U.L. - - - - - - URBAN LIMITS
UNCL.EX. - - - - UNCLASSIFIED EXCAVATION
U.P. - - - - - - UNDERPASS
U.S. - - - - - - UNITED STATES
U.S.C.E. - - - - UNITED STATES CORPS OF ENGINEERS

V - - - - - - - DESIGN SPEED
VAR. - - - - - - VARIABLE
V.C. - - - - - - VERTICAL CURVE
V.C.P. - - - - - VITRIFIED CLAY PIPE
VERT. - - - - - VERTICAL
VO- - - - - - - VERTICAL OVAL
VOCPC- - - - - - VERTICAL OVAL CONCRETE PIPE CULVERT
V.P.C.-- - - - - VERTICAL POINT OF CURVATURE
V.P.I. - - - - - VERTICAL POINT OF INTERSECTION
V.P.O.C.-- - - - VERTICAL POINT ON CURVE
V.P.T. - - - - - VERTICAL POINT OF TANGENCY

W - - - - - - - WEST
W/ - - - - - - - WITH
WBL - - - - - - WESTBOUND LANE
WD.P.- - - - - - WOOD POLE
WGT. - - - - - - WEIGHT
W.L. - - - - - - WATER LEVEL
W.M. - - - - - - WATER METER
W.V. - - - - - - WATER VALVE
W.W. - - - - - - WING WALL

X_C - - - - - - - SPIRAL COORDINATE
X-ING.- - - - - CROSSING
X-RD.- - - - - - CROSS-ROAD
X-SEC.- - - - - CROSS-SECTION

Y_C - - - - - - - SPIRAL COORDINATE

REV. 7-1-72: CHANGED DEPARTMENT NAME.

REV. 1-1-76: CHANGED DWG. NO. FROM A-A-1 (SHEET 2) TO RD-A-1.

REV. 11-9-76: REORGANIZED SHEET AND ADDED THE FOLLOWING: AASHTO BIT., H.S., P.C.O., PKWY., P.S.F., PVC, S.R. OR ST. RT., ST. P., T.P., UG, AND WD. P.

REV. 9-18-79: ADDED PAVEMENT MARKING ABBREVIATIONS AS FOLLOWS: DSYL, DWL,HWL, HYL, SDWL, SDYL, SSWL, AND SSYL.

REV. 2-22-88: CHANGED PAVEMENT MARKING ABBREVIATIONS SDWL AND SDYL TO SBWL SBYL. ADDED DBYL AND DYL.

REV 3-20-91: REDREW SHEET AND ADDED THE FOLLOWING: ADL, ASP., BAR., BOR., CATV, CFS, DECEL, E.P., E.S., EX., F/F, FL. EL., FLG, H.C.M., JCT., LB/FT, MPH, MUTCD, N.A.D., N.G.S., O.H.W., PB, REF., TDOT, TGRN, VAR., V.P.C., V.P.I., V.P.O.C., V.P.T., AND WGT.

REV. 6-20-91: ADDED THE FOLLOWING: ECM, ECP, GW, AND W.M.

☒ REV. 10-26-92: ADDED THE FOLLOWING: MOD.

☒ REV. 10-26-93: ADDED THE FOLLOWING: FOC.

☒ REV. 9-5-94: ADDED THE FOLLOWING: ALUM, GPH, GPM, AND TD.

☒ REV. 7-29-98: ADDED THE FOLLOWING: CMPA, HO, HOCPC, RCPA, VO, AND VOCPC.

☒ REV. 12-18-99: ADDED THE FOLLOWING: RDSYL AND RSSWL.

NOTE
STANDARD DRAWINGS ARE NOT PRINTED WITH THE CONTRACT PLANS SET

THEY ARE LOCATED ONLINE AT

https://www.tn.gov/content/tn/tdot/roadway-design/standard-drawings-library/standard-roadway-drawings.html

☒ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD ABBREVIATIONS

RD-A-1

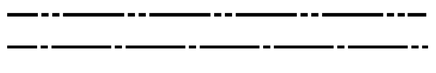
STANDARD LEGEND

EXISTING

BASE LINE CONTROL POINTS

PROPERTY CORNER LOCATED (IRON PIN OR OTHER TYPE MARKING)

DIRECTION AND ANGLE OF DIP OF STRATA



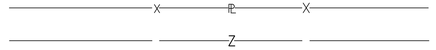
STATE BOUNDARY LINE

COUNTY BOUNDARY LINE

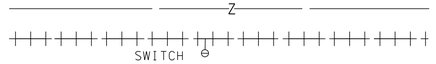
CITY, VILLAGE OR BOROUGH BOUNDARY LINE

PROPERTY LINE

PROPERTY LINE WITH FENCE



SAME PROPERTY OWNER

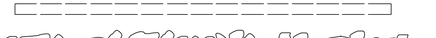


RAILROAD

ROADS (SHOW WIDTH AND NAME OR ROUTE)

CURB AND GUTTER

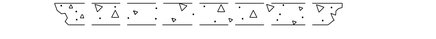
WALL (RETAINING, BRICK, STONE)



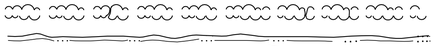
ROCK, EMBANKMENTS, REVETMENTS

SINGLE GUARDRAIL

MEDIAN DIVIDER GUARDRAIL



CONCRETE

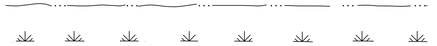


TREE LINE

LARGE STREAM WITH DIRECTIONAL ARROW

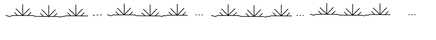
SMALL STREAM WITH DIRECTIONAL ARROW

INTERMITTENT STREAM



SWAMP, MARSH OR WETLAND

WETLAND BOUNDARY



SPRING

SINKHOLE (SHOW ELEVATION, LOCATION OF LOW POINT AND IF OPEN OR CLOSED)

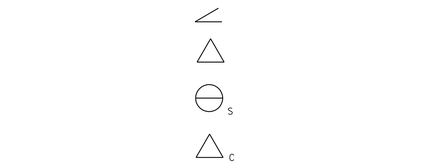
BRIDGE, BOX OR SLAB BRIDGES AND CULVERTS (DESCRIBE)

CROSS DRAIN OR SIDE DRAIN CULVERTS (SHOW SIZE, LENGTH, MATERIAL, INLET AND OUTLET ELEVATIONS, AND TYPE OF ENDWALLS)

CATCH BASIN (SHOW TYPE, IF KNOWN)

SEPTIC TANK (SHOW SIZE - DIRECTION OF ARROW INDICATES LOCATION OF OVERFLOW FIELD)

PROPOSED

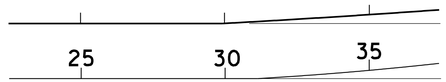


ANGLE

DELTA ANGLE

SPIRAL ANGLE

DELTA ANGLE OF CIRCULAR CURVE (EXCLUDING SPIRAL ANGLE)



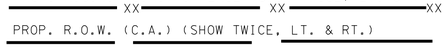
BASE LINE OR SURVEY LINE

CENTERLINE-NUMERALS .20"

PAPER LOCATION CENTERLINE

RIGHT-OF-WAY

RIGHT-OF-WAY, CONTROL OF ACCESS AND FENCE

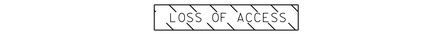


RIGHT-OF-WAY, CONTROL OF ACCESS WITHOUT FENCE

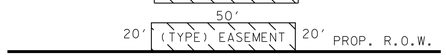
CONTROL OF ACCESS WITH FENCE

R.O.W. MARKER (SHOW TYPE A, B, OR C)

LOSS OF ACCESS

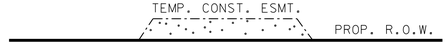


DRAINAGE EASEMENT AND/OR UTILITY EASEMENT (DESIGNATE) PERMANENT



TEMPORARY CONSTRUCTION EASEMENT

TOE OF FILL SLOPE



TOP OF CUT SLOPE

WALL (RETAINING, BRICK, STONE)

REINFORCED CONCRETE PAVEMENT

CURB AND GUTTER

EDGES OF PAVEMENT (SHOW WIDTH)

SINGLE GUARDRAIL

MEDIAN DIVIDER GUARDRAIL

BRIDGE BOX OR SLAB BRIDGES AND CULVERTS (DESCRIBE)

CROSS DRAIN OR SIDE DRAIN CULVERTS (SHOW SIZE, LENGTH, MATERIAL, INLET AND OUTLET ELEVATIONS, AND TYPE OF ENDWALLS)

"V" OR ROUND DITCH LINING TREATMENT

TRAPEZOIDAL DITCH LINING TREATMENT

CHANNEL CHANGE OR LARGE SPECIAL DITCH (DESCRIBE)

CATCH BASIN (SHOW TYPE)

REV. 7-1-72: CHANGED DEPARTMENT NAME.

REV. 1-1-76: CHANGED DRAWING NUMBER FROM A-A-1 (SHEET 1) TO RD-L-1. ADDED SYMBOLS FOR DITCH LINING.

REV. 3-15-76: CHANGED THE WORD "RECTANGULAR" TO "TRAPEZOIDAL REGARDING DITCH LINING.

REV. 1-19-91: REDREW SHEET AND ADDED SYMBOLS FOR EXISTING AND PROPOSED OVERHEAD POWER AND CABLE TV LINES. ADDED RIP-RAP TO DITCH LINING TREATMENT.

☒ REV. 10-26-93: CHANGED SYMBOLS FOR EXISTING AND PROPOSED OVERHEAD UTILITY POLES AND ADDED SYMBOL FOR UNDERGROUND FIBER OPTIC CABLE.

☒ REV. 10-26-94: REDREW SHEET AND ADDED SYMBOL FOR SEPTIC TANK. MOVED WETLAND BOUNDARY SYMBOL FROM OLD DRAWING NO. RD-L-2. MOVED SYMBOLS REFLECTING ALL UTILITY INSTALLATIONS TO NEW DRAWING NO. RD-L-2.

☒ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND

10-26-94 | RD-L-1

- REV. 10-26-94: NEW DRAWING REFLECTING ALL UTILITY RELATED SYMBOLS MOVED FROM DRAWING NO. RD-L-1.
- REV. 2-28-01: CHANGED SYMBOLS FOR OVERHEAD UTILITY LINES AND ADDED SYMBOLS FOR SEWER METERS AND VALVES.
- REV. 9-5-01: CORRECTED DESCRIPTIONS FOR PROPOSED OVERHEAD UTILITY LINES.

STANDARD LEGEND

EXISTING

4" G	GAS LINE (SHOW SIZE)
2" G G.V. 2" G	GAS VALVE IN LINE
24" M.H. 24"	MANHOLE (TYPE P, T, SA, OR ST) IN LINE
24" SA 24"	SANITARY SEWER (SHOW SIZE)
24" ST 24"	STORM SEWER (SHOW SIZE)
FOC UG FOC UG	UNDERGROUND FIBER OPTIC CABLE
P UG P UG	UNDERGROUND POWER LINE
P T UG P	UNDERGROUND POWER AND TELEPHONE LINE
T UG T UG	UNDERGROUND TELEPHONE LINE
6" W 6"	WATER LINE (SHOW SIZE)
4" W W.V. 4" W	WATER VALVE IN LINE
⊠	FIRE HYDRANT
□ G.V.	GAS VALVE
	LIGHT POLE
P	LIGHT POLE WITH POWER
T	TELEPHONE POLE
P	POWER POLE
P/T	POWER AND TELEPHONE POLE
P/T/TV	POWER, TELEPHONE AND CABLE TV POLE
	MANHOLE
T	TELEPHONE BOOTH
⊠	TRANSMISSION TOWER (SHOW NUMBER, OWNER AND SIZE AT BASE)
□ S.M.	SEWER METER
□ S.V.	SEWER VALVE
□ W.M.	WATER METER
□ W.V.	WATER VALVE
P P P P	OVERHEAD POWER LINE
T T T T	OVERHEAD TELEPHONE LINE
P T P T	OVERHEAD POWER AND TELEPHONE LINE
P CATV P CATV	OVERHEAD POWER AND CABLE TV

LET SLASH INDICATE DIRECTION OF OVER HEAD LINE

UTILITY SHEETS ONLY

PROPOSED

4" G 4" G	GAS LINE (SHOW SIZE)
4" G ■ G.V. 4"	GAS VALVE IN LINE
24" TYPE ◉ M.H. 24"	MANHOLE (TYPE P, T, SA, OR ST) IN LINE
24" SA 24" SA	SANITARY SEWER (SHOW SIZE)
24" ST 24" ST	STORM SEWER (SHOW SIZE)
FOC UG FOC UG FOC	UNDERGROUND FIBER OPTIC CABLE
P UG P UG P	UNDERGROUND POWER LINE
P UG P T UG	UNDERGROUND POWER AND TELEPHONE LINE
T UG T UG T	UNDERGROUND TELEPHONE LINE
6" W 6" W	WATER LINE (SHOW SIZE)
6" W ■ W.V. 6"	WATER VALVE IN LINE
●	FIRE HYDRANT
■ G.V.	GAS VALVE
	LIGHT POLE
P	LIGHT POLE WITH POWER
T	TELEPHONE POLE
P	POWER POLE
P/T	POWER AND TELEPHONE POLE
P/T/TV	POWER, TELEPHONE AND CABLE TV POLE
◉	MANHOLE
T	TELEPHONE BOOTH
⊠	TRANSMISSION TOWER (SHOW NUMBER, OWNER AND SIZE AT BASE)
■ S.M.	SEWER METER
■ S.V.	SEWER VALVE
■ W.M.	WATER METER
■ W.V.	WATER VALVE
P P P	OVERHEAD POWER LINE
T T T T T	OVERHEAD TELEPHONE LINE
P T P T P	OVERHEAD POWER AND TELEPHONE LINE
P CATV P CATV P	OVERHEAD POWER AND CABLE TV LINE

½" OR MORE LENGTH OF DASH

LET SLASH INDICATE DIRECTION OF OVER HEAD LINE

UTILITY SHEETS ONLY

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR UTILITY INSTALLATIONS

10-26-94 RD-L-2

STANDARD LEGEND

EXISTING		PROPOSED	
	LOOP DETECTOR WITH LEAD-IN		LOOP DETECTOR WITH LEAD-IN
	RADAR/VIDEO DETECTION AREA		RADAR/VIDEO DETECTION AREA
	VIDEO DETECTION CAMERA		VIDEO DETECTION CAMERA
	EMERGENCY VEHICLE DETECTOR		EMERGENCY VEHICLE DETECTOR
	POLE MOUNTED CONTROLLER		POLE MOUNTED CONTROLLER
	PAD MOUNTED CONTROLLER		PAD MOUNTED CONTROLLER
N	PEDESTRIAN SIGNAL HEAD WITH NUMBER	N	PEDESTRIAN SIGNAL HEAD WITH NUMBER
N	SIGNAL HEAD WITH NUMBER	N	SIGNAL HEAD WITH NUMBER WITHOUT BACKPLATE
N	SIGNAL HEAD WITH NUMBER AND BACKPLATE	N	SIGNAL HEAD WITH NUMBER AND BACKPLATE
	PULL BOX		PULL BOX
	FIBER OPTIC PULL BOX		FIBER OPTIC PULL BOX
EX 2" C	2" CONDUIT	2" C	2" CONDUIT
	STRAIN POLE FOR SIGNAL SUPPORT		STRAIN POLE FOR SIGNAL SUPPORT
	WOOD POLE FOR SIGNAL SUPPORT		WOOD POLE FOR SIGNAL SUPPORT

REV. 9-18-79: ADDED SIGNAL HEAD WITH NUMBER AND BACKPLATE, PEDESTRIAN PUSHBUTTON WITH NUMBER AND PAVEMENT ARROW TO EXISTING AND PROPOSED LEGEND.

REV. 1-11-82: ADDED EROSION CONTROL LEGEND.

REV. 8-21-89: ADDED WETLAND BOUNDARY.

REV. 1-19-91: REDREW SHEET AND ADDED SYMBOL FOR BOTH BELOW AND ABOVE GROUND SEDIMENT TRAPS.

☐ REV. 10-26-94: CHANGED DRAWING NO. FROM RD-L-2 TO RD-L-3. ADDED LIGHTING SYMBOLS. MOVED WETLAND BOUNDARY SYMBOL TO DRAWING NO. RD-L-1. MOVED EROSION CONTROL SYMBOLS TO DRAWING NO. RD-L-4.

☐ REV. 2-28-01: DELETED SYMBOL FOR EXISTING JACKED AND BORED CONDUIT WITH PULL BOXES.

☐ 4-15-04: CHANGED LEGEND FOR LOOP DECTOR WITH LEAD-IN. ADDED SYMBOLS FOR VIDEO DETECTION AREA, VIDEO DETECTION CAMERA, EMERGENCY VEHICLE DETECTOR, AND FIBER OPTIC PULL BOX. MOVED SYMBOLS BEGINNING WITH SYMBOL FOR GUYING DEVICE ANGLE ANCHOR TO NEW DRAWING NO. RD-L-4.

☐ REV. 3-16-17: ADDED SYMBOL FOR EXISTING RADAR/VIDEO DETECTION AREA. ADDED "RADAR/" BEFORE "VIDEO DETECTION AREA". ADDED "WITHOUT BACKPLATE" AFTER "SIGNAL HEAD WITH NUMBER".

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING

10-26-94 | RD-L-3

STANDARD LEGEND

- REV. 04-15-04: MOVED SYMBOLS BEGINNING WITH SYMBOL FOR GUYING DEVICE ANGLE ANCHOR FROM DRAWING NO. RD-L-3. ADDED SYMBOLS FOR PEDESTRIAN POLE FOR SINGLE AND DUAL PUSHBUTTON, DUAL ARM OFFSET TYPE LUMINAIRE AND POLE AND WALL MOUNTED UNDERPASS LIGHT.
- REV. 03-16-17: ADDED "OR PUSHBUTTON POLE" AFTER "PEDESTRIAN POLE" ON FOUR INSTANCES.
- REV. 07-16-18: REMOVED THE WORD ARM FROM SINGLE AND DUAL TYPE LUMINAIRE AND POLE. REDREW SHEET.

EXISTING		PROPOSED
	GUYING DEVICE ANGLE ANCHOR	GUYING DEVICE ANGLE ANCHOR
	GUYING DEVICE VERTICAL ANCHOR	GUYING DEVICE VERTICAL ANCHOR
PB	PEDESTRIAN PUSHBUTTON	PEDESTRIAN PUSHBUTTON
PB	PEDESTRIAN POLE OR PUSHBUTTON POLE FOR SINGLE PUSHBUTTON	PEDESTRIAN POLE OR PUSHBUTTON POLE FOR SINGLE PUSHBUTTON
PB PB	PEDESTRIAN POLE OR PUSHBUTTON POLE FOR DUAL PUSHBUTTON	PEDESTRIAN POLE OR PUSHBUTTON POLE FOR DUAL PUSHBUTTON
	HIGH MAST POLE WITH LUMINAIRES ON FULL RING	HIGH MAST POLE WITH LUMINAIRES ON FULL RING
	HIGH MAST POLE WITH LUMINAIRES ON HALF RING	HIGH MAST POLE WITH LUMINAIRES ON HALF RING
	SINGLE OFFSET TYPE LUMINAIRE AND POLE	SINGLE OFFSET TYPE LUMINAIRE AND POLE
	DUAL OFFSET TYPE LUMINAIRE AND POLE	DUAL OFFSET TYPE LUMINAIRE AND POLE
		WALL MOUNTED UNDERPASS LIGHT
	LIGHTING CONTROL CENTER	LIGHTING CONTROL CENTER
	RAILROAD - HIGHWAY CROSSING FLASHING SIGNAL	RAILROAD - HIGHWAY CROSSING FLASHING SIGNAL
	RAILROAD - HIGHWAY CROSSING FLASHING SIGNAL WITH AUTOMATIC GATE	RAILROAD - HIGHWAY CROSSING FLASHING SIGNAL WITH AUTOMATIC GATE
		JACKED OR BORED CONDUIT WITH PULL BOXES

NOT TO SCALE

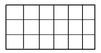
MINOR REVISION – FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING

04-15-04 | RD-L-4

STANDARD LEGEND



DEWATERING STRUCTURE

SEDIMENT FILTER BAG

* SF * SF * SF *

SILT FENCE

* SFB * SFB * SFB *

SILT FENCE WITH WIRE BACKING

* ESF * ESF * ESF *

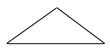
ENHANCED SILT FENCE

* ESF * ESF * ESF *

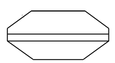
ENHANCED SILT FENCE

ENHANCED SILT FENCE CHECK (TRAPEZOIDAL DITCH)

ENHANCED SILT FENCE CHECK (V-DITCH)

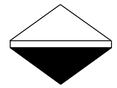


ROCK CHECK DAM (V-DITCH)

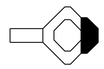


ROCK CHECK DAM (TRAPEZOIDAL DITCH)

ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)



ENHANCED ROCK CHECK DAM (V-DITCH)



ENHANCED ROCK CHECK DAM (CHANNEL)

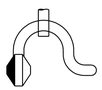
SEDIMENT TRAP WITH ENHANCED ROCK CHECK DAM

SEDIMENT TRAP WITH GABION CHECK DAM

SOCKSOCK**SOCK**SOCK**

FILTER SOCK

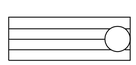
CULVERT PROTECTION (TYPE 1)



CULVERT PROTECTION (TYPE 2)

ROCK SEDIMENT DAM

ROCK AND EARTH SEDIMENT EMBANKMENT



SEDIMENT BASIN

- REV. 10-26-94: MOVED EROSION AND SEDIMENT CONTROL LEGENDS FROM OLD STANDARD DRAWING NO. RD-L-2 AND THE ESC-STR SERIES OF DETAIL SHEETS.
- REV. 5-27-95: ADDED NEW SYMBOLS.
- REV. 5-27-96: MODIFIED SYMBOL FOR TEMPORARY CATCH BASIN.
- REV. 7-29-97: CHANGED LEGEND FOR TEMPORARY SLOPE DRAIN PIPE.
- REV. 5-27-01: CHANGED REFERENCE IN LEGEND FROM DUMPED ROCK TO RIP-RAP.
- REV. 12-18-02: REMOVED SYMBOLS FOR TYPE IA, IB, IC, AND ID EROSION DITCH CHECKS. ADDED SYMBOL FOR TYPE I EROSION DITCH CHECK, TEMPORARY SILT FENCE (WITH BACKING), AND TEMPORARY ENHANCED SILT FENCE.
- REV. 1-22-03: ADDED SYMBOL FOR TYPE EC IA FILTER BARRIER DITCH CHECK.
- REV. 10-26-03: DELETED LEGEND FOR TYPE EC V FILTER BARRIER.
- REV.3-15-04: MOVED PART OF LEGEND BEGINNING WITH TEMPORARY ROCK AND SEDIMENT DAM TO NEW SHEET RD-L-5. CHANGED LEGEND FOR TEMPORARY CATCH BASIN SILT FENCE SILT TRAP. ADD TEMPORARY CATCH BASIN FILTER ASSEMBLY (TYPE 1 THROUGH 9).
- REV. 4-15-04: CHANGED DRAWING NUMBER FROM RD-L-4 TO RD-L-5.
- REV.5-1-08: REFORMATTED DRAWING IN CONJUNCTION WITH RD-L-6.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

10-26-94 | RD-L-5

STANDARD LEGEND

- CATCH BASIN PROTECTION (TYPE A)
- CATCH BASIN PROTECTION (TYPE B)
- CATCH BASIN PROTECTION (TYPE C)
- CATCH BASIN PROTECTION (TYPE D)
- CATCH BASIN PROTECTION (TYPE E)
- PERMANENT RIPRAP ENERGY DISSIPATOR
- TEMPORARY CULVERT CROSSING (DESCRIBE NUMBER AND SIZE OF PIPES)
- TEMPORARY CONSTRUCTION EXIT
- TEMPORARY CONSTRUCTION FORD
- TEMPORARY BERM
- INSTREAM DIVERSION
- TEMPORARY SLOPE DRAIN
- PERMANENT SLOPE DRAIN PIPE (SHOW SIZE)
- TEMPORARY DIVERSION CHANNEL (DESCRIBE - SIZE AND TYPE OF LINING)
- TEMPORARY DIVERSION CULVERT (DESCRIBE NUMBER AND SIZE OF PIPES)
- SUSPENDED PIPE DIVERSION
- EROSION CONTROL BLANKET
- COMPOST FILTER BERM
- MULCH FILTER BERM
- TURF REINFORCEMENT MAT
- SEDIMENT TUBE

- REV. 10-26-94: MOVED EROSION AND SEDIMENT CONTROL LEGENDS FROM OLD STANDARD DRAWING NO. RD-L-2 AND THE ESC-STR SERIES OF DETAIL SHEETS.
- REV. 5-27-95: ADDED NEW SYMBOLS.
- REV. 5-27-96: MODIFIED SYMBOL FOR TEMPORARY CATCH BASIN.
- REV. 7-29-97: CHANGED LEGEND FOR TEMPORARY SLOPE DRAIN PIPE.
- REV. 5-27-01: CHANGED REFERENCE IN LEGEND FROM DUMPED ROCK TO RIP-RAP.
- REV. 12-18-02: REMOVED SYMBOLS FOR TYPE IA, IB, IC, AND ID EROSION DITCH CHECKS. ADDED SYMBOL FOR TYPE I EROSION DITCH CHECK, TEMPORARY SILT FENCE (WITH BACKING), AND TEMPORARY ENHANCED SILT FENCE.
- REV. 1-22-03: ADDED SYMBOL FOR TYPE EC IA FILTER BARRIER DITCH CHECK.
- REV. 10-26-03: DELETED LEGEND FOR TYPE EC V FILTER BARRIER.
- REV.3-15-04: MOVED PART OF LEGEND BEGINNING WITH TEMPORARY ROCK AND SEDIMENT DAM TO NEW SHEET RD-L-5. CHANGED LEGEND FOR TEMPORARY CATCH BASIN SILT FENCE SILT TRAP. ADD TEMPORARY CATCH BASIN FILTER ASSEMBLY (TYPE 1 THROUGH 9).
- REV. 4-15-04: CHANGED DRAWING NUMBER FROM RD-L-4 TO RD-L-5.
- REV.5-1-08: REFORMATTED DRAWING IN CONJUNCTION WITH RD-L-5.
- REV. 3-30-10: ADDED SYMBOL FOR INSTREAM DIVERSION.

☒ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

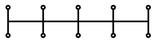
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

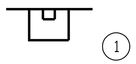
10-26-94 RD-L-6

REV. 05-24-12: ADDED HIGH VISIBILITY FENCE.

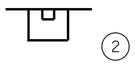
STANDARD LEGEND



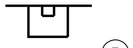
FLOATING TURBIDITY CURTAIN



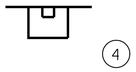
CURB INLET PROTECTION (TYPE 1)



CURB INLET PROTECTION (TYPE 2)



CURB INLET PROTECTION (TYPE 3)



CURB INLET PROTECTION (TYPE 4)

GABION CHECK DAM

CATCH BASIN FILTER ASSEMBLY (TYPE 1)

CATCH BASIN FILTER ASSEMBLY (TYPE 2)

CATCH BASIN FILTER ASSEMBLY (TYPE 3)

CATCH BASIN FILTER ASSEMBLY (TYPE 4)

*HVF*HVF*

HIGH VISIBILITY FENCE

CATCH BASIN FILTER ASSEMBLY (TYPE 5)

CATCH BASIN FILTER ASSEMBLY (TYPE 6)

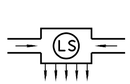
CATCH BASIN FILTER ASSEMBLY (TYPE 7)

CATCH BASIN FILTER ASSEMBLY (TYPE 8)

CATCH BASIN FILTER ASSEMBLY (TYPE 9)

CATCH BASIN FILTER ASSEMBLY (TYPE 10)

CATCH BASIN FILTER ASSEMBLY (TYPE 11)



LEVEL SPREADER (DUAL DIRECTION)

LEVEL SPREADER (SINGLE DIRECTION)

RIP-RAP

SAND BAG

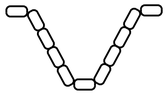
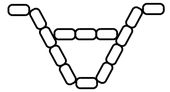
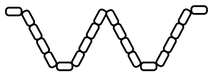
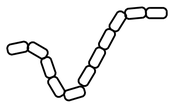
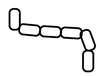
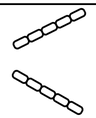
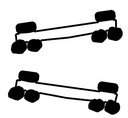
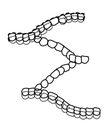
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

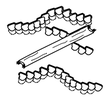
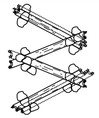
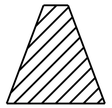
STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL

5-1-08 | RD-L-7

STANDARD LEGEND

REV. 9-15-17: DELETED VARIOUS ITEMS. MODIFIED VARIOUS ITEMS. ADDED STD. DWG. NAMES. REDESIGNED VARIOUS ITEMS ADDED LEGENDS FOR BOULDER TOE AND COIR FIBER EROSION CONTROL BLANKETS.

SYMBOL	ITEM	STD. DWG.
TOE TOE	LONGITUDINAL STONE TOE	D-NSD-13
	BOULDER CLUSTERS	D-NSD-21
	BOULDER CROSS VANE	D-NSD-22
	BOULDER CROSS VANE WITH STEP	D-NSD-23
	BOULDER W-WEIR	D-NSD-24
	BOULDER VANE	D-NSD-25
	J-HOOK	D-NSD-25
	LOG VANES, ROOT WADS AND BOULDER J-HOOK	D-NSD-26
	BOULDER STEP POOLS	D-NSD-27
	LOG STEP POOLS	D-NSD-27
	BOULDER RIFFLE	D-NSD-28

SYMBOL	ITEM	STD. DWG.
	BOULDER AND LOG RIFFLE	D-NSD-28
	LOG RIFFLE	D-NSD-28A
	CONSTRUCTED ALLUVIAL RIFFLE	D-NSD-29
	CLAY CHANNEL PLUG	D-NSD-31
	WOOD TOE WITH GEO-LIFTS	D-NSD-32
	BOULDER TOE WITH GEO-LIFTS	D-NSD-32A
	COIR FIBER EROSION CONTROL BLANKET	D-NSD-33
** ROLL **	COIR FIBER ROLLS	D-NSD-33
VV LS VV	LIVE SILTATION	D-NSD-34
VV LF VV	LIVE FASCINE	D-NSD-35
	BRUSH MATTRESS PATTERNING	D-NSD-36

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD LEGEND FOR NATURAL STREAM DESIGN

09-01-11 | RD-L-8

Additional Plans Reading Exercises for Right-of-Way Staff

TDOT Department of Transportation

RIGHT-OF-WAY DIVISION

2016 - TENNESSEE DEPARTMENT OF TRANSPORTATION

These exercises are primarily for Appraisers, Acquisition Agents, Relocation Agents, and Utility Agents. However, anyone at TDOT can learn from these exercises.

ROW activities primarily consist of acquiring the ROW and efficiently relocating any personal property, individuals, or utilities being displaced by the proposed improvement. It also consists of providing estimates of how many families, businesses, non-profits, or farms will be displaced and evaluating the potential impact that those relocations will have to the existing community or neighborhood. Being able to read and understand plans is essential for these functions.

You will need to download the exercise plan set examples to work along with the exercises shown.

ACQUISITION TABLE

The acquisition table contains important information about each tract on the project. The acquisition table identifies all property owners on the project who are going to be affected. Some owners may have only a small portion of their property temporarily acquired by the State. Other owners may have to relocate to an entirely new home. Turn to plan sheet 3D to see the acquisition table.

TRACT NUMBER & PUBLIC INFORMATION

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS			
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT REFERENCE	
				BK.	PAGE
45	BETTY SMITH	44	75.01	184	161

Look at the first entry in the top row of the table on plan sheet 3E (Tract 45) Betty Smith. The first data you see in the acquisition table is obtained from Public Records. It provides the tract number (45), name of the owner (Betty Smith), and other information necessary to properly identify the property. The remaining entries in the acquisition table deal specifically with land areas. This is where you get into reading the plans.

Go to Standard Drawings RD-A-1 AND RD-A-2. Locate and highlight these terms and abbreviations shown below as they will be discussed in detail later.

- Controlled Access
- Center Line
- Culvert
- Easement
- Guard Rail
- Iron Pin
- Station
- ASP.
- PVT.
- PROJ.
- EX.
- PROP.
- TYP.
- F.P.

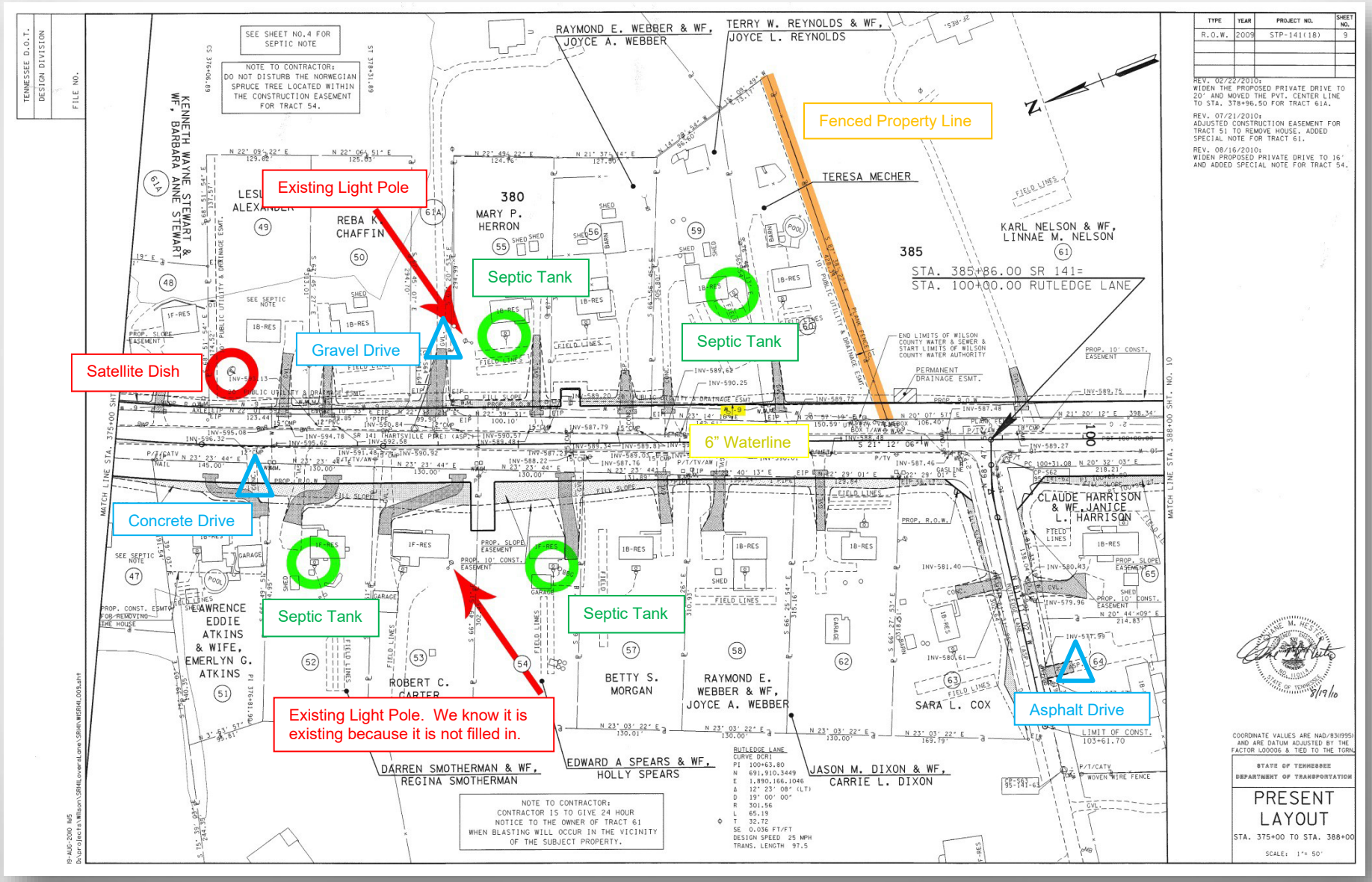
Go to Standard Drawings RD-L-1 through RD-L-8 and locate and highlight the symbols below that are in the EXISTING column:

- PROPERTY LINE
- WATER LINE
- ROW MARKER
- SAME PROPERTY OWNER
- SMALL STREAM WITH DIRECTIONAL ARROW
- SEPTIC TANK
- SANITARY SEWER
- PROPERTY LINE WITH FENCE
- SINGLE GUARDRAIL

Use references to mark the items on plan sheet 9:

- Mark the fenced property line on Tract 60
- Mark the size of the water line in front of Tract 59
- Circle the satellite Dish on Tract 49
- Circle the septic tanks on Tracts 51, 54, 55, and 59
- On Tract 53, draw an arrow pointing to the symbol near the left rear corner of the house. What does it represent? Is it existing or proposed?
- Draw an arrow pointing to the light pole on Tract 55.
- What is the existing driveway surface on Tracts 61A, 51 and 64?

PLAN SHEET 9 – EXISTING FEATURES



Go to Standard Drawing RD-L-1 and locate and highlight the symbols below that are in the PROPOSED column:

- CENTERLINE - NUMERALS
- RIGHT-OF-WAY
- CONTROL OF ACCESS WITH FENCE
- ROW MARKER (BLACK BOX WITH “A,” “B,” or “C”)
- LOSS OF ACCESS
- DRAINAGE EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT
- TOE OF FILL SLOPE
- TOP OF CUT SLOPE

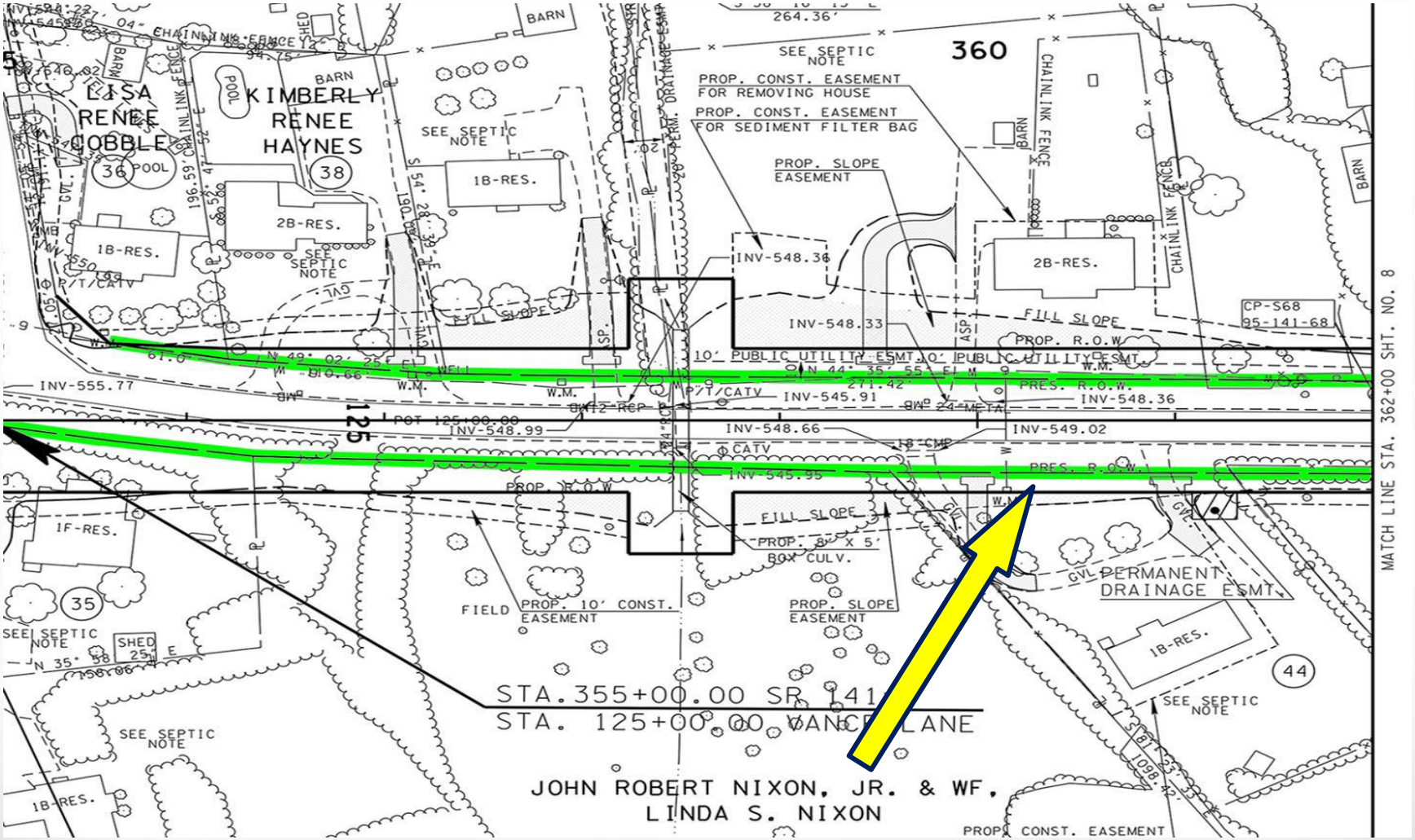
Present ROW

The present ROW is shown as a line of dashes and identified by the abbreviation PRES. R.O.W. The present ROW is not the edge of pavement. It is the current boundary of the land the State owns to operate and maintain the existing roadway facilities.

Go to plan sheet 7 and highlight the present ROW lines.

ESSENTIAL PLAN FEATURES – Plan Sheet 7

PRESENT RIGHT-OF-WAY (PRES. R.O.W.)



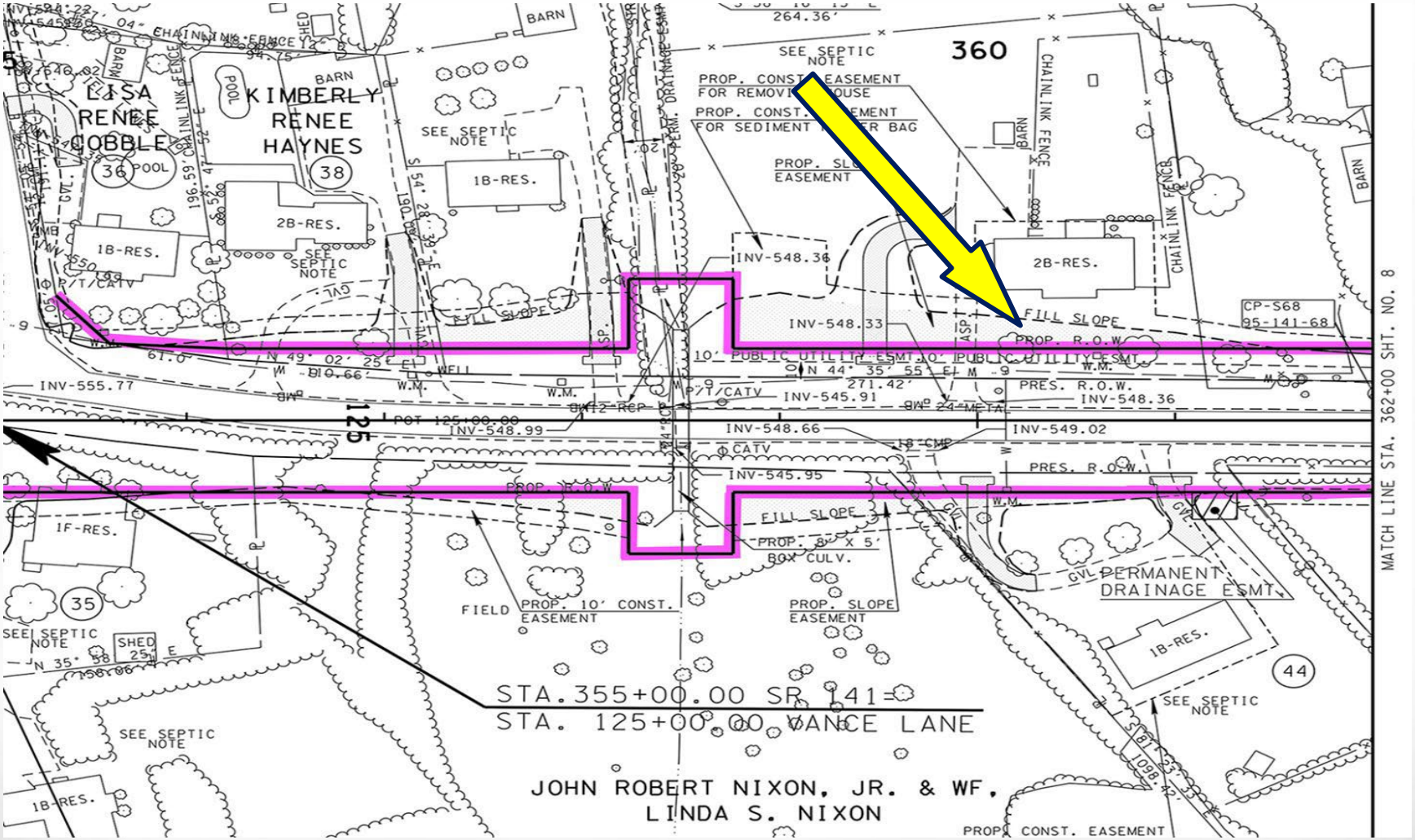
Proposed ROW

The proposed ROW is shown as a thick solid line and identified by the abbreviation PROP. R.O.W. The proposed ROW is not the edge of pavement. It is the new boundary of the land the State intends to acquire to operate and maintain the proposed road and facilities.

Go to plan sheet 7 and highlight the proposed ROW lines.

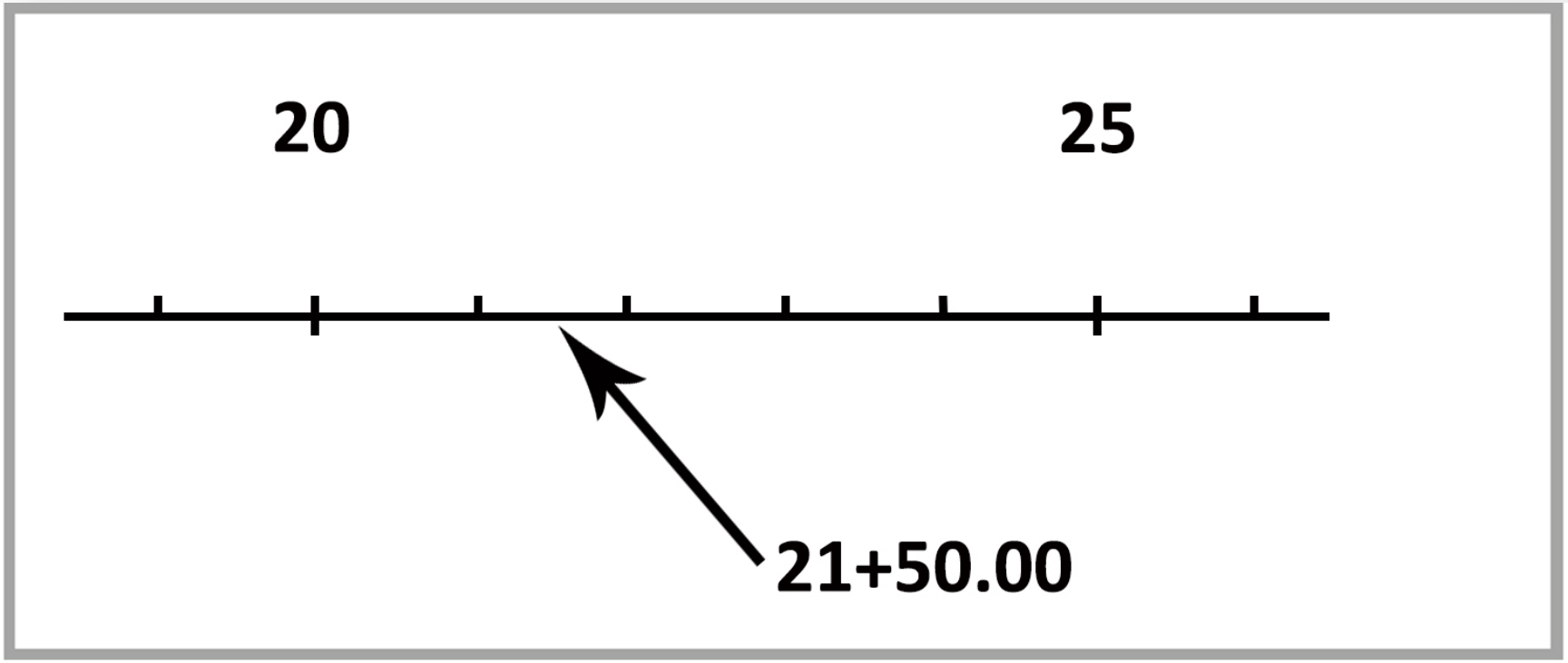
ESSENTIAL PLAN FEATURES – Plan Sheet 7

PROPOSED RIGHT-OF-WAY (PROP. R.O.W.)



STANDARD LEGEND: CENTERLINE & STATIONS

The centerline represents an imaginary line at finished grade of a proposed roadway. Hash marks, known as stations, are reference points that appear every 100' along the centerline. The numbers that appear every 500' above the centerline are markers that help you identify the stations on the page. These markers allow you to calculate the distance between stations. For example, the distance from Sta. 20+00.00 and Sta. 21+50.00 is 150 feet. All activities on a project are referenced in relation to their position off the centerline – so many feet to the left or right of station X. This is called an offset.



Reviewing Centerlines and Stations

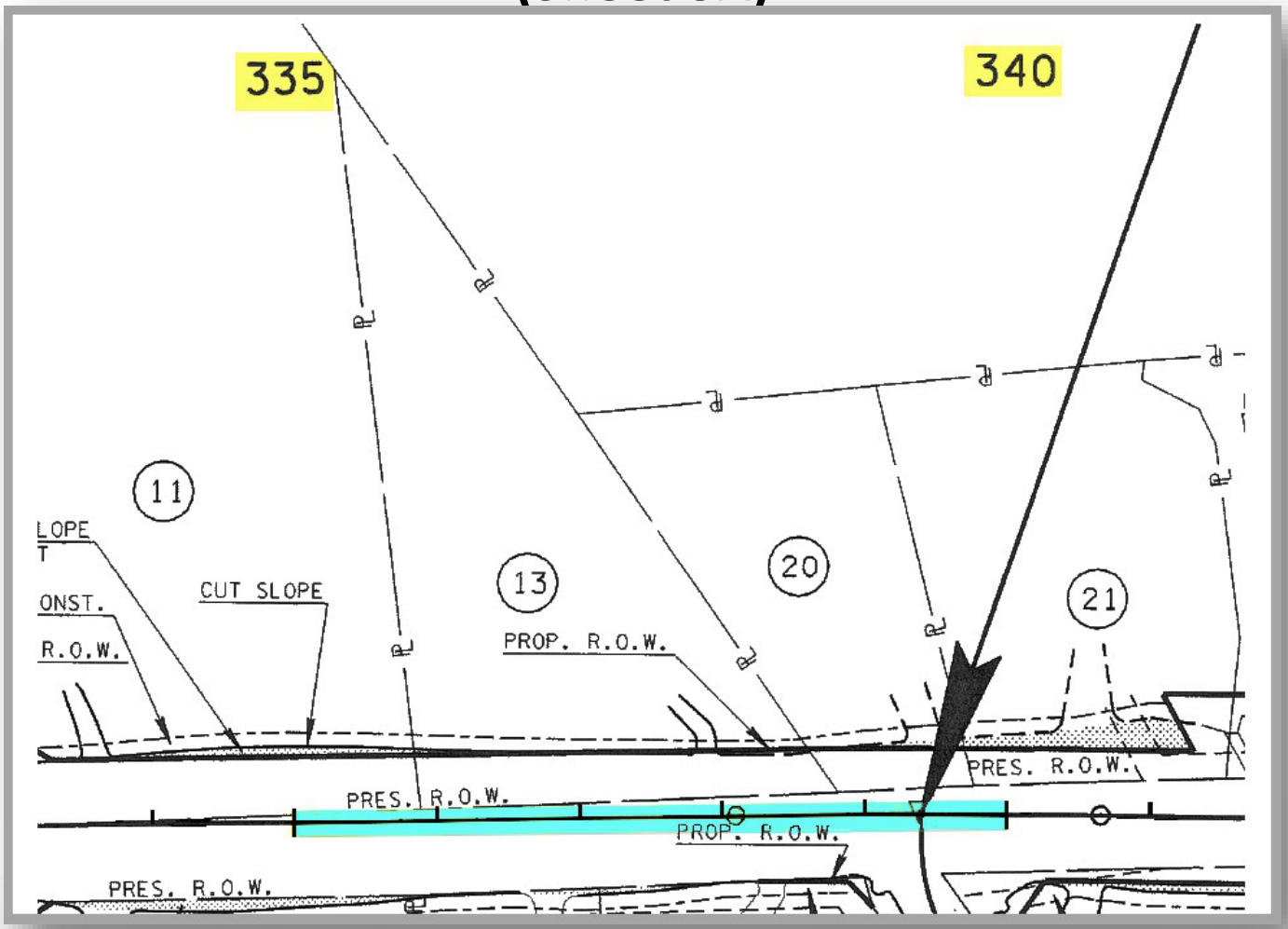
Go to plan sheet 3A and highlight the station numbers and the centerline from Sta. 335+00.00 to Sta. 340+00.00.

Go to plan sheet 6 and highlight the station numbers and the centerline from Sta. 340+00.00 to Sta. 346+00.00. Also highlight the one-story vacant business on Tract 21.

STANDARD LEGEND

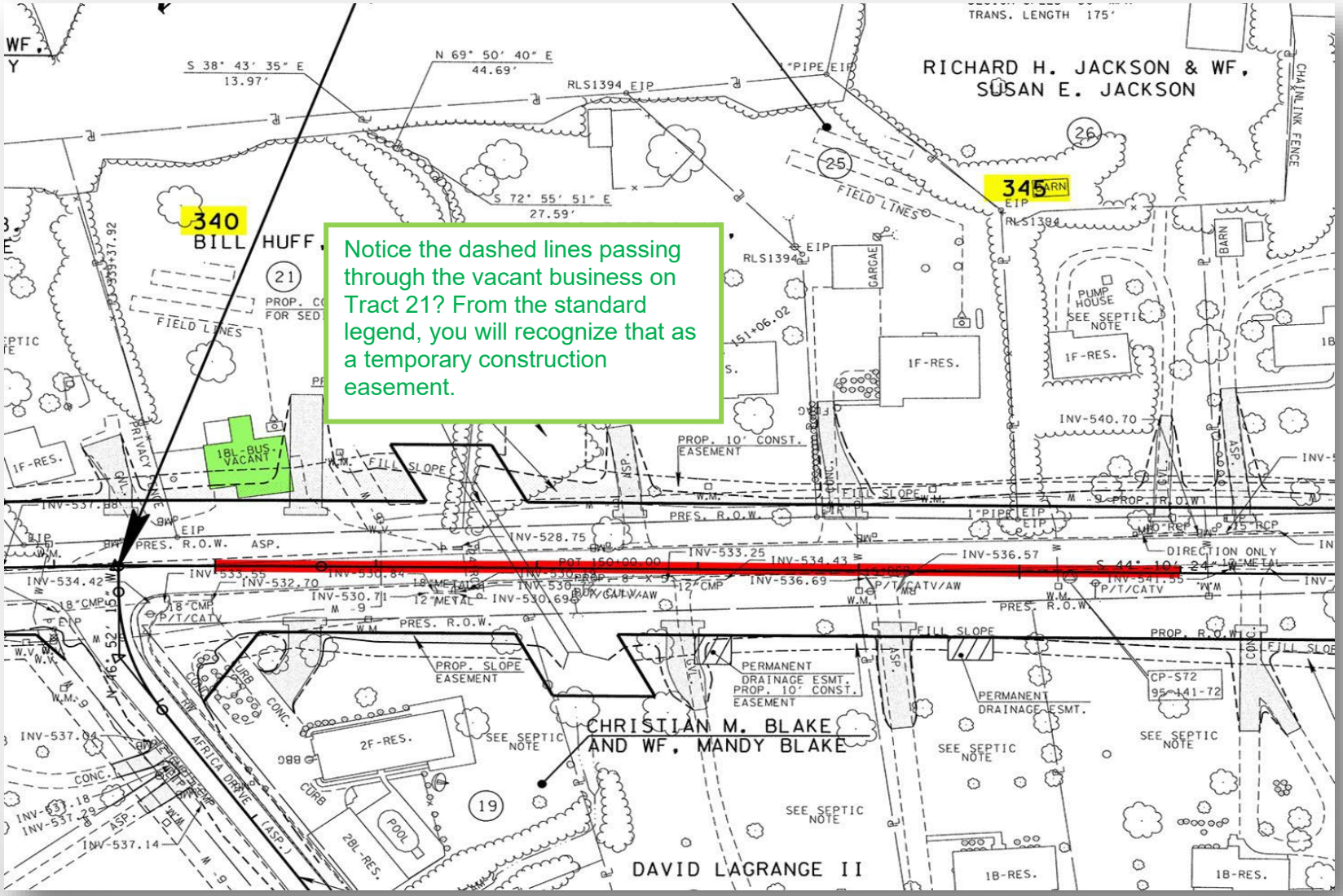
From STA. 335+00.00 to STA. 340+00.00

(Sheet 3A)



STANDARD LEGEND

Sheet 6, From STA. 340+00.00 to STA. 346+00.00



ACQUISITION TABLE

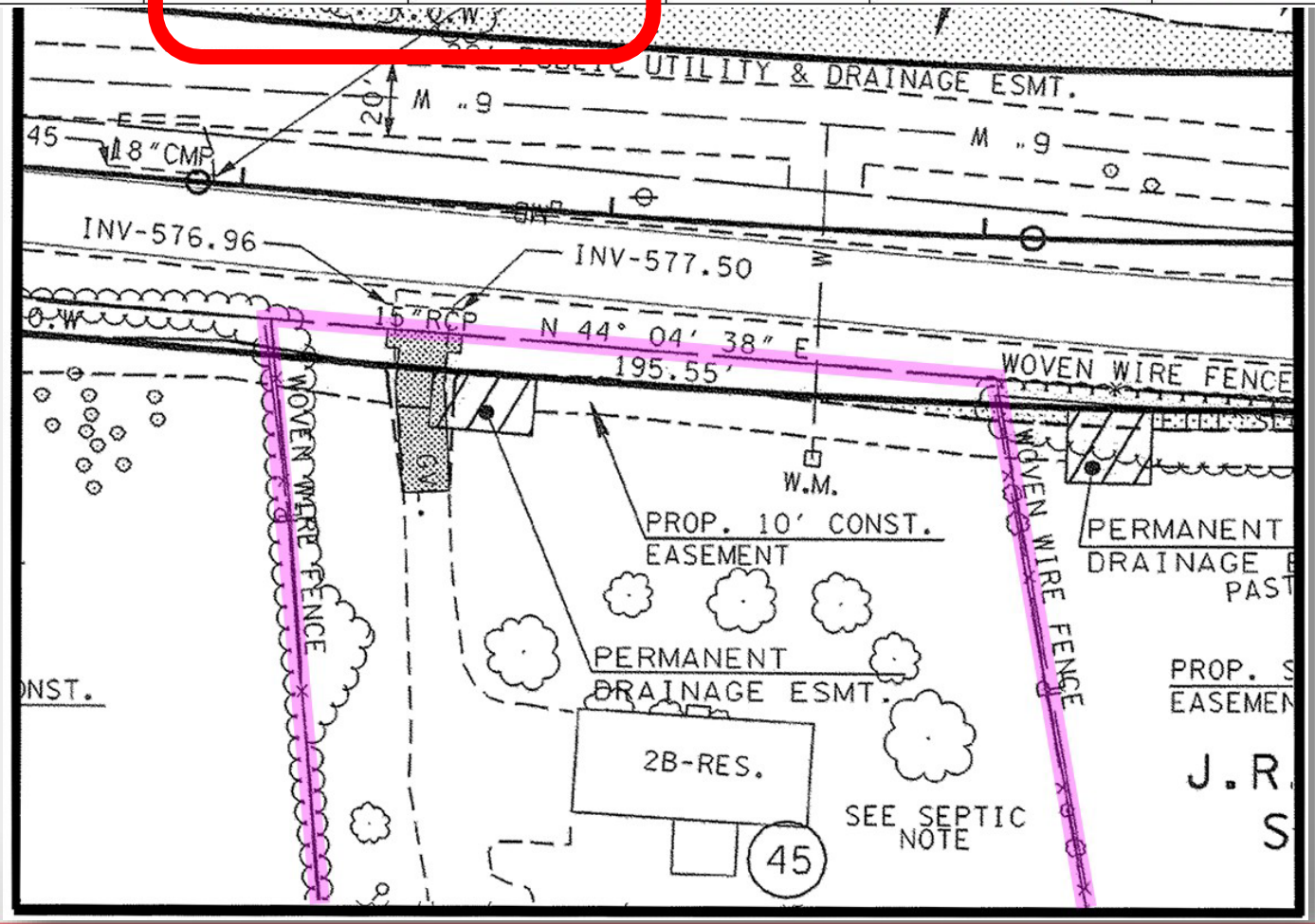
Now that we have learned about the standard abbreviations and legends, let's review more of the acquisition table.

Go to Sheet 3A and Sheet 8 and review the information for Tract 45.

The acquisition table shows the total Area of Tract 45 to be one acre. It shows that the area is to the right. This is because Tract 45 is completely to the right of the centerline. If a portion of the tract were located on the other side of the centerline, that area would be listed in the 'Left' column.

Highlight the existing property line boundary of Tract 45 on Sheet 8. Note that sometimes the property boundary is too large to be shown on the plans. See Tract 44 for an example.

TOTAL AREA ACRES			AREA TO BE ACQUIRED ACRES		
LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL
	1.0	1.0	0	1824 S.F.	1824 S.F.



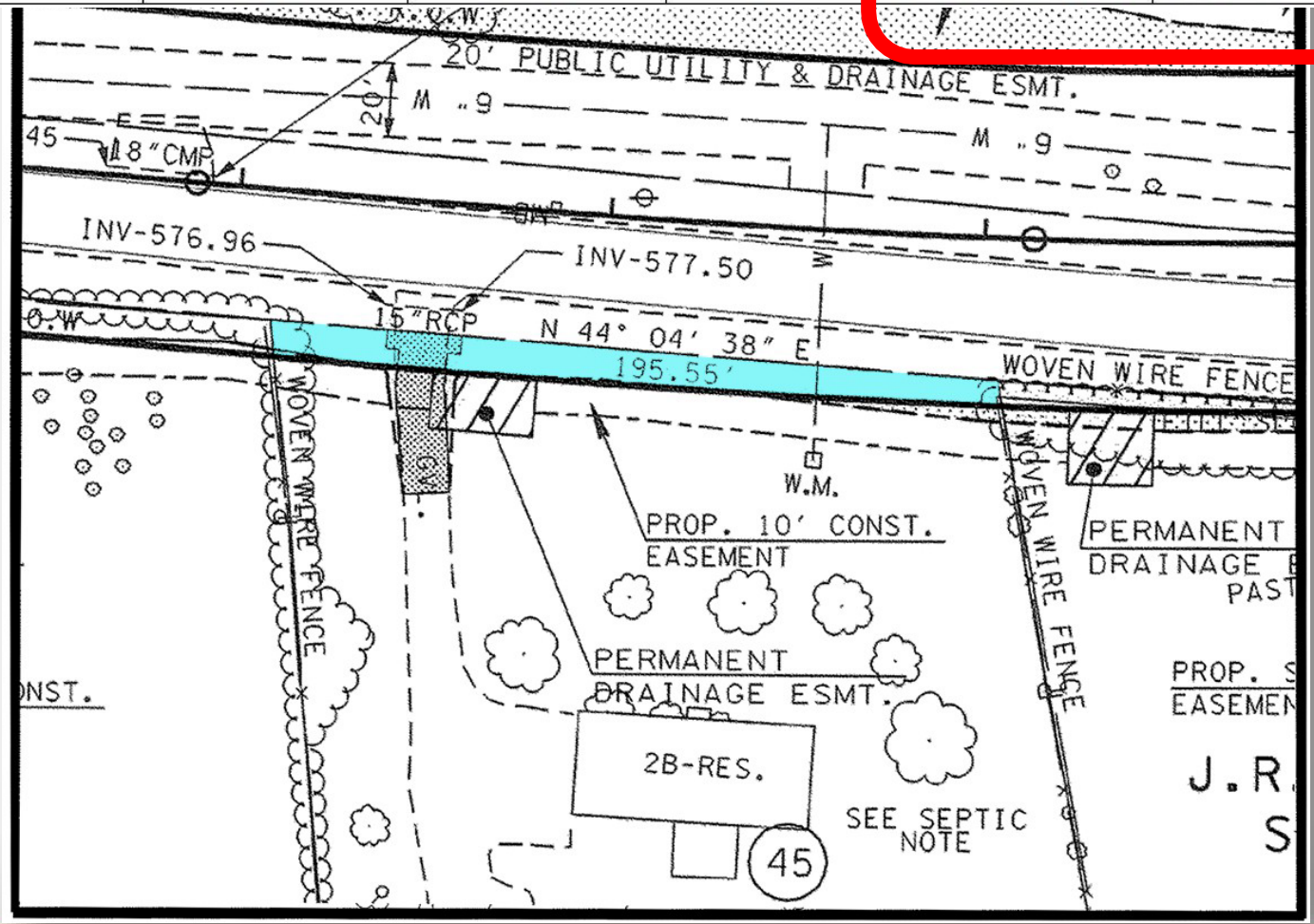
ACQUISITION TABLE CONT'D

Continue looking at Tract 45 information on Sheet 3A and Sheet 8.

Highlight the area between the existing property line and the proposed property line. This is the area that will need to be acquired in fee-simple for construction of the project. Because Tract 45 is located entirely on the right side of the centerline, the ROW acquired is listed in the 'Right' column.

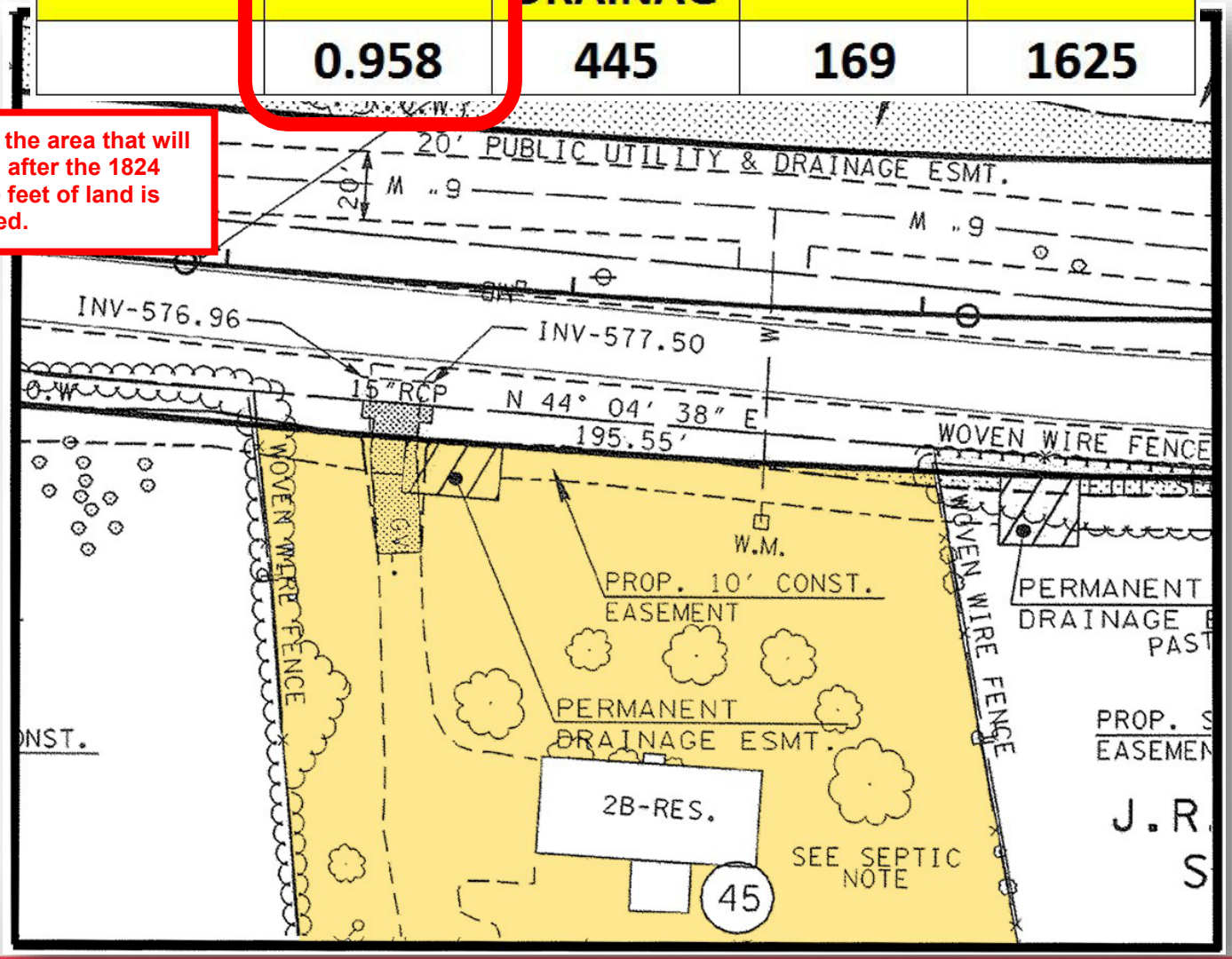
For an explanation of fee-simple, refer to the TDOT ROW Procedures Manual.

TOTAL AREA ACRES			AREA TO BE ACQUIRED ACRES		
LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL
	1.0	1.0	0	1824 S.F.	1824 S.F.



AREA REMAINING ACRES		EASEMENT (SQUARE FEET)		
LEFT	RIGHT	PERM. DRAINAG	SLOPE	CONST.
	0.958	445	169	1625

This is the area that will remain after the 1824 square feet of land is acquired.



EASEMENT

"An interest in real property that conveys use, but not ownership of a portion of an owner's property." - Appraisal Institute, Dictionary of Real Estate Appraisal – 4th ed: 90

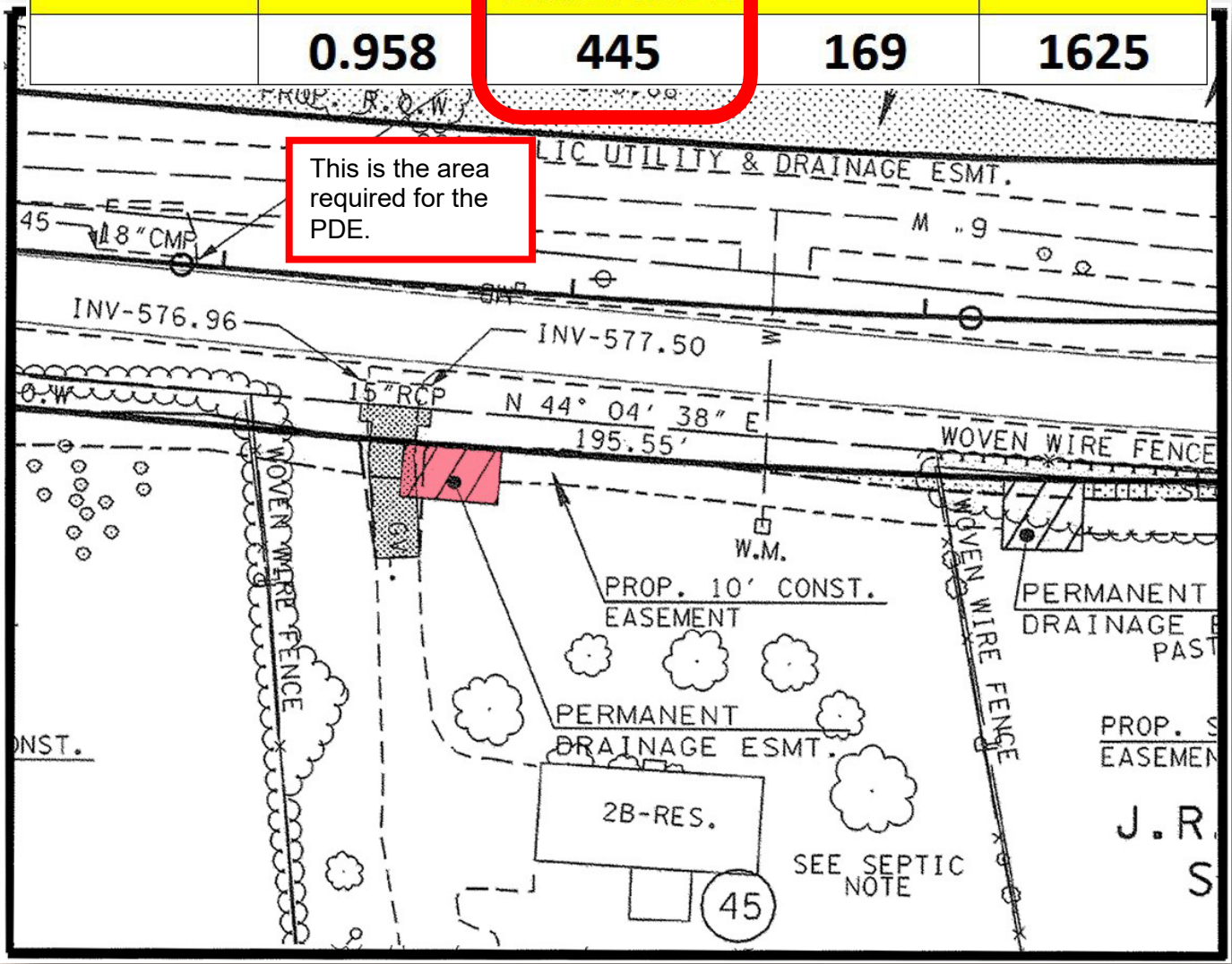
ROW is acquired in fee-simple. Easements are acquired for a certain period of time in order to build the road and all ow it to function. When the time period expires, the easement ceases to exist, and the use reverts back to the property owner. The State typically acquires three types of easements:

- **Permanent Drainage Easement (PDE)** – allows for the runoff from the road surface to drain safely away from the area. This easement is permanent because they must remain in place if the road is in operation. This is the most restrictive type of easement because it prohibits the owner from constructing anything inside this area.

- **Slope Easement** – Allows for the state to alter the topography to accommodate the new road.

- **Temporary Construction Easement (TCE)** – allows the State temporary use of the property while the road is being built (typically three years) after which time the easement ceases.

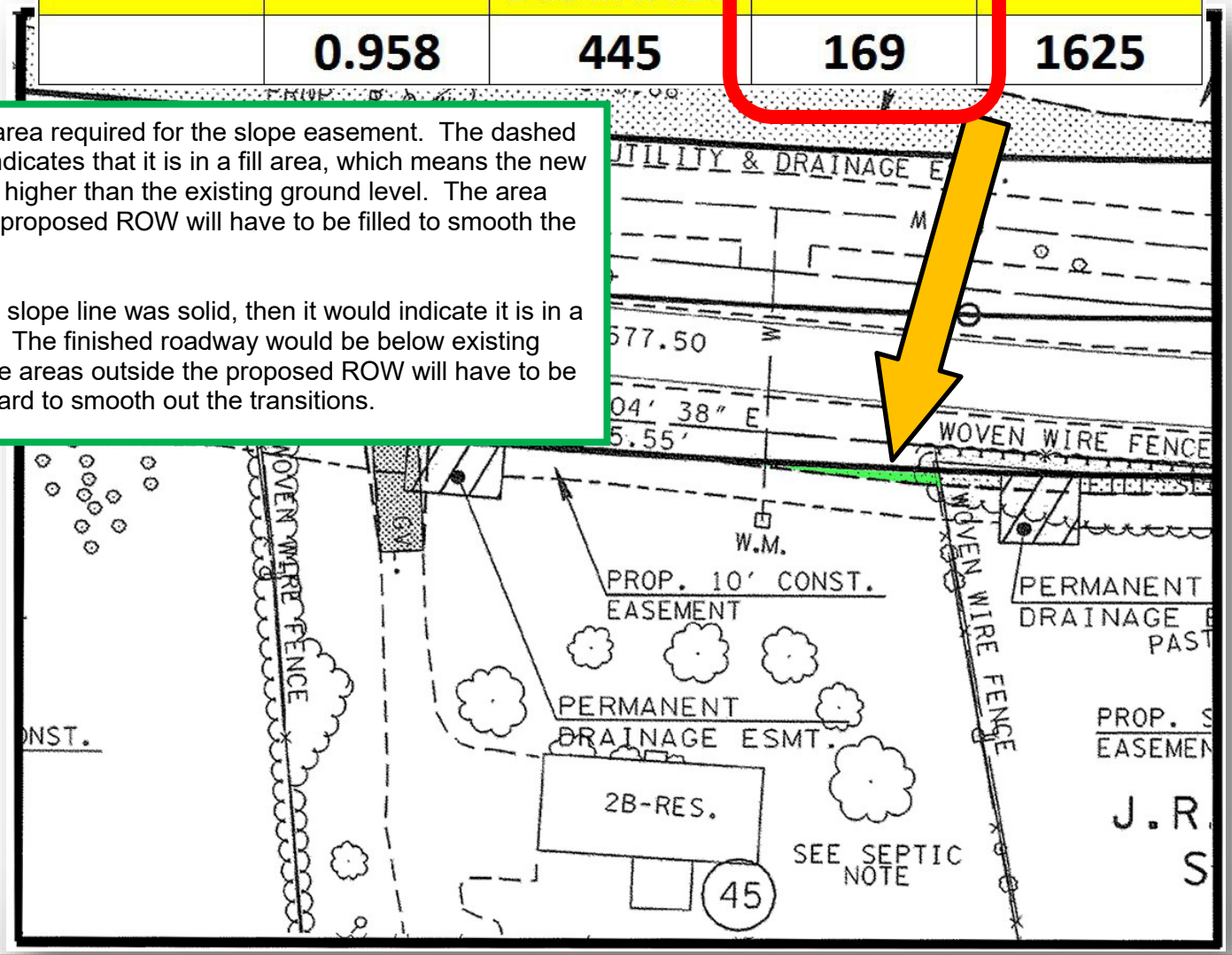
AREA REMAINING ACRES		EASEMENT (SQUARE FEET)		
LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
	0.958	445	169	1625



AREA REMAINING ACRES		EASEMENT (SQUARE FEET)		
LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
	0.958	445	169	1625

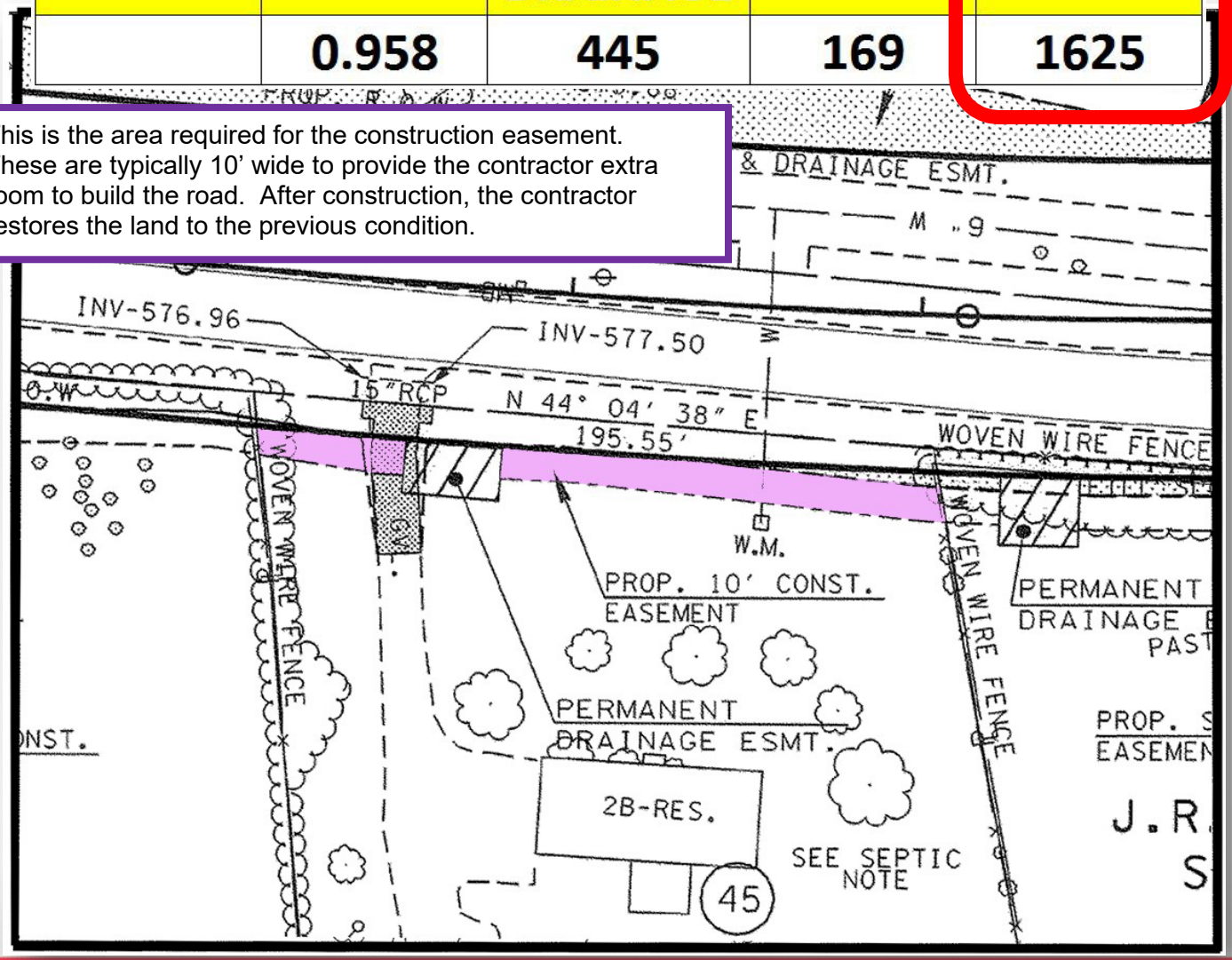
This is the area required for the slope easement. The dashed slope line indicates that it is in a fill area, which means the new road will be higher than the existing ground level. The area outside the proposed ROW will have to be filled to smooth the transition.

Note: If the slope line was solid, then it would indicate it is in a cut section. The finished roadway would be below existing grades. The areas outside the proposed ROW will have to be sloped upward to smooth out the transitions.



AREA REMAINING ACRES		EASEMENT (SQUARE FEET)		
LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
	0.958	445	169	1625

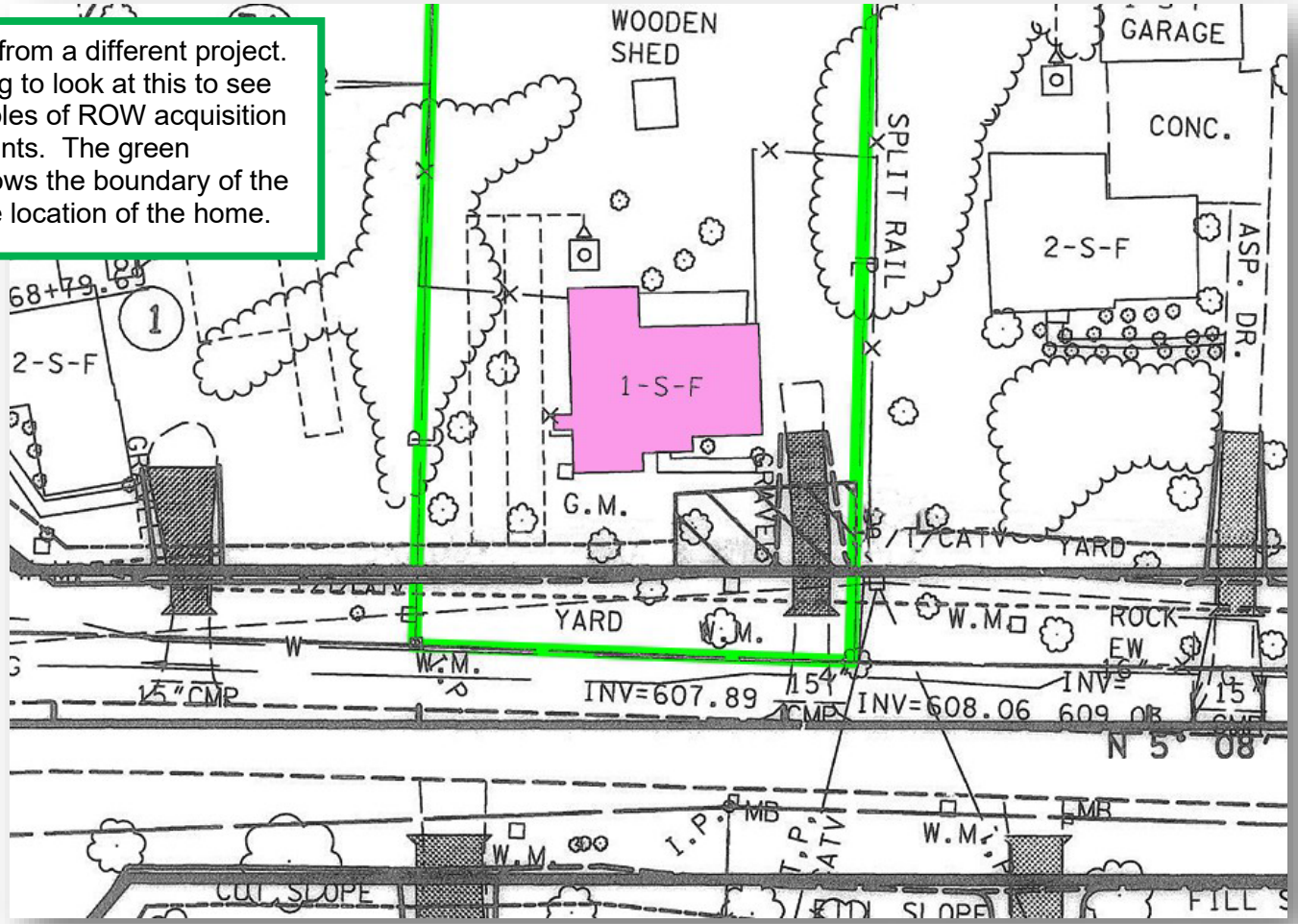
This is the area required for the construction easement. These are typically 10' wide to provide the contractor extra room to build the road. After construction, the contractor restores the land to the previous condition.



EXAMPLE – TRACT 2

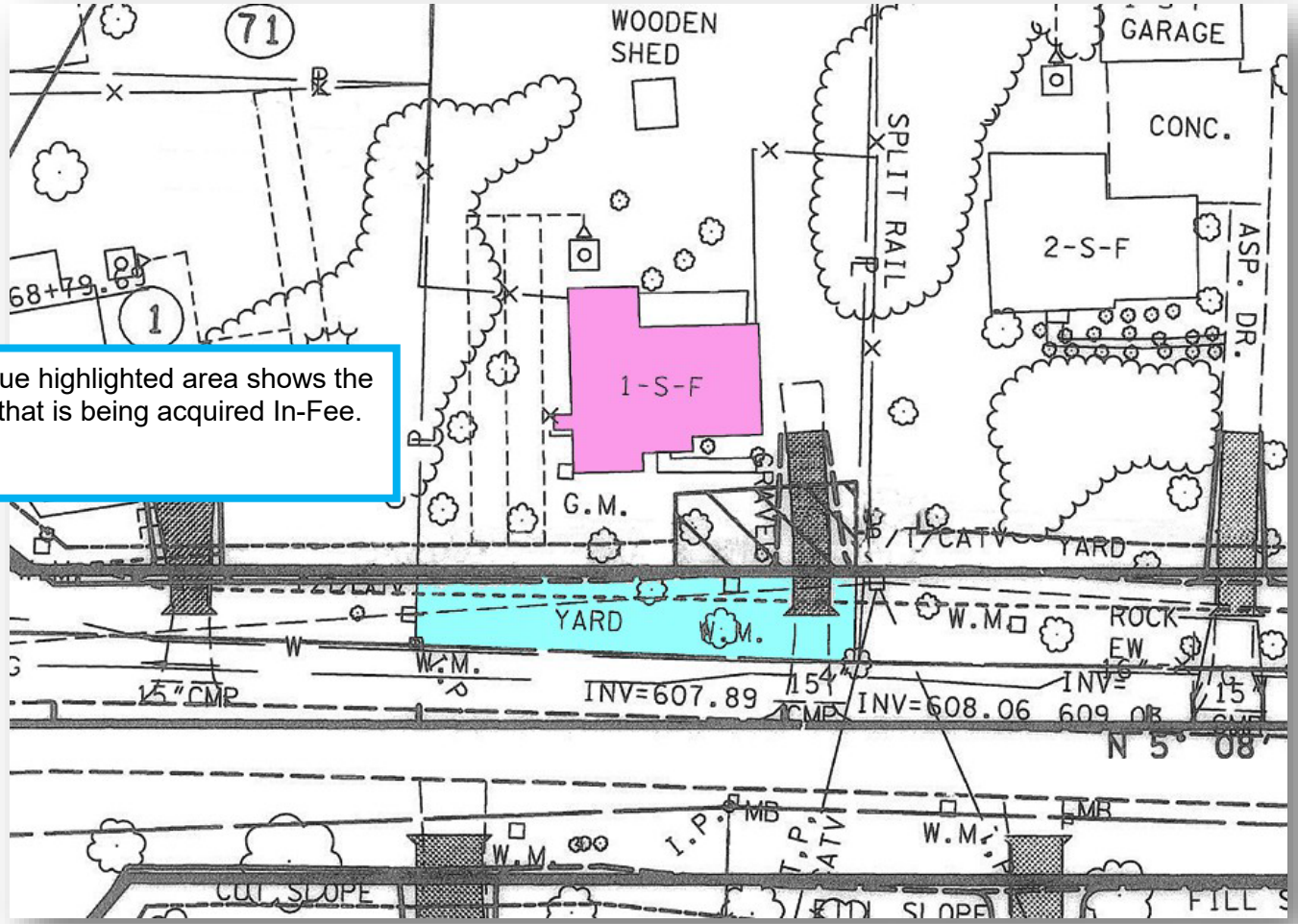
(Before)

This tract is from a different project. We are going to look at this to see more examples of ROW acquisition and easements. The green highlight shows the boundary of the tract and the location of the home.



EXAMPLE – TRACT 2

(Area Acquired)

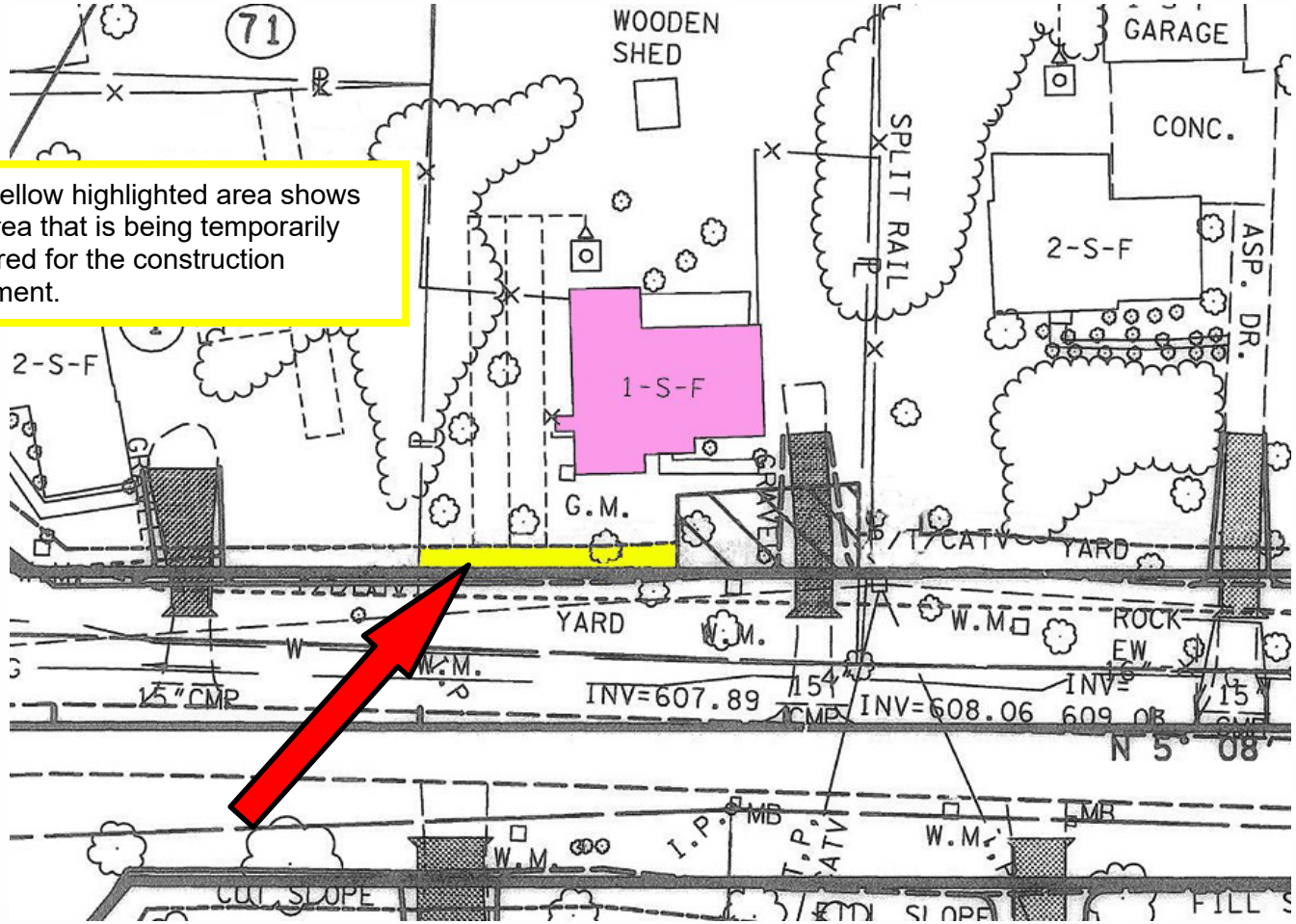


The blue highlighted area shows the ROW that is being acquired In-Fee.

EXAMPLE – TRACT 2

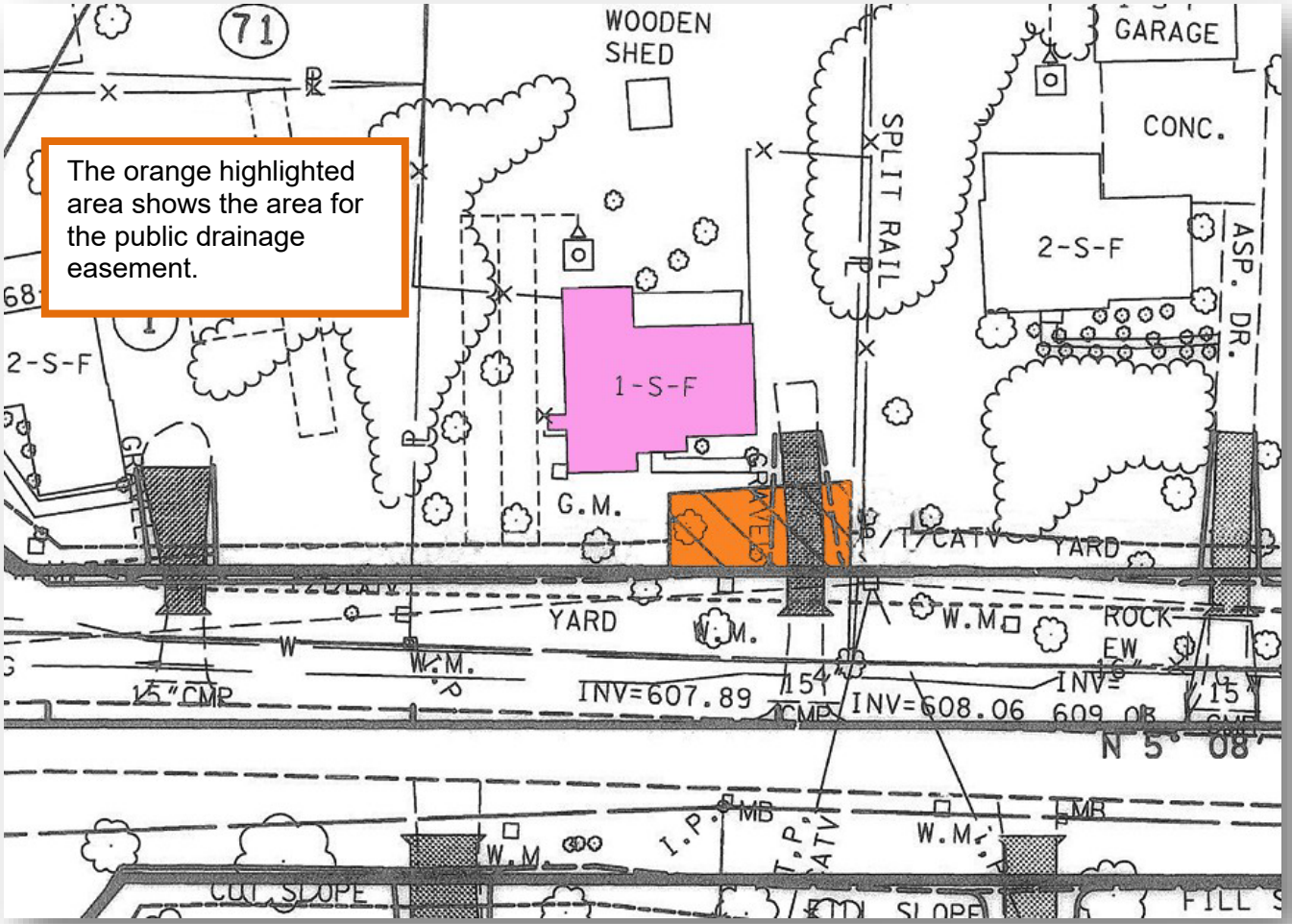
(TCE)

The yellow highlighted area shows the area that is being temporarily acquired for the construction easement.



EXAMPLE – TRACT 2

(PDE)



EXAMPLE – TRACT 2

(During Installation)

EXAMPLE – TRACT 2

(After Installation)

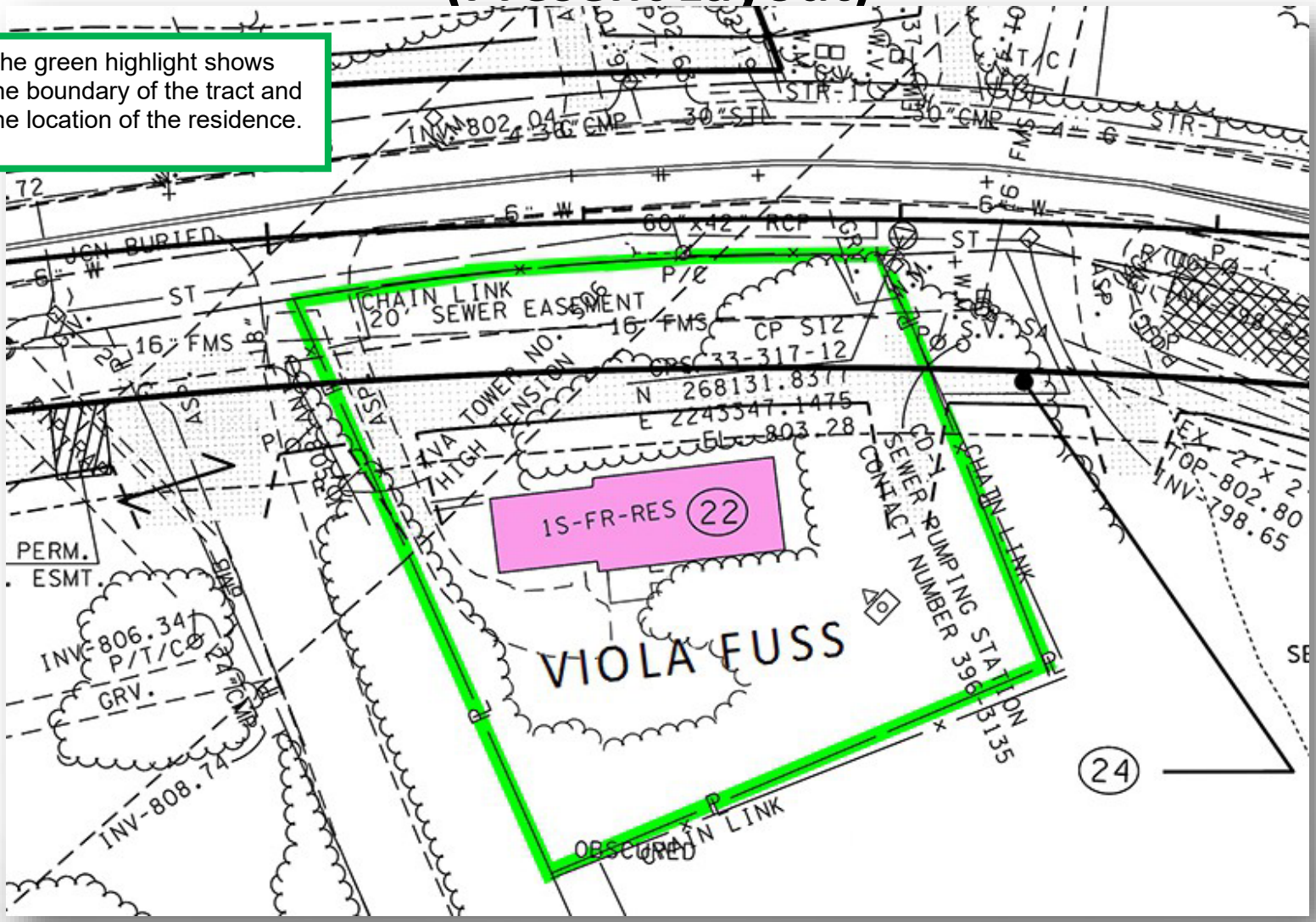
TCE EXAMPLE – TRACT 22

(Before)

TCE EXAMPLE – TRACT 22

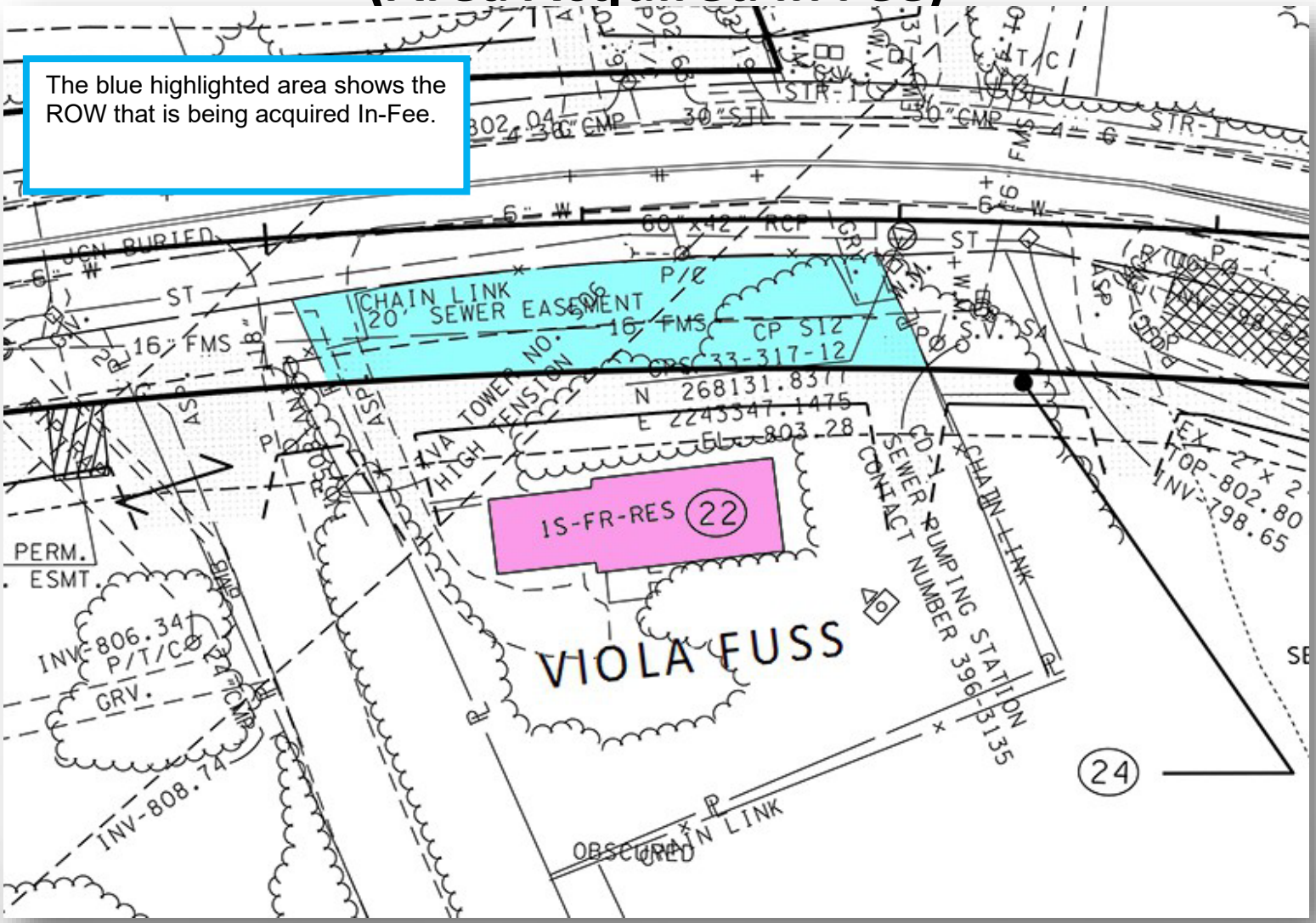
(Present Layout)

The green highlight shows the boundary of the tract and the location of the residence.



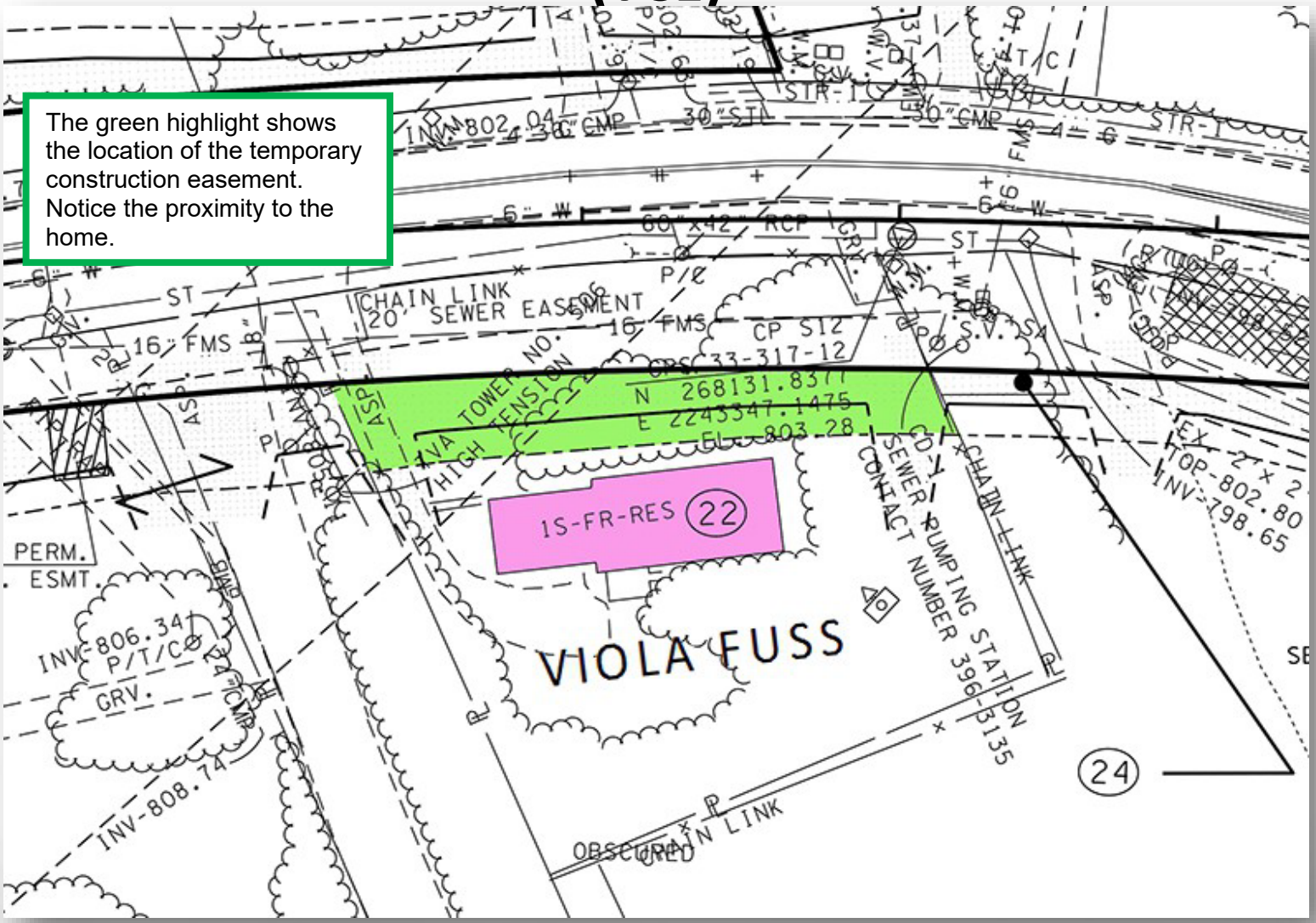
EXAMPLE – TRACT 22

(Area Acquired in Fee)



EXAMPLE – TRACT 22

(TCE)



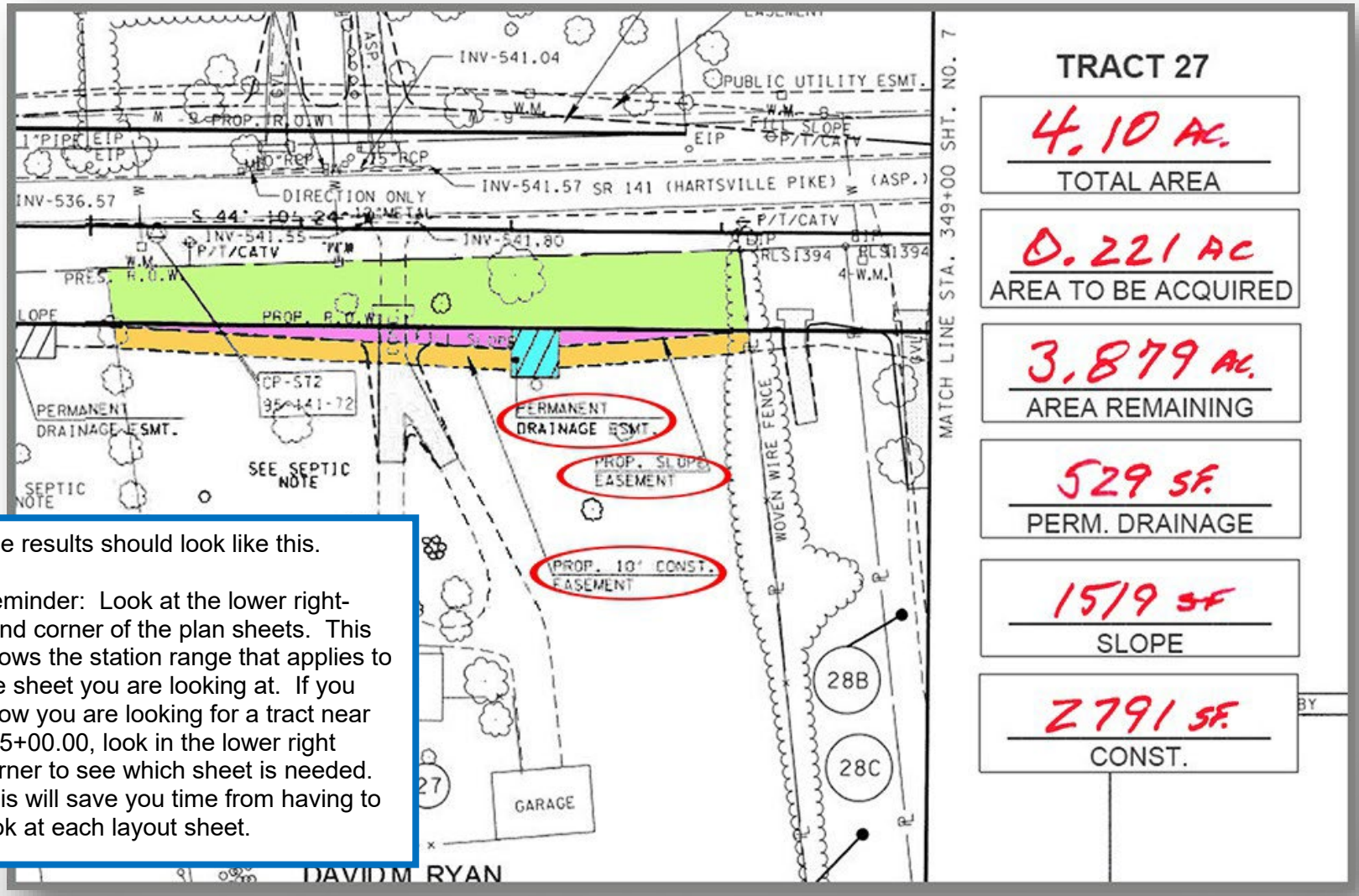
TCE EXAMPLE – TRACT 22

(Actual TCE)

ACQUISITION TABLE QUIZ

- Using information from the Acquisition Table on Plan Sheet 3D, turn to Plan Sheet 6 and complete the blank entries in the box on the left side of the page for Tract 27.
- On the road plan, draw a circle around the label for each type of easement.
- On the road plan, use your colored markers to fill in the appropriate easement and acquisition areas for Tract 27.

QUIZ SOLUTION



The results should look like this.

Reminder: Look at the lower right-hand corner of the plan sheets. This shows the station range that applies to the sheet you are looking at. If you know you are looking for a tract near 345+00.00, look in the lower right corner to see which sheet is needed. This will save you time from having to look at each layout sheet.

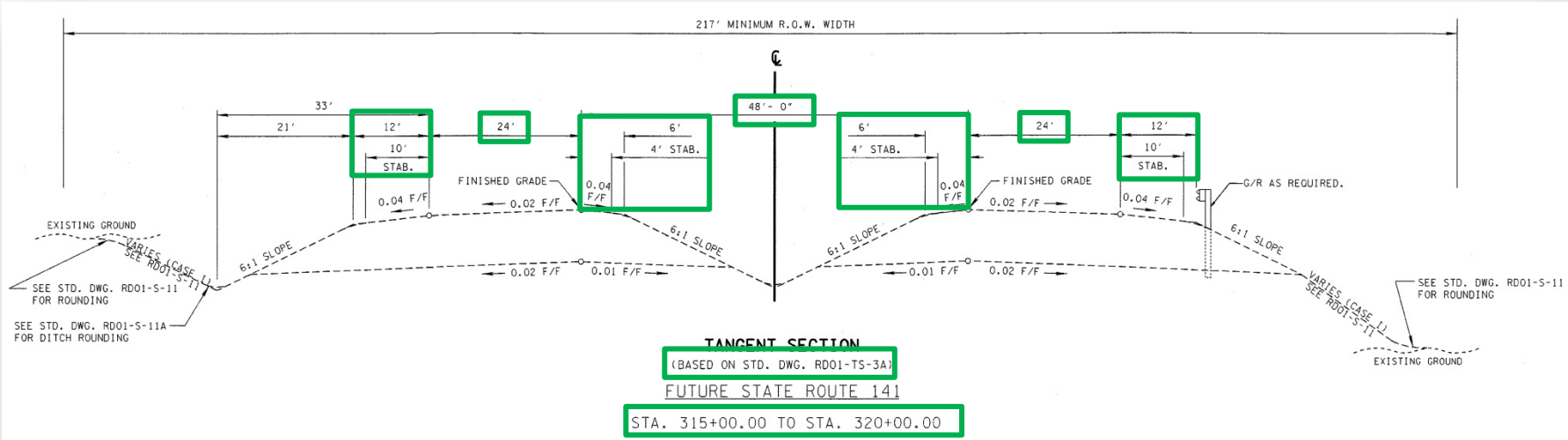
TYPICAL SECTIONS

- Typical Section show a **REPRESENTATIVE** crosswise slice for a segment of the New/Proposed road between the two stations. It is not an actual cross-section of the final road. It simply shows what a typical tangent or superelevated portion looks like between the defined stations.

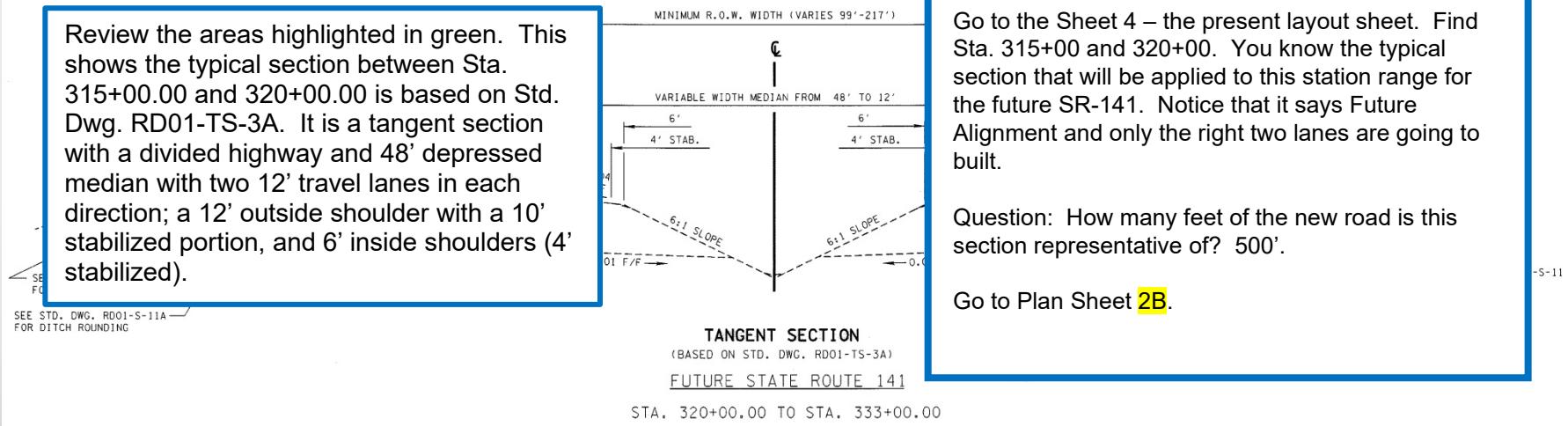
- Remember, Right is Right and Left is Left. You are looking from the beginning of the project towards the end of the project.

Go to Plan Sheet 2.

TYPICAL SECTIONS – Plan Sheet 2



Review the areas highlighted in green. This shows the typical section between Sta. 315+00.00 and 320+00.00 is based on Std. Dwg. RD01-TS-3A. It is a tangent section with a divided highway and 48' depressed median with two 12' travel lanes in each direction; a 12' outside shoulder with a 10' stabilized portion, and 6' inside shoulders (4' stabilized).

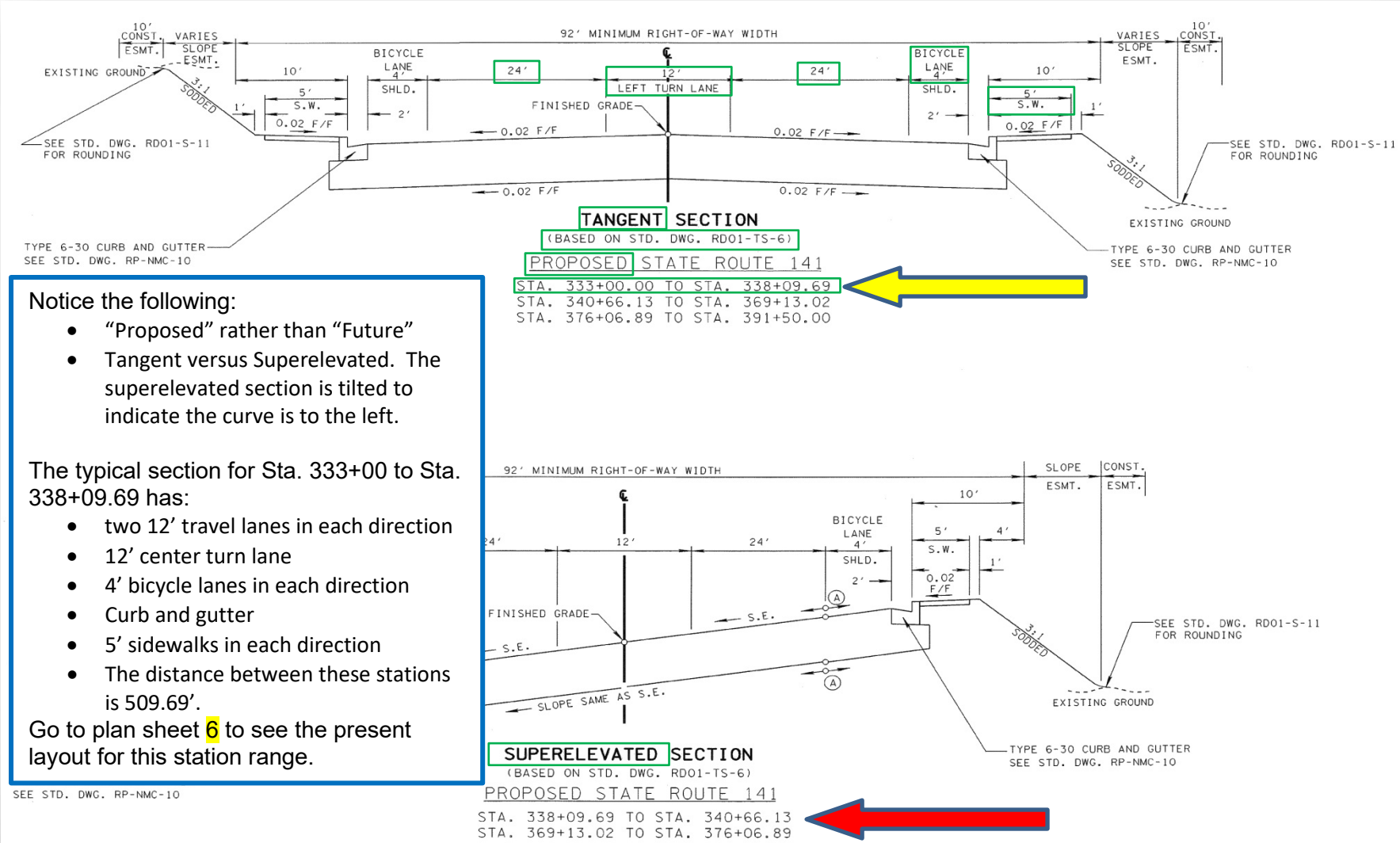


Go to the Sheet 4 – the present layout sheet. Find Sta. 315+00 and 320+00. You know the typical section that will be applied to this station range for the future SR-141. Notice that it says Future Alignment and only the right two lanes are going to built.

Question: How many feet of the new road is this section representative of? 500'.

Go to Plan Sheet 2B.

TYPICAL SECTIONS – Plan Sheet 2B



Notice the following:

- "Proposed" rather than "Future"
- Tangent versus Superelevated. The superelevated section is tilted to indicate the curve is to the left.

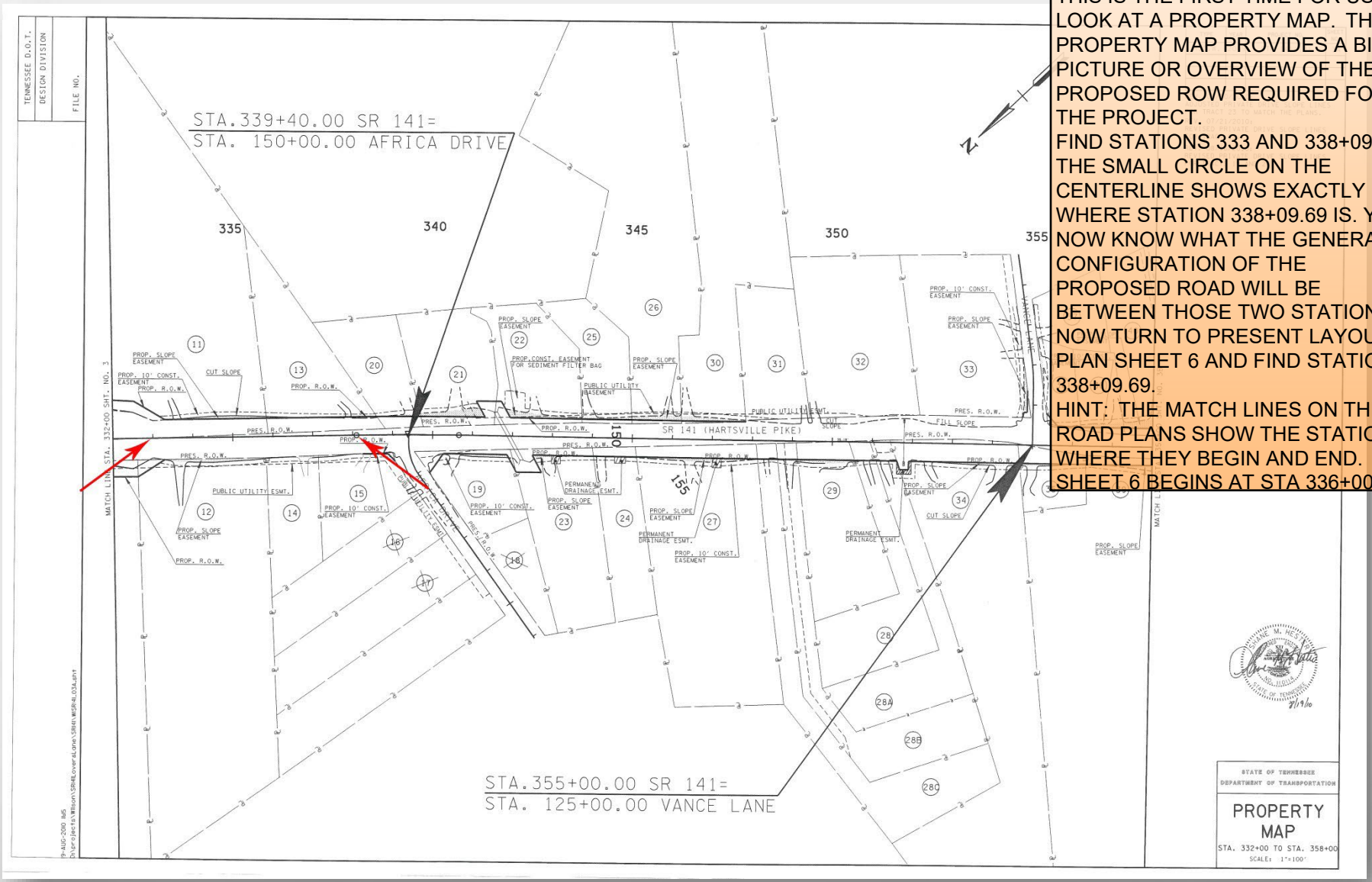
The typical section for Sta. 333+00 to Sta. 338+09.69 has:

- two 12' travel lanes in each direction
- 12' center turn lane
- 4' bicycle lanes in each direction
- Curb and gutter
- 5' sidewalks in each direction
- The distance between these stations is 509.69'.

Go to plan sheet 6 to see the present layout for this station range.

SEE STD. DWG. RP-NMC-10

PROPERTY MAP – Plan She



Presenter Notes
2024-05-08 12:16:43

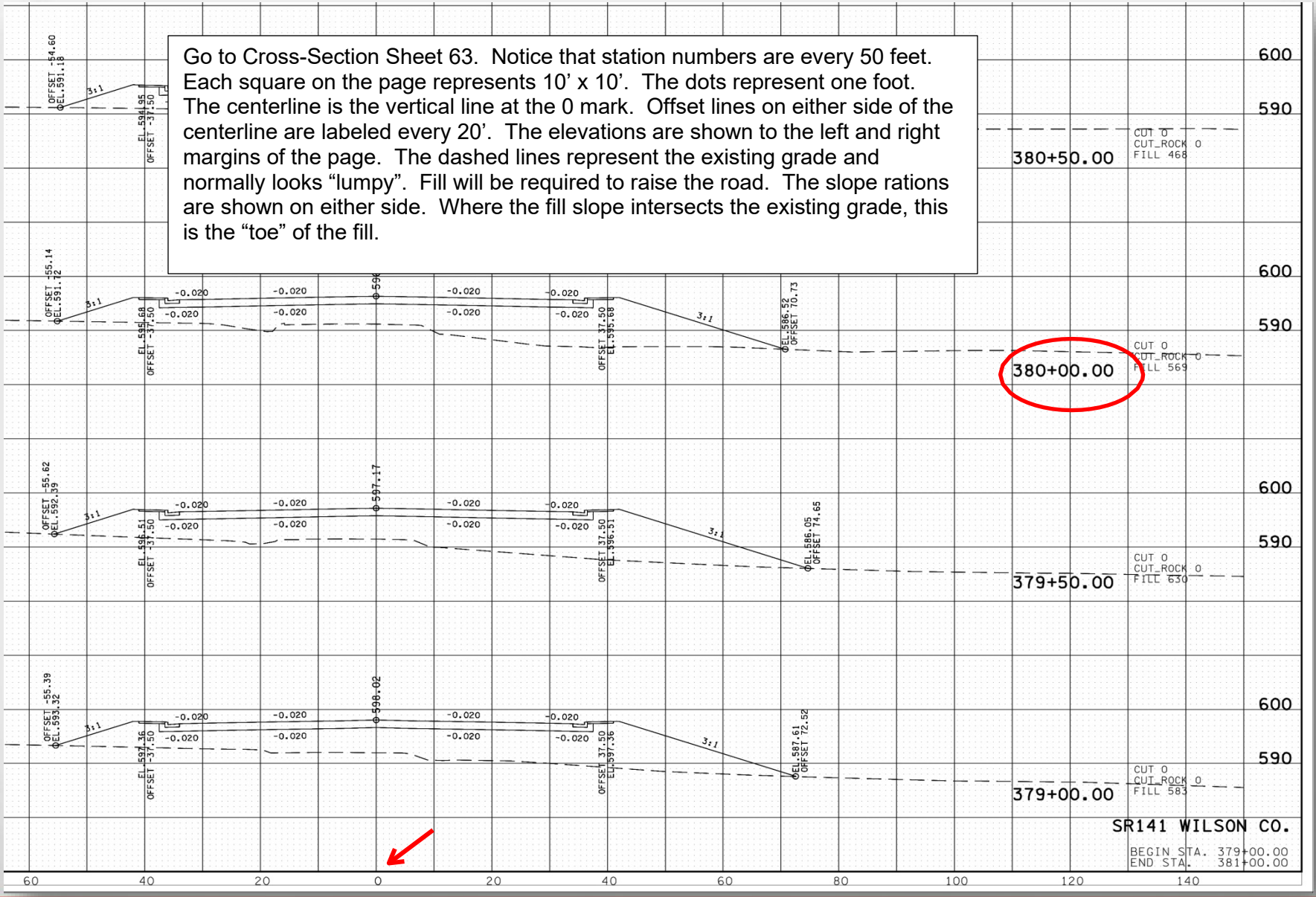
KEEP YOUR PLACE AND TURN TO THE PROPERTY MAP ON PLAN SHEET 3A IN YOUR ROAD PLANS. THIS IS THE FIRST TIME FOR US TO LOOK AT A PROPERTY MAP. THE PROPERTY MAP PROVIDES A BIG PICTURE OR OVERVIEW OF THE PROPOSED ROW REQUIRED FOR THE PROJECT.
FIND STATIONS 333 AND 338+09.69. THE SMALL CIRCLE ON THE CENTERLINE SHOWS EXACTLY WHERE STATION 338+09.69 IS. YOU NOW KNOW WHAT THE GENERAL CONFIGURATION OF THE PROPOSED ROAD WILL BE BETWEEN THOSE TWO STATIONS. NOW TURN TO PRESENT LAYOUT PLAN SHEET 6 AND FIND STATION 338+09.69.
HINT: THE MATCH LINES ON THE ROAD PLANS SHOW THE STATIONS WHERE THEY BEGIN AND END. SHEET 6 BEGINS AT STA 336+00.

CROSS SECTIONS

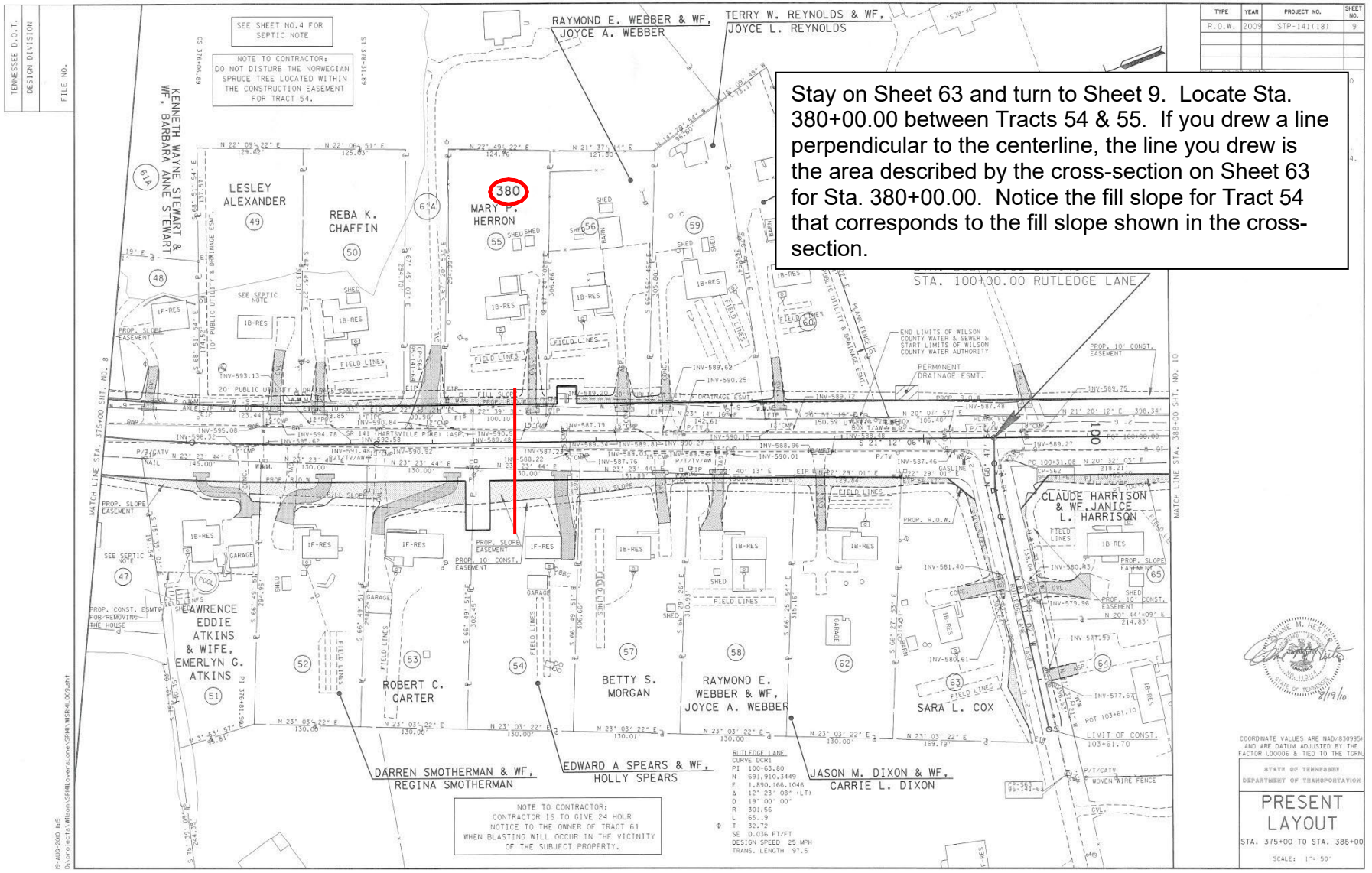
- CROSS SECTIONS SHOW THE EXISTING GRADE AND PROPOSED ROAD AT EACH STATION AND MIDWAY BETWEEN EACH STATION ALONG THE PROPOSED ROUTE.
- REMEMBER, RIGHT IS RIGHT AND LEFT IS LEFT AND YOU ARE FACING TOWARDS THE END OF THE PROJECT.

CROSS SECTIONS – Plan Sheet 63

Go to Cross-Section Sheet 63. Notice that station numbers are every 50 feet. Each square on the page represents 10' x 10'. The dots represent one foot. The centerline is the vertical line at the 0 mark. Offset lines on either side of the centerline are labeled every 20'. The elevations are shown to the left and right margins of the page. The dashed lines represent the existing grade and normally looks "lumpy". Fill will be required to raise the road. The slope rations are shown on either side. Where the fill slope intersects the existing grade, this is the "toe" of the fill.

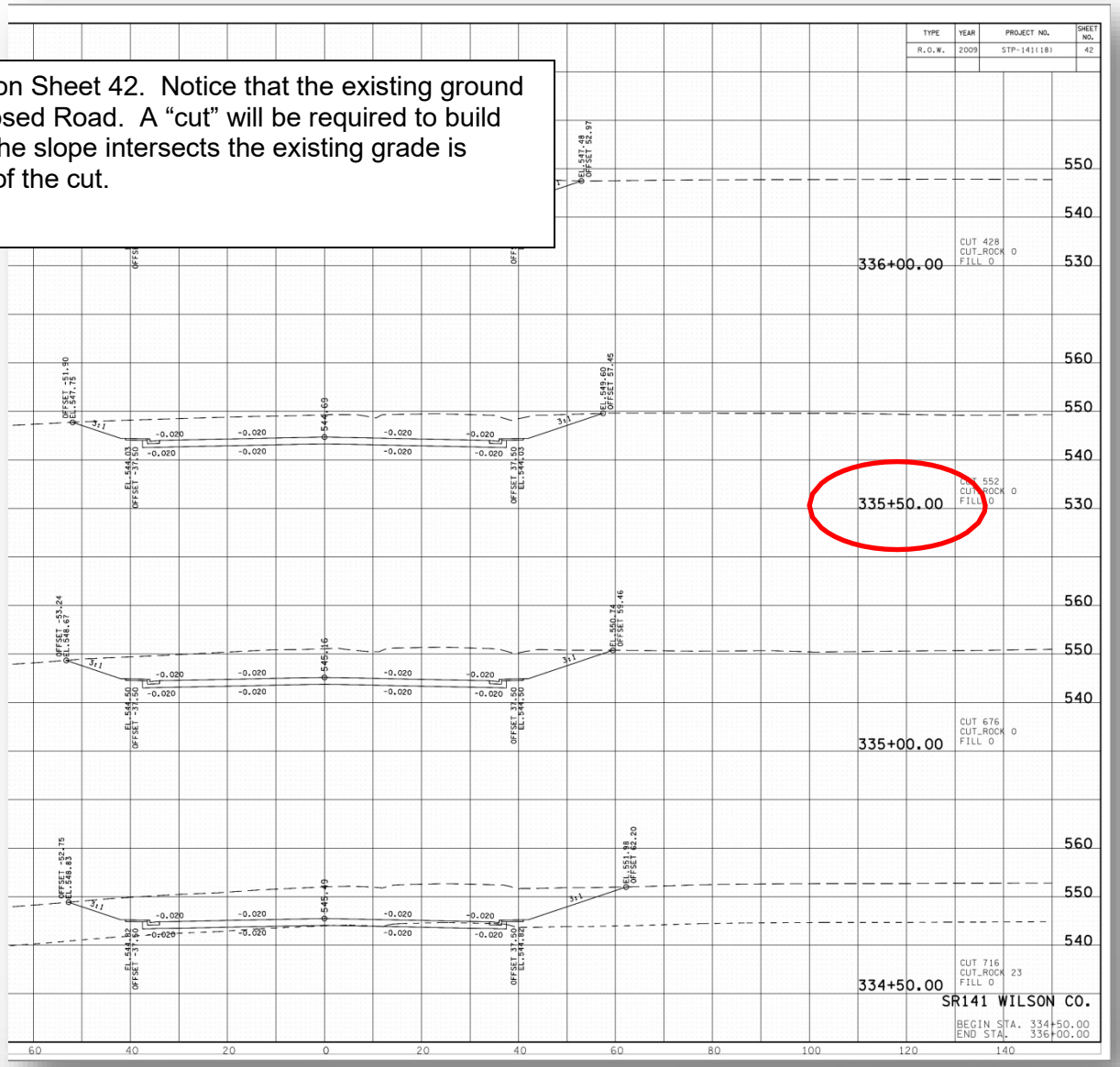


CROSS SECTIONS – Plan Sheet 9

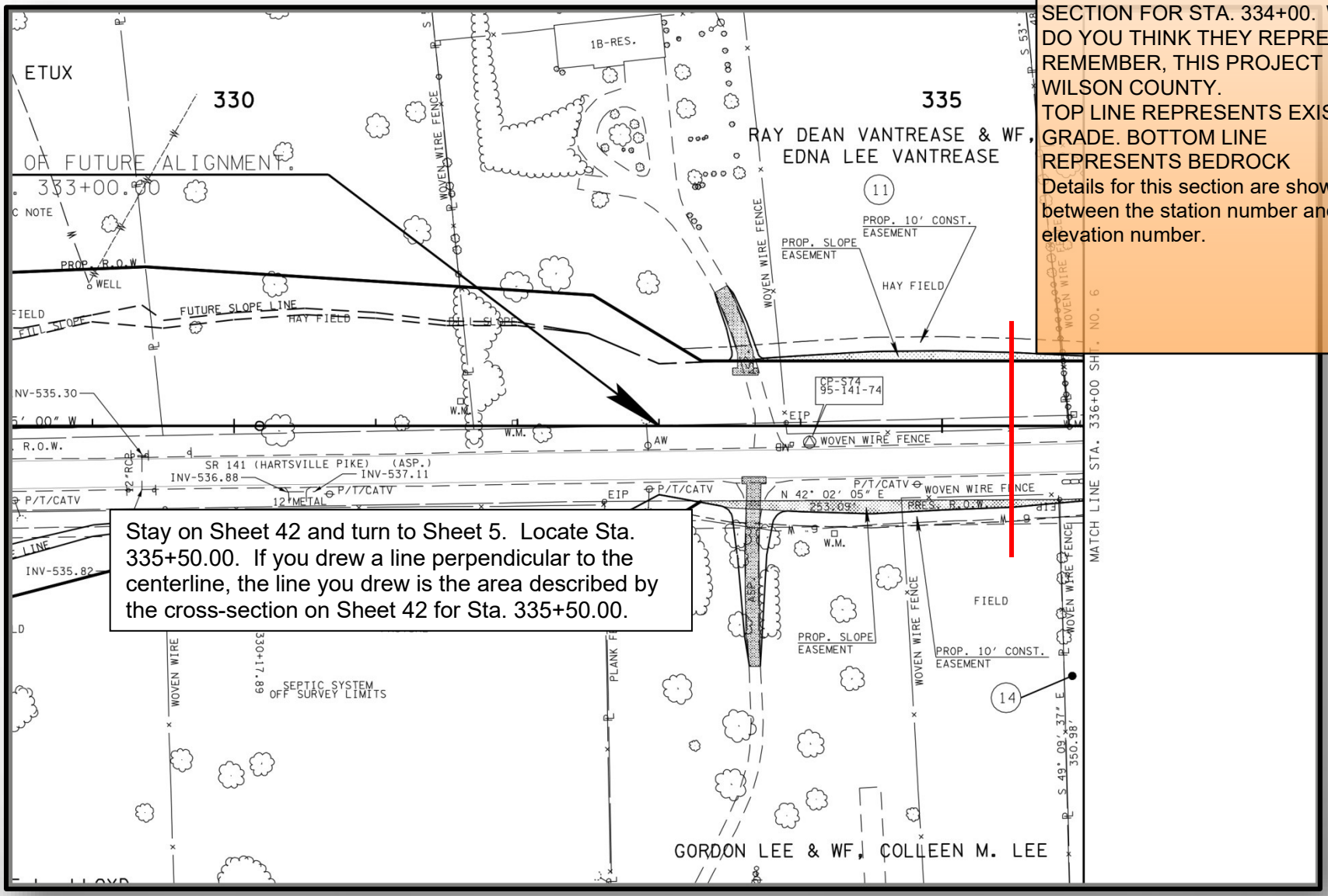


CROSS SECTIONS – Plan Sheet 42

Go to Cross-Section Sheet 42. Notice that the existing ground is above the proposed Road. A “cut” will be required to build the road. Where the slope intersects the existing grade is known as the top of the cut.



CROSS SECTIONS – Plan Sh



Stay on Sheet 42 and turn to Sheet 5. Locate Sta. 335+50.00. If you drew a line perpendicular to the centerline, the line you drew is the area described by the cross-section on Sheet 42 for Sta. 335+50.00.

Presenter Notes
2024-05-08 12:16:45

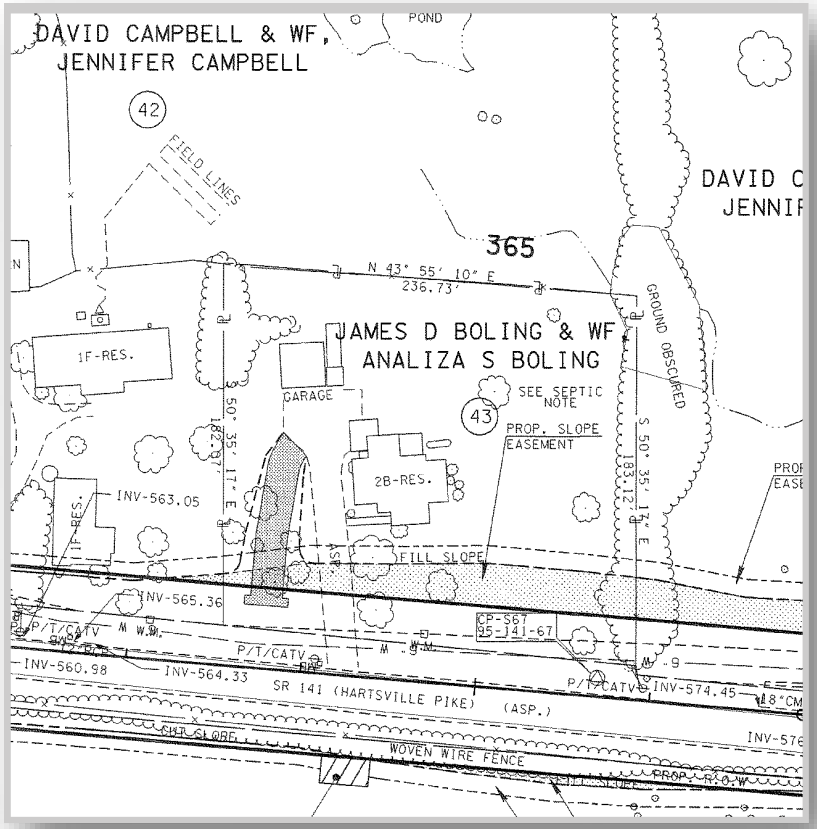
FINALLY, TURN TO CROSS SECTION SHEET 41. YOU'LL NOTICE THAT THERE ARE TWO EMPTY LABELS ON THE CROSS SECTION FOR STA. 334+00. WHAT DO YOU THINK THEY REPRESENT? REMEMBER, THIS PROJECT IS IN WILSON COUNTY.
TOP LINE REPRESENTS EXISTING GRADE. BOTTOM LINE REPRESENTS BEDROCK
Details for this section are shown between the station number and the elevation number.

RIGHT-OF-WAY DETAILS SHEETS

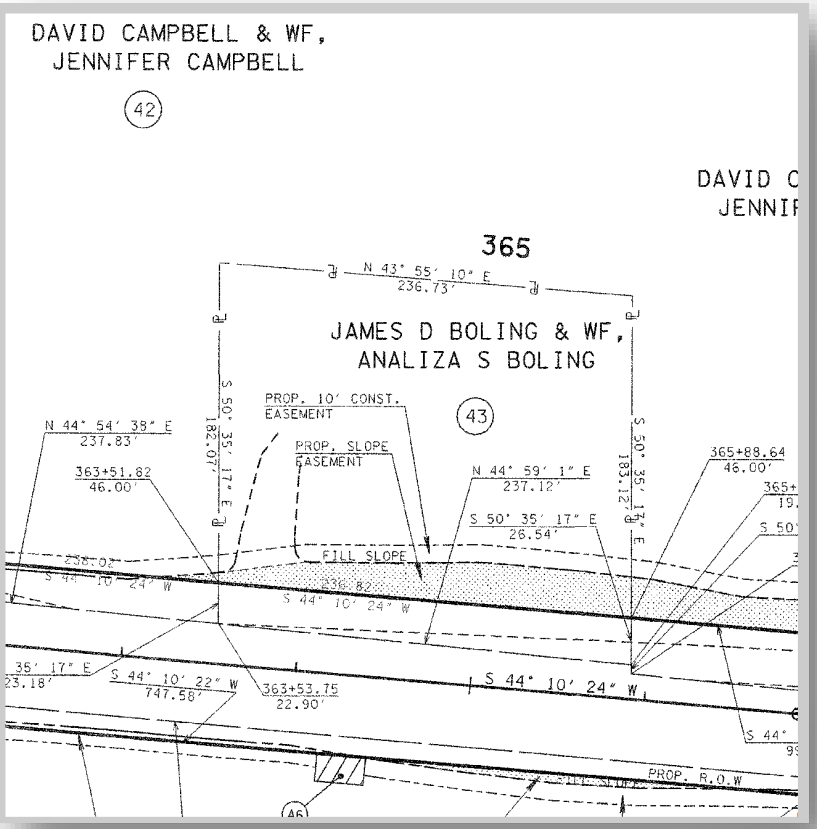
There are substantial differences between the Present Layout and ROW Details sheets. The next page is an example for Tract 43 – plan sheets 8 and 8A from the plans.

The present layout shows the existing information without any of the proposed modifications. The ROW Details sheet shows all the existing and proposed ROW and easements with station/offsets and bearings/distances described relative to the centerline.

PRESENT R.O.W.

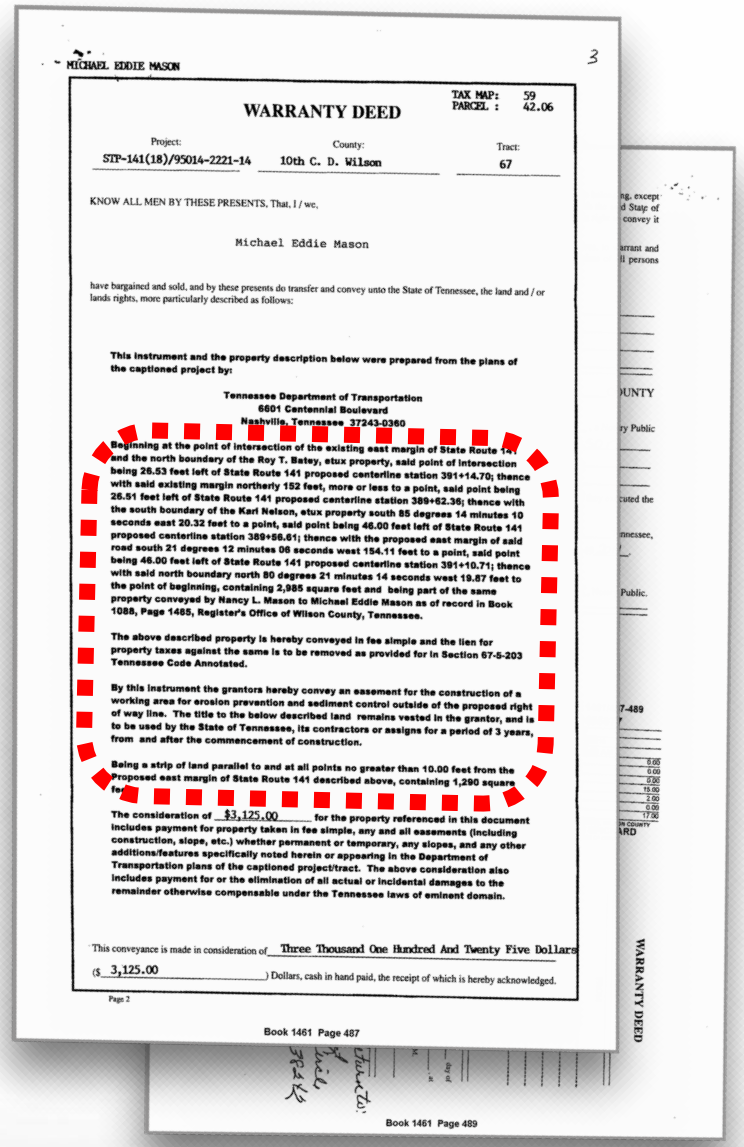


R.O.W. DETAILS



LEGAL DESCRIPTIONS

RECORDED DEED



MICHAEL EDDIE MASON

3

WARRANTY DEED

TAX MAP: 59
PARCEL : 42.06

Project: STP-141(18)/95014-2221-14
County: 10th C. D. Wilson
Tract: 67

KNOW ALL MEN BY THESE PRESENTS, That, I / we,

Michael Eddie Mason

have bargained and sold, and by these presents do transfer and convey unto the State of Tennessee, the land and / or lands rights, more particularly described as follows:

This instrument and the property description below were prepared from the plans of the captioned project by:

Tennessee Department of Transportation
6601 Centennial Boulevard
Nashville, Tennessee 37243-0360

Beginning at the point of intersection of the existing east margin of State Route 141 and the north boundary of the Roy T. Batey, etux property, said point of intersection being 26.53 feet left of State Route 141 proposed centerline station 391+14.70; thence with said existing margin northerly 152 feet, more or less to a point, said point being 26.51 feet left of State Route 141 proposed centerline station 389+62.36; thence with the south boundary of the Karl Nelson, etux property south 85 degrees 14 minutes 10 seconds east 20.32 feet to a point, said point being 46.00 feet left of State Route 141 proposed centerline station 389+58.61; thence with the proposed east margin of said road south 21 degrees 12 minutes 06 seconds west 154.11 feet to a point, said point being 46.00 feet left of State Route 141 proposed centerline station 391+10.71; thence with said north boundary north 80 degrees 21 minutes 14 seconds west 19.87 feet to the point of beginning, containing 2,985 square feet and being part of the same property conveyed by Nancy L. Mason to Michael Eddie Mason as of record in Book 1088, Page 1485, Register's Office of Wilson County, Tennessee.

The above described property is hereby conveyed in fee simple and the lien for property taxes against the same is to be removed as provided for in Section 67-5-203 Tennessee Code Annotated.

By this instrument the grantors hereby convey an easement for the construction of a working area for erosion prevention and sediment control outside of the proposed right of way line. The title to the below described land remains vested in the grantor, and is to be used by the State of Tennessee, its contractors or assigns for a period of 3 years, from and after the commencement of construction.

Being a strip of land parallel to and at all points no greater than 10.00 feet from the Proposed east margin of State Route 141 described above, containing 1,290 square fe

The consideration of $3,125.00 for the property referenced in this document includes payment for property taken in fee simple, any and all easements (including construction, slope, etc.) whether permanent or temporary, any slopes, and any other additions/features specifically noted herein or appearing in the Department of Transportation plans of the captioned project/tract. The above consideration also includes payment for or the elimination of all actual or incidental damages to the remainder otherwise compensable under the Tennessee laws of eminent domain.

This conveyance is made in consideration of Three Thousand One Hundred And Twenty Five Dollars ($ 3,125.00) Dollars, cash in hand paid, the receipt of which is hereby acknowledged.

Page 2

Book 1461 Page 487

WARRANTY DEED

Book 1461 Page 489

This is a copy of a recorded deed conveying fee ownership and an easement by the owner of Tract 67 to the State of Tennessee.

The portion outlined in red is the legal description. This is a description that identifies the real estate according to a system established or approved by law - an exact description that enables the real estate to be located and identified.

In Tennessee, the established system is known as metes and bounds. This system originated in England centuries ago and was used by the 13 original colonies prior to the Revolutionary War. Tennessee is one of 21 states that continue to use this system. Other states use a system called Range and Township.

Metes represents the direction and distance of a line. For instance - 'Go North 50 Feet'.

Bounds refers to naming the physical features defining the boundaries of the land, such as a tree, a pile of stones, etc. Today it can be a benchmark, an iron pin, or a set of GPS coordinates.

LEGAL DESCRIPTION FROM DEED

LEGAL DESCRIPTION – TRACT 67

Beginning at the point of intersection of the existing east margin of State Route 141 and the north boundary of the Roy T. Batey, etux property, said point of intersection being 26.53 feet left of State Route 141 proposed centerline station 391+14.70; thence with said existing margin northerly 152 feet, more or less to a point, said point being 26.51 feet left of State Route 141 proposed centerline station 389+62.36; thence with the south boundary of the Karl Nelson, etux property south 85 degrees 14 minutes 10 seconds east 20.32 feet to a point, said point being 46.00 feet left of State Route 141 proposed centerline station 389+56.61; thence with the proposed east margin of said road south 21 degrees 12 minutes 06 seconds west 154.11 feet to a point, said point being 46 feet left of State Route 141 proposed centerline station 391+10.71; thence with said north boundary north 80 degrees 21 minutes 14 seconds west 19.87 feet to the point of beginning, containing2,985 square feet and being part of the same property conveyed by Nancy L. Mason to Michael Eddie Mason as of record in Book 1088, Page1465, Register's Office of Wilson County, Tennessee.

By this instrument the grantors hereby convey an easement for the construction of a working area for erosion prevention and sediment control outside of the proposed right of way line. The title to the below described land remains vested in the grantor and is to be used by the State of Tennessee, its contractors or assigns for a period of 3 years from and after the commencement of construction.

Being a strip of land parallel to and at all points no greater than 10.00 feet from the Proposed east margin of State Route 141 described above, containing 1,290 square feet.

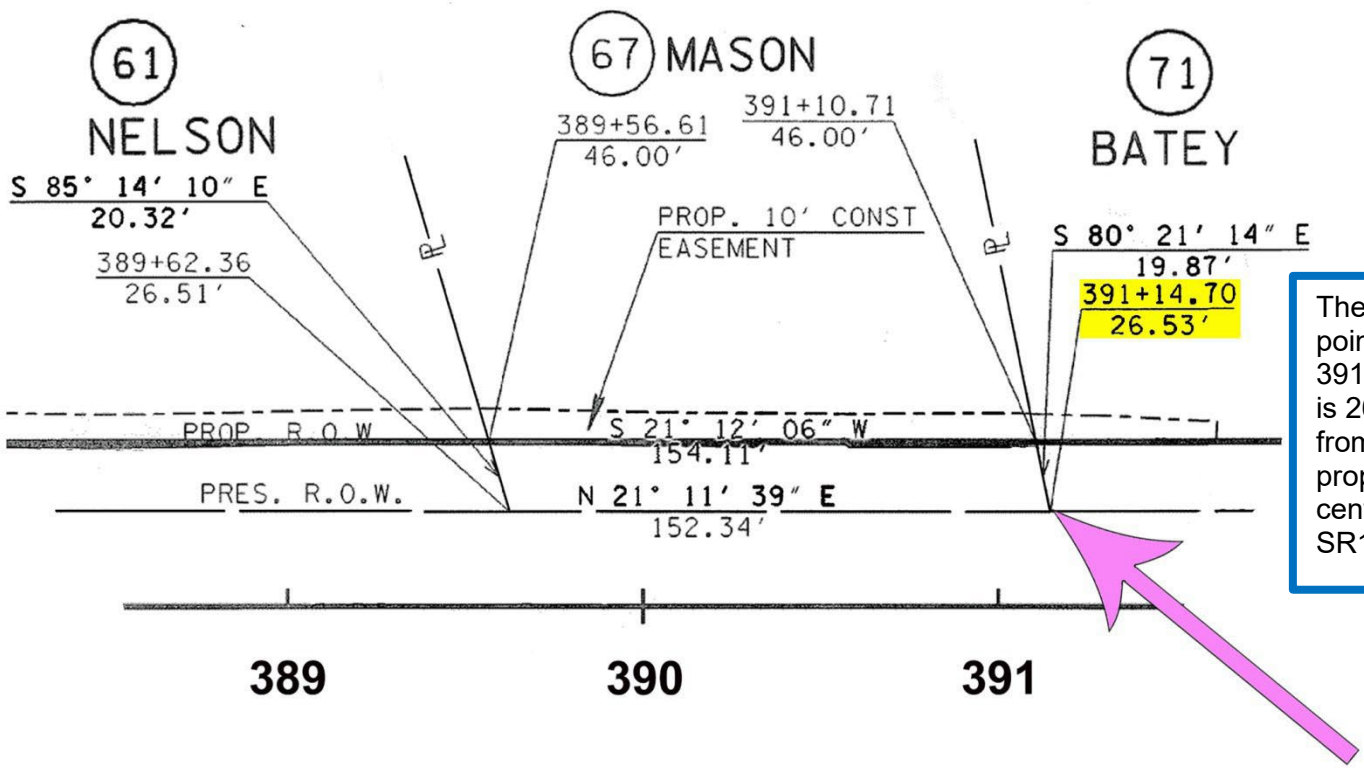
This is the legal description taken from the recorded deed.

In your set of roadway plans, turn to sheet 10A, which shows the Right-Of-Way detail. There you will see that the description has been divided into separate calls.

Below the description is an enlarged portion of Tract 67. Highlight on the plans as you read through and verify the accuracy of this legal description.

Point Of Beginning

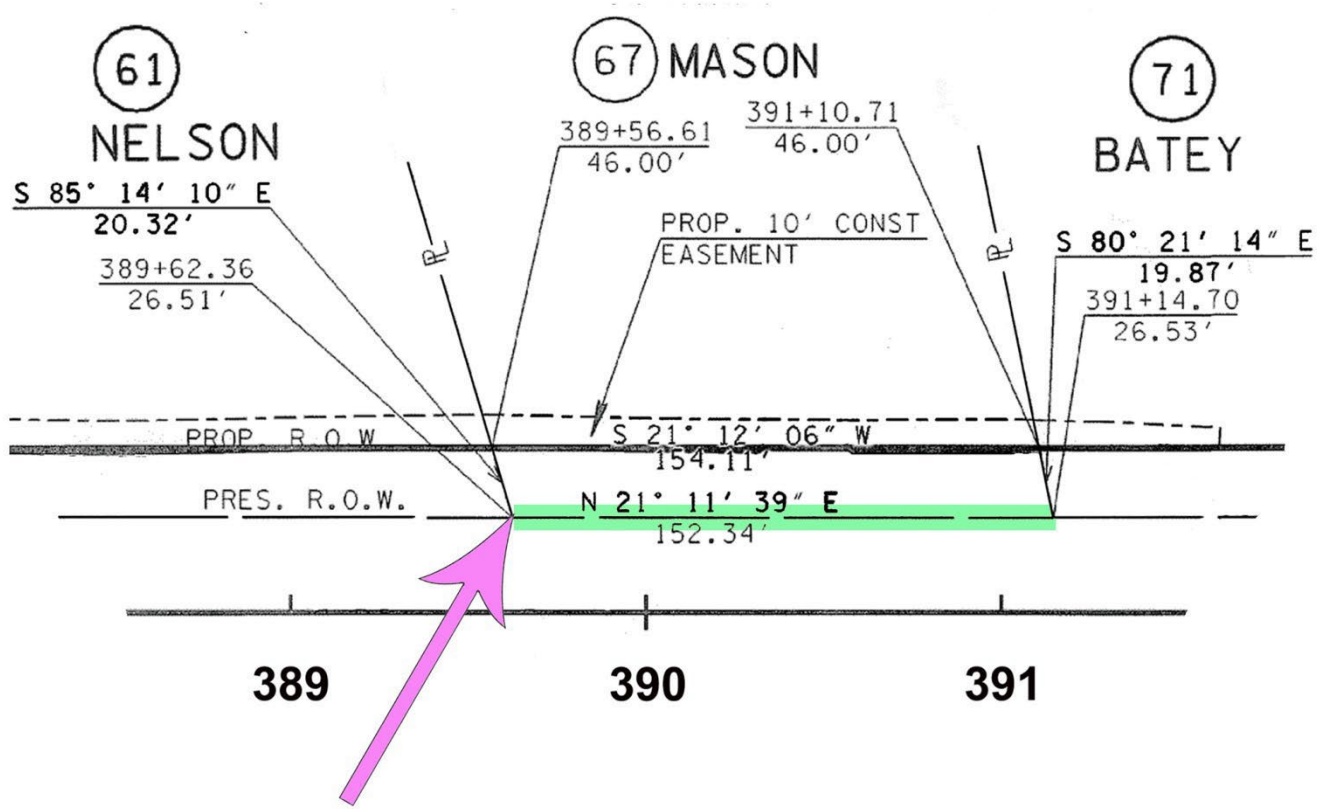
BEGINNING at the point of intersection of the existing east margin of State Route 141 and the north boundary of the Roy T. Batey, etux property, said point of intersection being 26.53 feet left of State Route 141 proposed centerline station 391+14.70;



The starting point is at Sta. 391+14.70 and is 26.53’ away from the proposed centerline of SR141.

Thence to a Point…….

THENCE with said existing margin northerly 152 feet, more or less to a point, said point being 26.51 feet left of State Route 141 proposed centerline station 389+62.36;



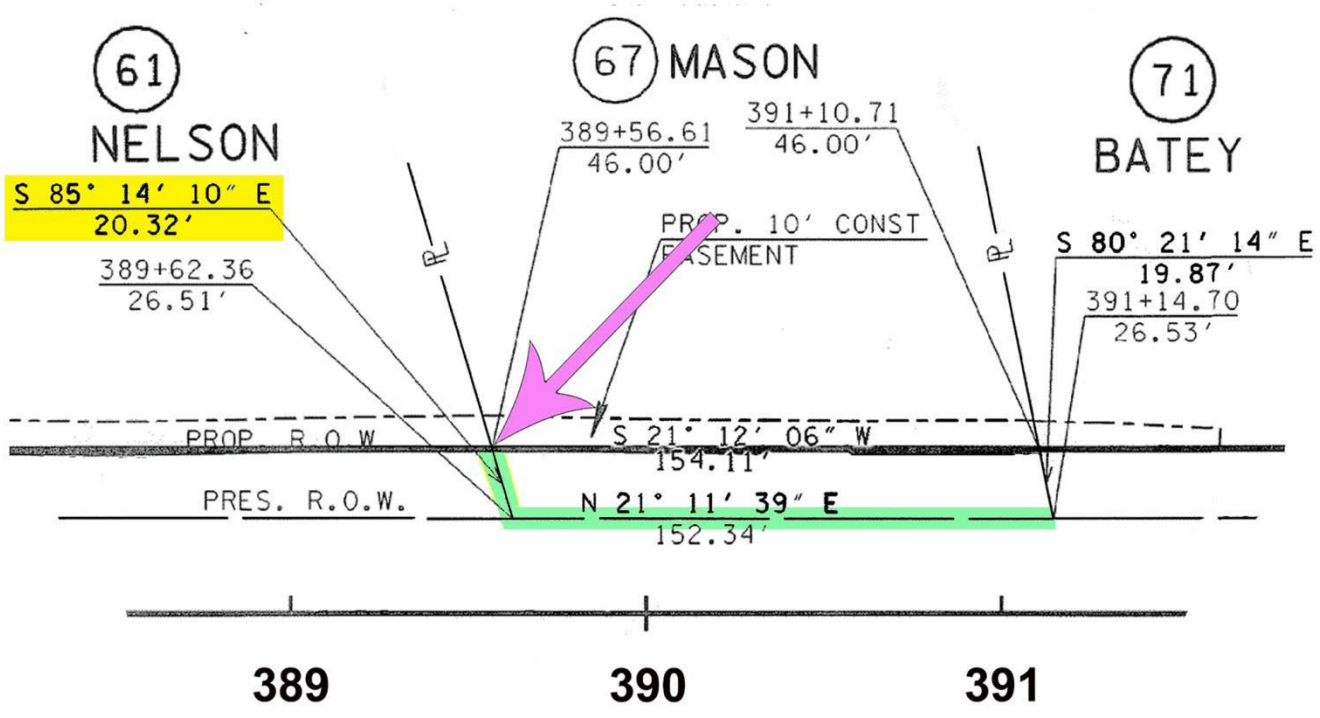
The next part of the description says 152', more or less. This is distance is noted as 152.34' on the plans.

It does not give the bearing that is shown on the plans as N 21º 11' 29" E. This is an older practice for legal descriptions.

Today the legal description provides the bearing and distance.

Thence to a Point…….

THENCE with the south boundary of the Karl Nelson, etux property south 85 degrees 14 minutes 10 seconds east 20.32 feet to a point, said point being 46.00 feet left of State Route 141 proposed centerline station 389+56.61;

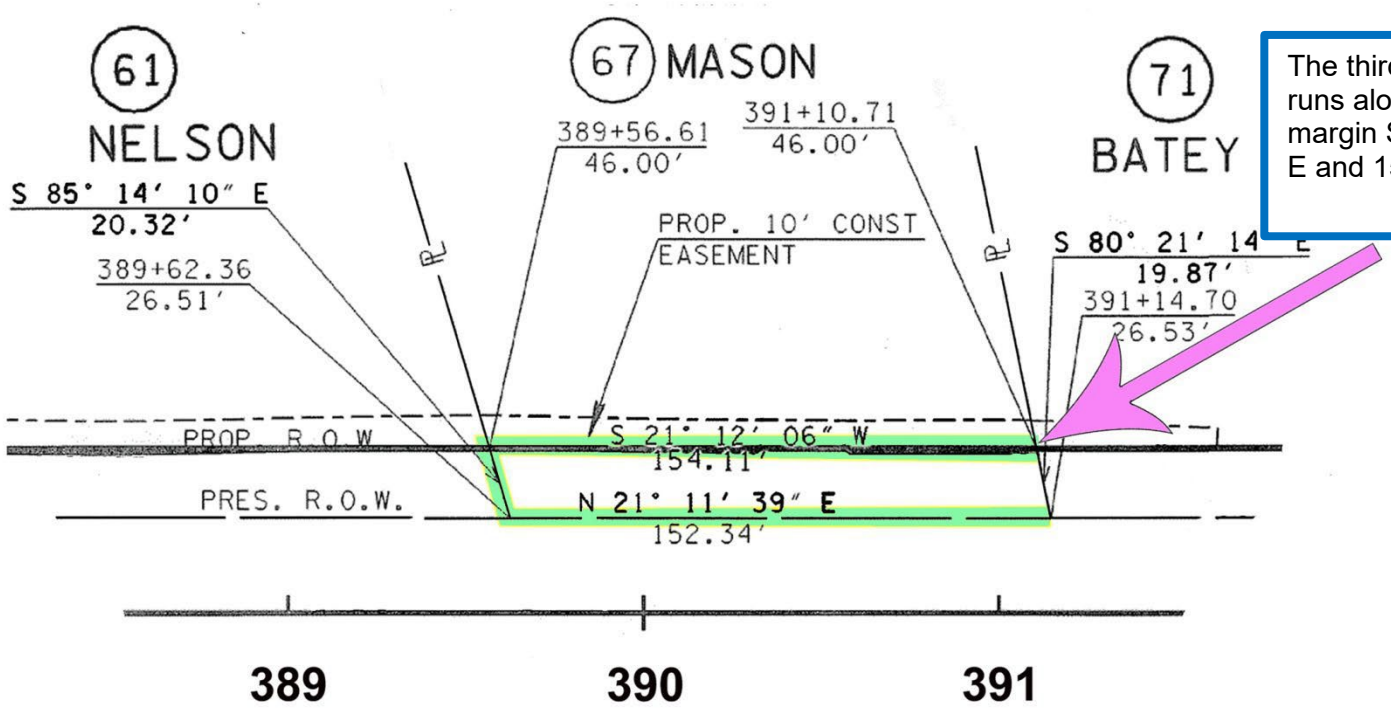


The second call given is S 85º 14” 10” E and 20.32’.

Where the second call begins, a station and offset is given to show the relationship to the centerline of the road. It occurs at Sta. 389+62.36 and is 26.51’ from the centerline of the road.

Thence to a Point…….

THENCE with the proposed east margin of said road **south 21 degrees 12 minutes 06 seconds west 154.11 feet to a point,** said point being 46 feet left of State Route 141 proposed centerline station 391+10.71;

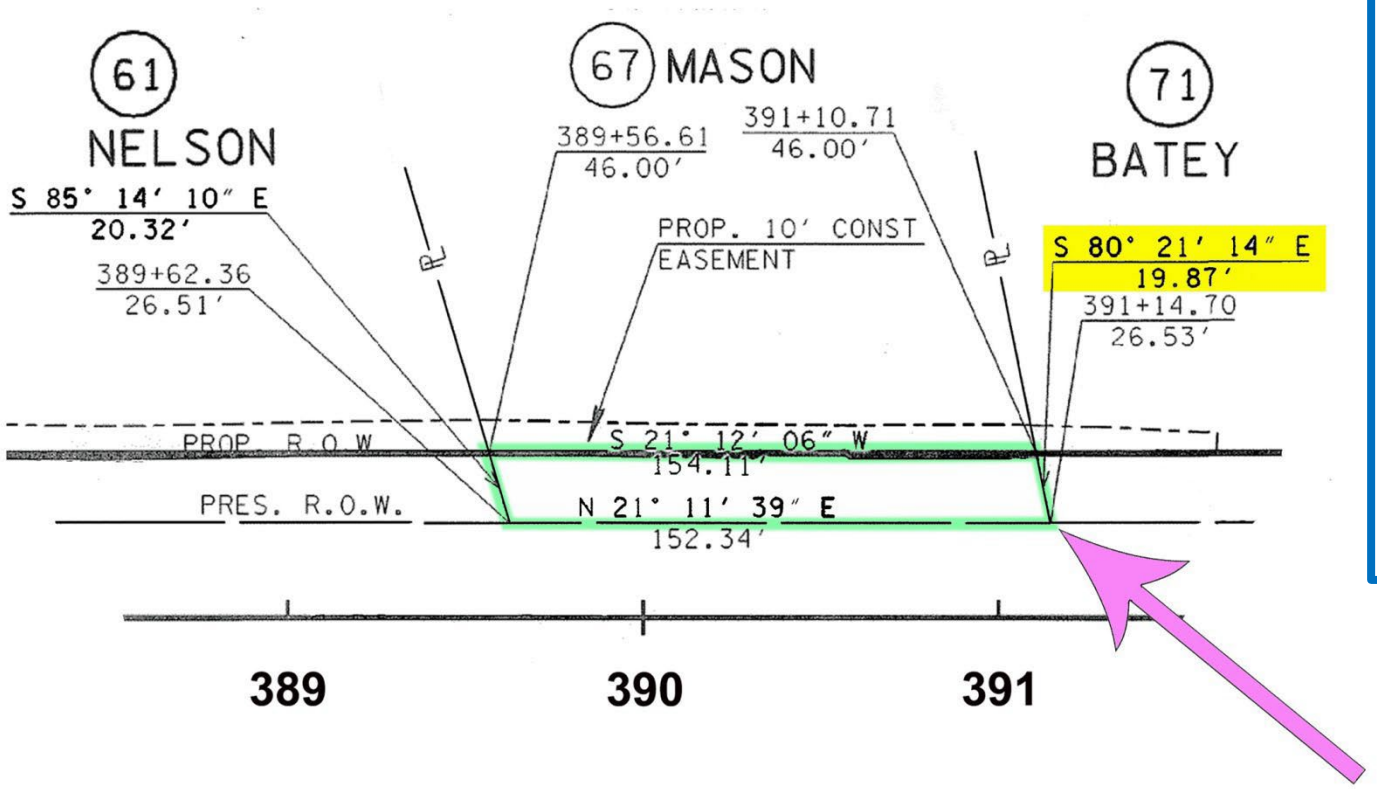


The third call given runs along the east margin S 21º 12” 06” E and 154.11’.

Thence to the Point of Beginning

THENCE with said north boundary **north 80 degrees 21 minutes 14 seconds west 19.87 feet** to the point of beginning,

Containing 2,985 square feet and being part of the same property conveyed by Nancy L. Mason to Michael Eddie Mason as of record in Book 1088, Page1465, Register's Office of Wilson County, Tennessee.



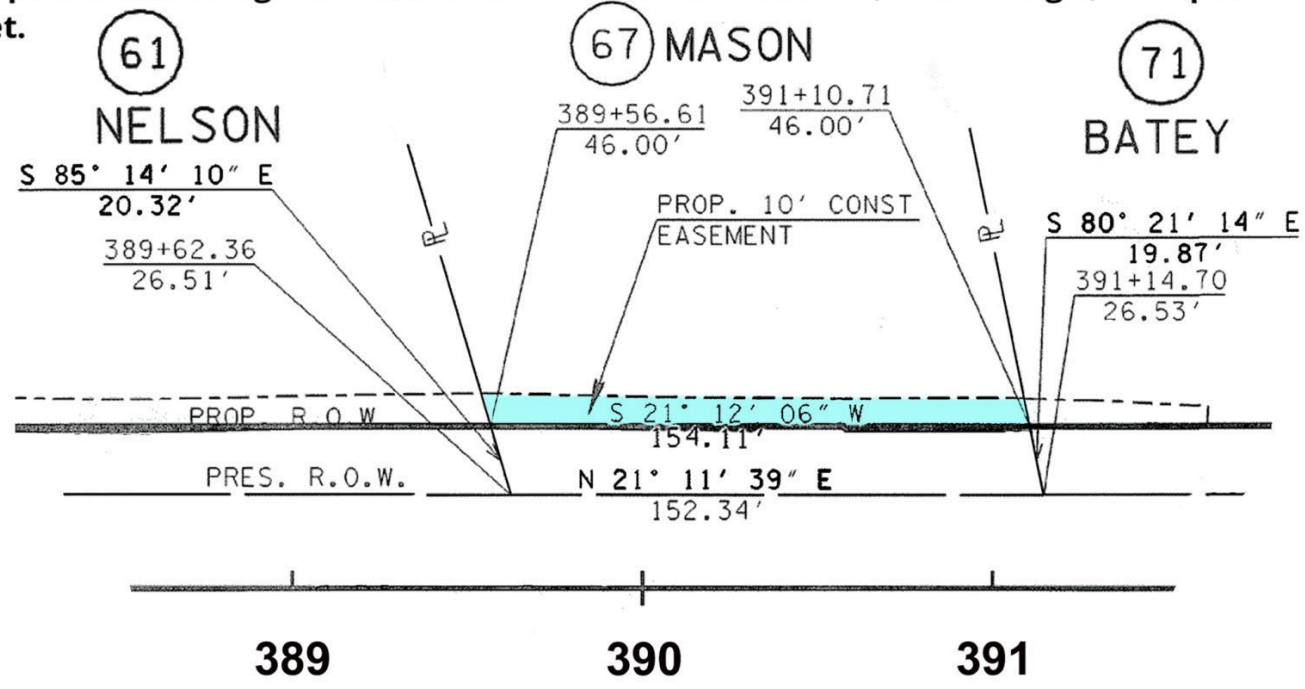
The last call given is N 80º 21' 14" W and takes us back to the point in the beginning.

The second paragraph provides the calculated area just described and the derivation clause. The derivation clause is required by state law and is necessary to maintain a continuous chain of title.

Description of Temporary Construction Easement

By this instrument the grantors hereby convey an easement for the construction of a working area for erosion prevention and sediment control outside of the proposed right of way line. The title to the below described land remains vested in the grantor and is to be used by the State of Tennessee, its contractors or assigns for a period of 3 years from and after the commencement of construction.

Being a strip of land parallel to and at all points no greater than 10.00 feet from the Proposed east margin of State Route 141 described above, containing 1,290 square feet.



Next the document conveys an easement for the construction of the new road. A description of the easement location and area is provided.

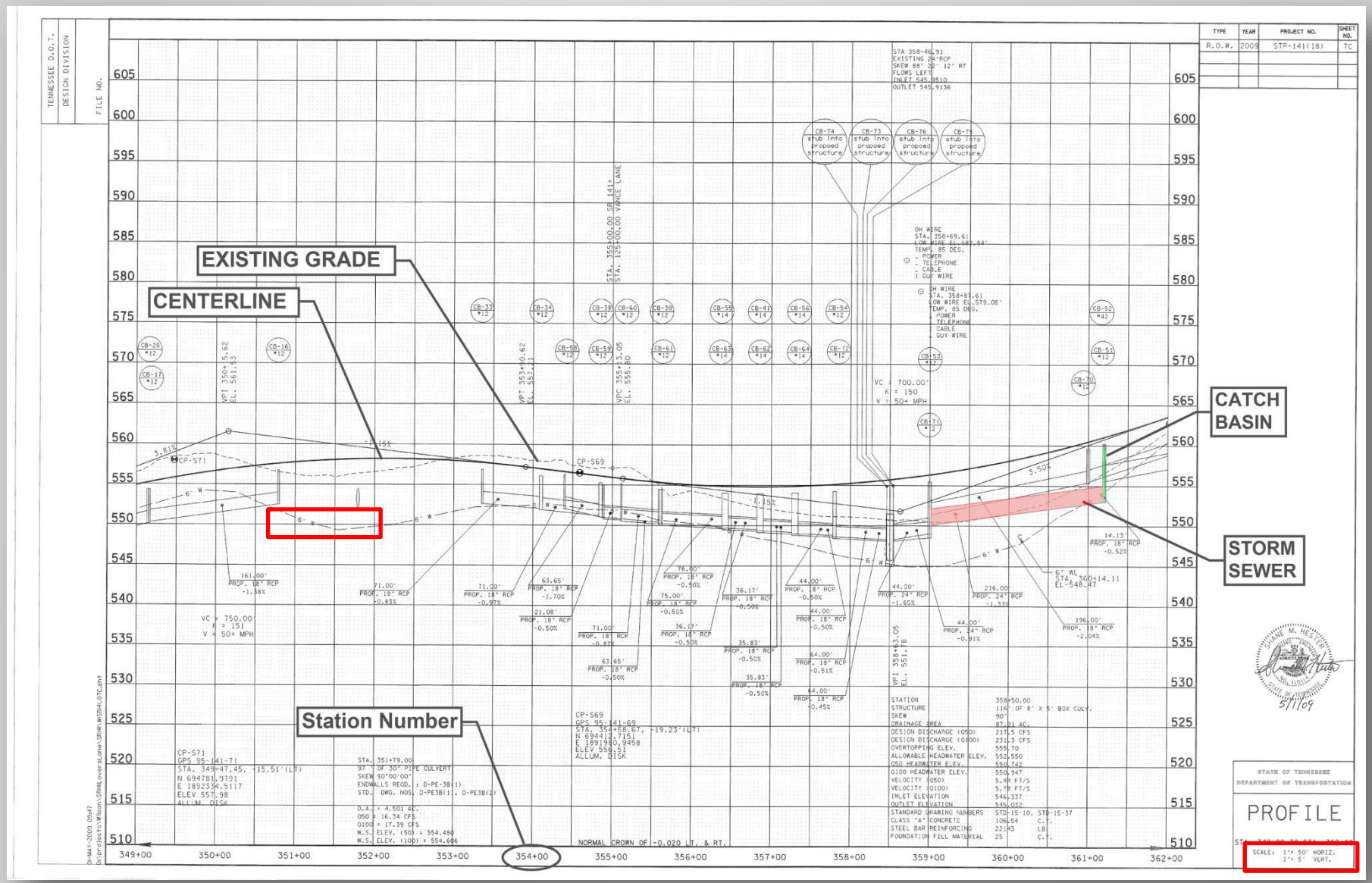
Notice that the easement lasts for three years from the beginning of construction. This is a temporary construction easement (TCE).

PROFILES – Plan Sheet 7C

A profile is the side view of a vertical slice made along the roadway that runs along the centerline of the proposed roadway. This goes from the beginning of the project to the end, read left to right. Turn to plan sheet 7C.

- Notice RCP appears frequently? This stands for Reinforced Concrete Pipe.
- Do you see the 6" water line? Look for the ---- 6" W -----.
- Notice that the vertical and horizontal scales are not the same. The vertical scale is 5' and the horizontal scale if 50'.
- The shaded portion on the right shows the location of a catch basin and a 216' length of proposed RCP storm sewer.

PROFILES – Plan Sheet 7C



PROFILE QUIZ

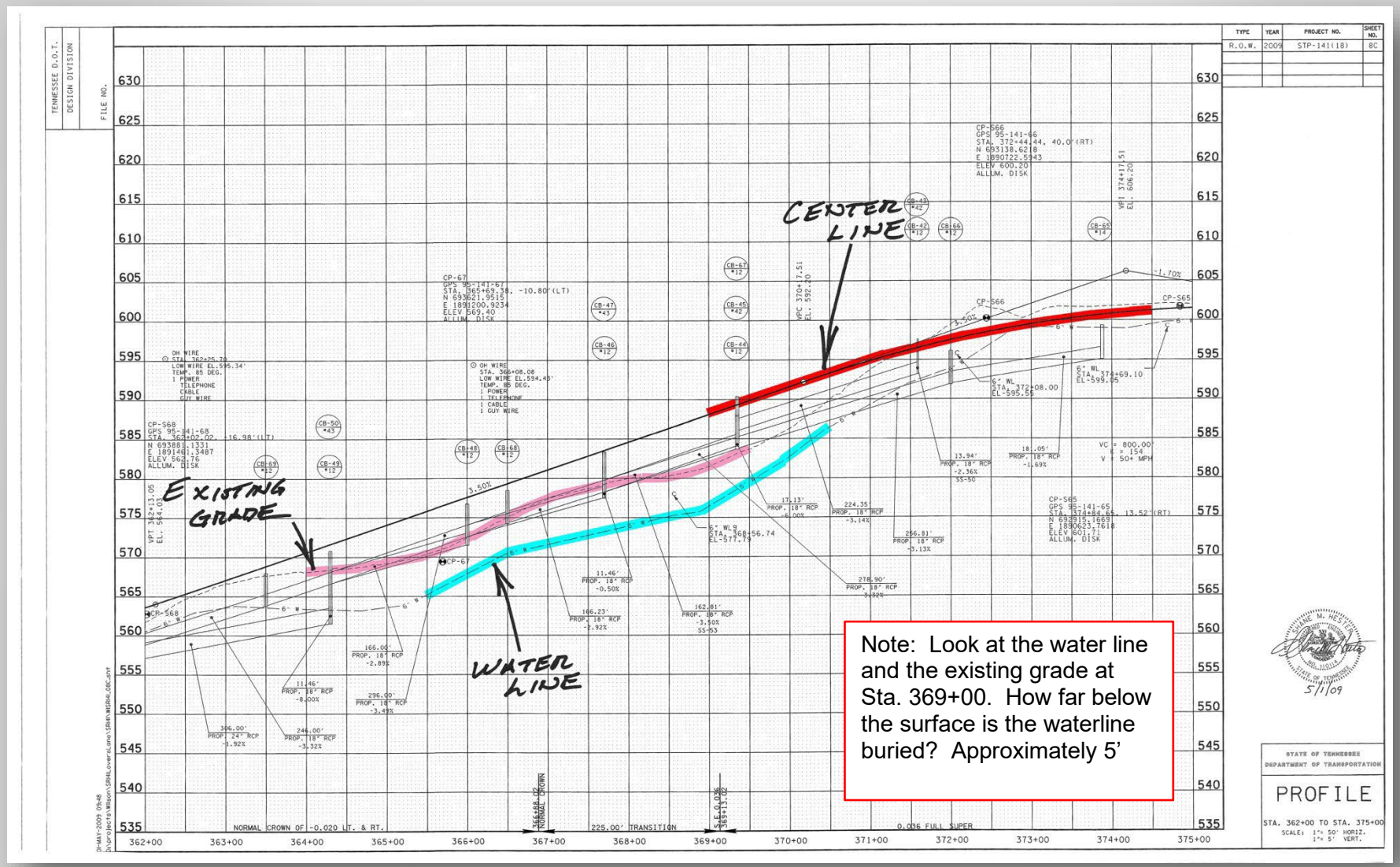
Go to Sheet 8C - Highlight and Label

THE CENTERLINE BETWEEN
STA. 369+00 AND STA. 374+50.0

THE EXISTING GRADE BETWEEN
STA. 364+00 AND STA. 369+50

THE 6 INCH WATERLINE BETWEEN
STA. 365+50.00 AND STA. 370+50

QUIZ SOLUTION



APPENDIX – GUARDRAIL EXAMPLE

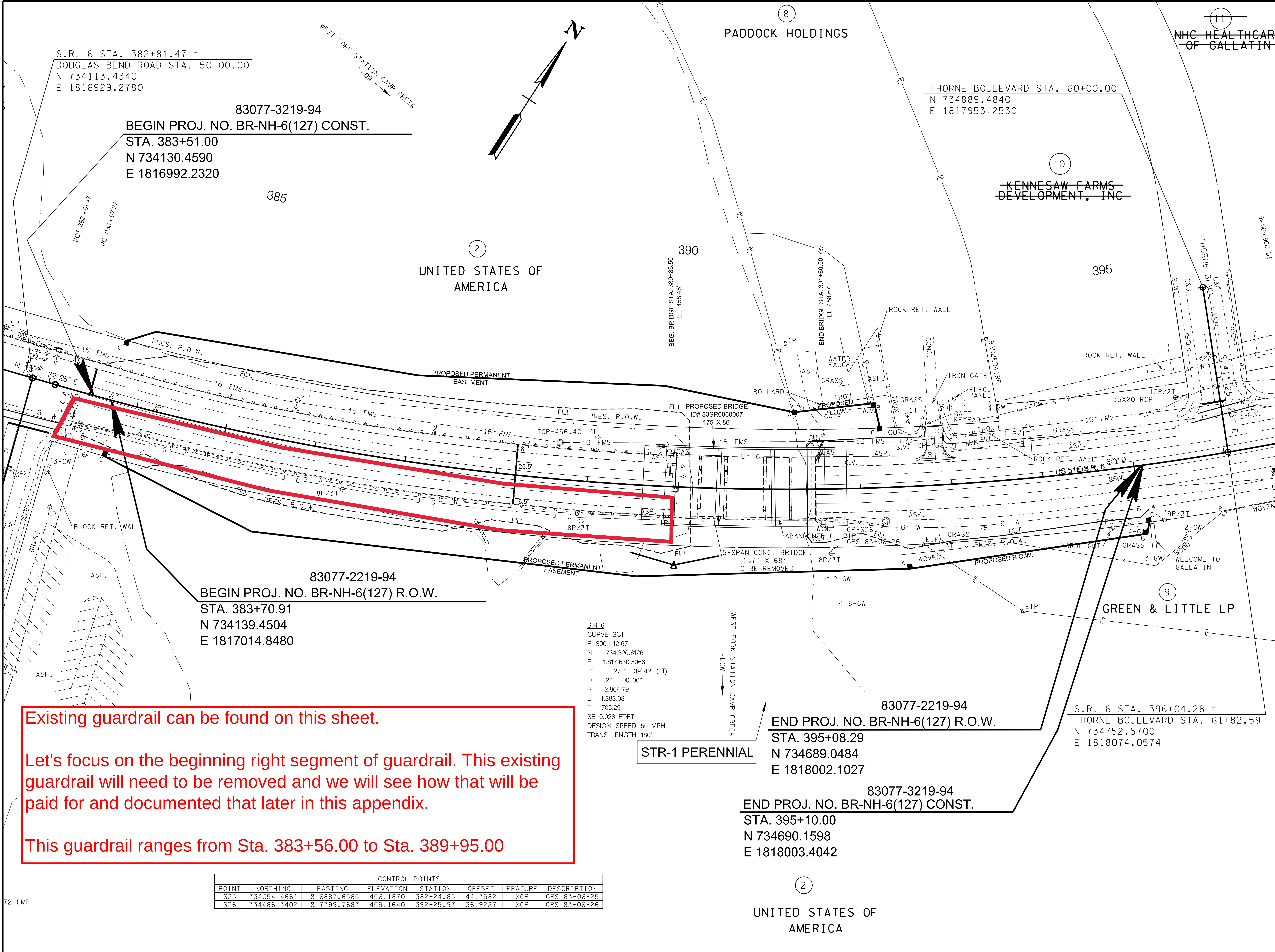
In this appendix, we are going to look at guardrail. Let's start off by looking at a set of plans and seeing everywhere guardrail is shown.

Note: Although guardrail was used in this example, this approach can be applied to other items such as Concrete Drainage Items (storm pipes, cross drains, endwalls, catch basins, etc), Box Culverts, Fence, etc.

GUARDRAIL - LEGEND

Before we start looking at sheets, let figure out what we will be looking for. Below is an excerpt from the Standard Drawing RD-A and RD-L Series that list all TDOT's standard abbreviations and legends. Shown here is the legend for guardrail so go ahead and look for existing single guardrail on the Existing Layout Sheet on the next page and then the proposed single guardrail on Proposed Layout Sheet on the following page.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2022	BR-NH-6(127)	4



S.R. 6
CURVE SC1
PI 390+12.67
N 734,320.6126
E 1,817,630.5066
Δ 27° 39' 42" (LT)
D 2° 00' 00"
R 2,864.79
L 1,383.08
T 705.29
SE 0.028 FT/FT
DESIGN SPEED 50 MPH
TRANS. LENGTH 180'

Existing guardrail can be found on this sheet.

Let's focus on the beginning right segment of guardrail. This existing guardrail will need to be removed and we will see how that will be paid for and documented that later in this appendix.

This guardrail ranges from Sta. 383+56.00 to Sta. 389+95.00

CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	STATION	OFFSET	FEATURE	DESCRIPTION
S25	734054.4661	1816887.6565	456.1870	382+24.85	44.7582	XCP	GPS 83-06-25
S26	734486.3402	1817799.7687	459.1640	392+25.97	36.9227	XCP	GPS 83-06-26

R.O.W. PLANS

SEALED BY

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00003 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID g2003u07.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 382+81.47 TO 396+90.45
SCALE: 1"=50'

14-FEB-2022 13:11
\\AG03SDCWF00010.net.ads.state.tn.us\PROJECTS\Sumner\SR6_Bridge over West Fork Station Camp Creek_124722.00\su006-07 004.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2022	BR-NH-6(127)	4B

S.R. 6 STA. 382+81.47 =
DOUGLAS BEND ROAD STA. 50+00.00
N 734113.4340
E 1816929.2780

WEST FORK STATION CAMP CREEK FLOW

83077-3219-94
BEGIN PROJ. NO. BR-NH-6(127) CONST.
STA. 383+51.00
N 734130.4590
E 1816992.2320

385

THORNE BOULEVARD STA. 60+00.00
N 734889.4840
E 1817953.2530

390

395

STA. 383+51.00
BEGIN LT & RT PAVEMENT AND SHOULDER TRANSITION

TIE PROP. GR. TO EXIST. GR. AT STATION 383+62.50 AT 36'

EXIST. GR. TO REMAIN IN PLACE

STA. 387+51.00
END LT TRANSITIONS
LT PAVEMENT OFFSET 27.50'
LT SHOULDER OFFSET 43.50'

BEG. BRIDGE STA. 389+85.50
EL. 458.48'

END BRIDGE STA. 391+60.50
EL. 458.67'

STA. 392+60.00
BEGIN LT TRANSITIONS
LT PAVEMENT OFFSET 27.50'
LT SHOULDER OFFSET 43.50'

STA. 392+83.50
18' PVT. DR.
LIMIT OF CONST.
0+65.00

BEG. CURB
STA. 393+04.00
42.00'

END. CURB
STA. 395+10.00
34.85'

N 73° 32' 25" E

S 41° 25' 23" E

PROPOSED BRIDGE
ID# 83SR0060007
175' X 86'

TYPE 38

DSYL

SBYL

SSYL

SSWL

SBWL

15' R

PROP. 6" VERTICAL CURB

EXIST. SHOULDER

US 31E/S.R. 6

TYPE 13

CLASS "B" RIP-RAP

29'
23'
9'
16'
27.5'
27.5'
13'
9'
26'
25'
12'

83077-2219-94
BEGIN PROJ. NO. BR-NH-6(127) R.O.W.
STA. 383+70.91
N 734139.4504
E 1817014.8480

STA. 387+51.00
END RT TRANSITIONS
RT PAVEMENT OFFSET 27.50'
RT SHOULDER OFFSET 40.50'

STA. 392+60.00
BEGIN RT TRANSITIONS
RT PAVEMENT OFFSET 27.50'
RT SHOULDER OFFSET 40.50'

END. SPEC. DT.
STA. 392+50.00
60.00'

SPEC. DT. BREAK PT.
STA. 394+00.00
54.53'

BEGIN SPEC. DT.
STA. 395+00.00
47.17'

STA. 395+10.00
END LT & RT PAVEMENT AND SHOULDER TRANSITIONS

LEGEND

DSYL	DOUBLE SOLID YELLOW LINE (6")
SSWL	SINGLE SOLID WHITE LINE (6")
SSYL	SINGLE SOLID YELLOW LINE (6")
SBWL	SINGLE BROKEN WHITE LINE (6")
SBYL	SINGLE BROKEN YELLOW LINE (6")

WEST FORK STATION CAMP CREEK FLOW

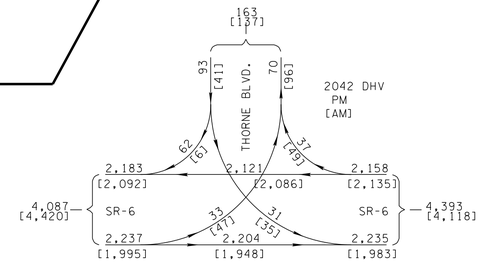
STR-1 PERENNIAL

83077-2219-94
END PROJ. NO. BR-NH-6(127) R.O.W.
STA. 395+08.29
N 734689.0484
E 1818002.1027

83077-3219-94
END PROJ. NO. BR-NH-6(127) CONST.
STA. 395+10.00
N 734690.1598
E 1818003.4042

S.R. 6 STA. 396+04.28 =
THORNE BOULEVARD STA. 61+82.59
N 734752.5700
E 1818074.0574

1,598
[1,350]



Proposed guardrail can be found on all four corners of the proposed bridge but let's continue to focus on the beginning right segment of guardrail.

This guardrail ranges from Sta. 383+73.93 to Sta. 389+78.96

The type of end terminal can also be found on this sheet in the blue circle. You can see the Type 38 text and symbol at the end of the guardrail near the side road intersection.

R.O.W.

PLANS

SEALED BY

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00003 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID g2003u07.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

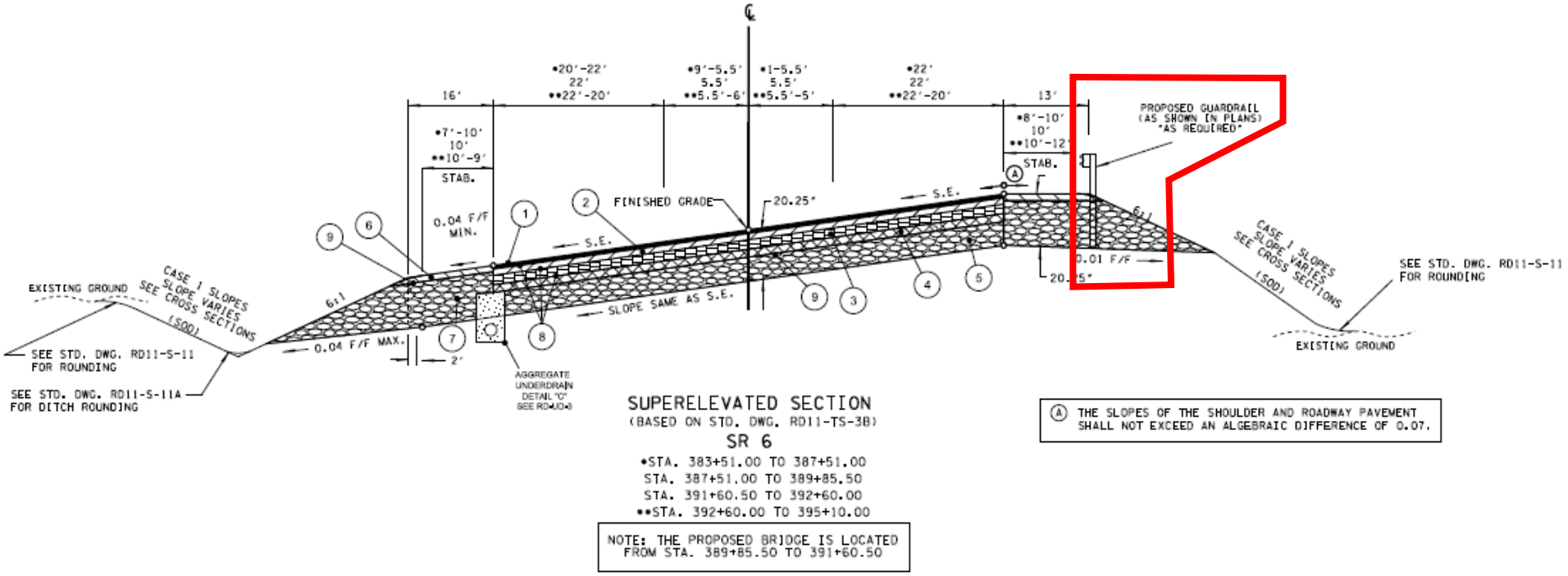
PROPOSED LAYOUT

STA. 382+81.47 TO 396+90.45
SCALE: 1"=50'

14-FEB-2022 13:13
\\AG03SDCWF00010.net.ads.state.tn.us\PROJECTS\Sumner\SR6_Bridge over West Fork Station Camp Creek_124722.00\su006-07 004B.sht

GUARDRAIL – TYPICAL SECTION

Another sheet in the plan set where guardrail can be found is on the typical section sheet. Usually on this sheet, the placement of the guardrail is generally vague. Its usually noted that the Proposed Guardrail is “As shown in plans. As Required.” Meaning that you need to look at other sheets to determine exactly where the guardrail is to be placed.



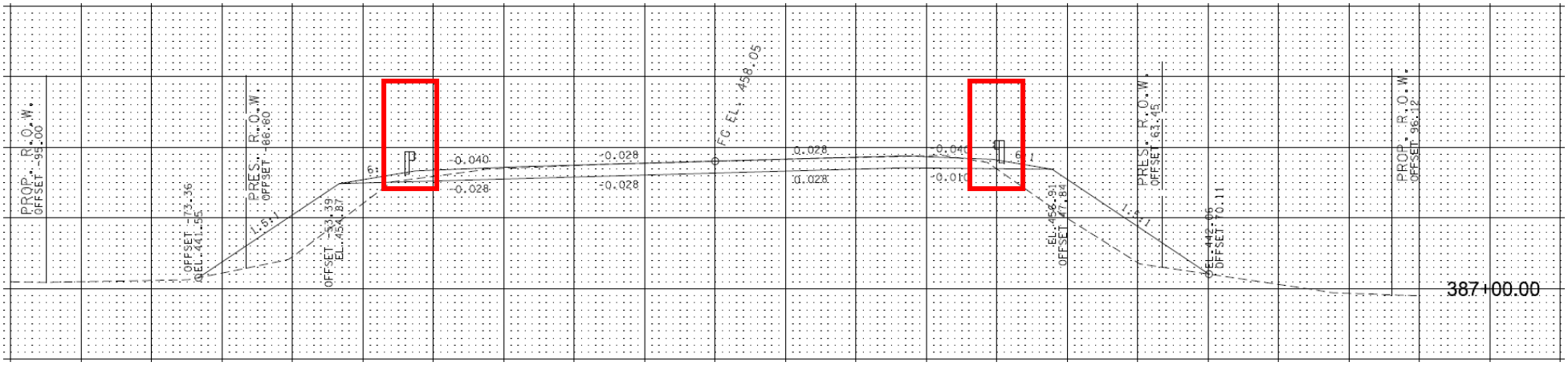
SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-3B)
SR 6
•STA. 383+51.00 TO 387+51.00
STA. 387+51.00 TO 389+85.50
STA. 391+60.50 TO 392+60.00
••STA. 392+60.00 TO 395+10.00

NOTE: THE PROPOSED BRIDGE IS LOCATED FROM STA. 389+85.50 TO 391+60.50

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

GUARDRAIL – CROSS SECTION

Another place to find guardrail in the plans is on the Cross Section Sheets. This cross section is from that station range mentioned previous. This is from 387+00.00 and you can see that there is guardrail on both sides of the travel way as denoted by the guardrail symbol.



GUARDRAIL - ESTIAMTED QUANTITIES

Now we know where we can see guardrail within the plans, now let's see how much proposed guardrail is being installed on this project. We do this by looking at Sheet 2 – Estimated Quantities Sheet. On this project, we have six (6) different item numbers that relates to guardrail.

Also, on this sheet, we have footnotes on some of the item numbers that give more detail regarding that item. Here we can see Item Number 706-01 Guardrail Removed has footnote 3 which states to "See Sheet 2F for details." Sheet 2F is the Tabulated Quantities Sheet which breaks down the quantities in greater detail. So now let's go look at Sheet 2F.

	705-06.01	W BEAM GR (TYPE 2) MASH TL3	L.F.	1163
	705-06.10	GR TERMINALTRAILING END (TYPE 13) MASH TL3	EACH	1
	705-06.20	TANGENT ENERGY ABSORBING TERM MASH TL-3	EACH	2
	705-06.25	THRIE BEAM BRIDGE TRANSITION MASH TL-3	EACH	2
(3)	706-01	GUARDRAIL REMOVED	L.F.	1354
	706-10.80	MICHIGAN AND MODIFIED MICHIGAN END SHOE	EACH	2

(3) SEE SHEET 2F FOR DETAILS

GUARDRAIL – TABULATED QUANTITIES

Now looking at an insert from Sheet 2F – Tabulated Quantities sheet we can see the Proposed Guardrail tabulated block. This has additional detail for the guardrail item numbers. On this tabulated block, we can see a ton of information. We can see which sheet the section of guardrail is located on, the road name, if the guardrail is on the left or right side of the roadway based on which way the stations run, the stations of guardrail, and it breaks down the quantities per item number.

On this block, we can see the guardrail section that we viewed on the Proposed Sheet – Right side of SR-6 from Sta. 383+73.93 to Sta. 389+78.96. This station range has guardrail that is Item Number 705-06.01 which is W Beam GR (Type 2), Item Number 705-06.20 which is a Type 38 End Terminal, and Item number 705-06.25 which is a thrie beam bridge transition. We will take a closer look at some of these item numbers and their Standard Drawings next.

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE		STATIONS		GUARDRAIL			TERMINAL ANCHORS		REMARKS
		LT	RT	FROM	TO	THRIE BEAM BRIDGE TRAN. MASH TL-3 (20.65') 705-06.25 EACH	W BEAM GR (TYPE 2) MASH TL3 705-06.01 (L.F.)	MICHIGAN END SHOE 706-10.80 (EACH)	TYPE 13 MASH TL3 (9.375') 705-06.10 (EACH)	TYPE 38 MASH TL3 (46.875') 705-06.20 (EACH)	
4B	SR-6	X		383+62.50	389+75.00		612.50	1.00			PARAPET CONNECTION IS 12'
4B	SR-6		X	383+73.93	389+78.96	1.000	537.50			1	PARAPET CONNECTION IS 9'
4B	SR-6	X		391+70.00	392+37.53	1.000				1	PARAPET CONNECTION IS 12'
4B	SR-6		X	391+69.00	391+90.88		12.50	1.00	1		PARAPET CONNECTION IS 9'
TOTALS						2	1162.50	2	1	2	

This tabulated block is for the Removal of Guardrail. This is what Footnote 3 from the Estimated Quantities sheet was referring to. This tabulated block calls out the station ranges and the location of the guardrail that needs to be removed. The second station range is the one we viewed on the Present Layout Sheet that needs to be removed.

REMOVAL OF GUARDRAIL

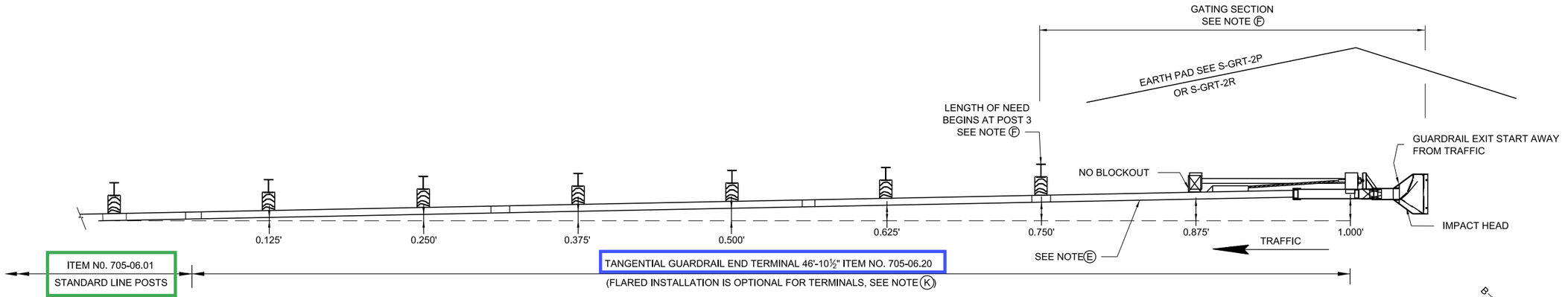
STATION RANGE	LOCATION
383+62.50 - 389+94.00	LT
383+56.00 -389+95.00	RT
391+51.00 - 391+60.00	LT
391+51.00 - 392+25.00	RT
TOTAL	**1353.5**

GUARDRAIL – STANDARD DRAWINGS

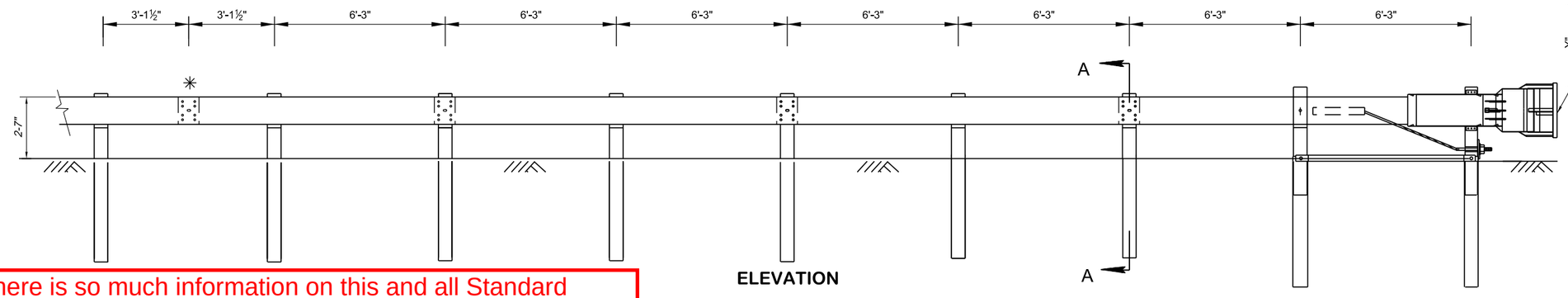
So now we know where and how much proposed guardrail is on this project. Now let's look more into the Standard Drawings of guardrail. On Sheet 1A – Roadway Index and Standard Roadway and Structures Drawings Sheet, it lists all the standard drawings that will be used on the project. Let's focus on Section 10-107.00 Safety Design and Guardrail section. Under this header, we can see all the standard drawings that relate to safety design and guardrails. Let's take a closer look at a couple of these standard drawings. Let's look at S-GRT-2 Type 38 Guardrail End Terminal and S-GR31-1 Guardrail Details.

10-107.00 SAFETY DESIGN AND GUARDRAILS

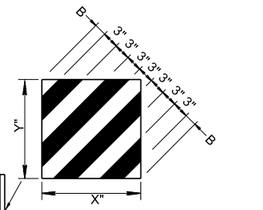
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-1	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED
S-PL-1A	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED (FOR RIGID OBJECTS)
S-PL-1B	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED ON CURVED ROADWAYS
S-PL-3	03-01-23	SAFETY PLAN MINIMUM INSTALLATION AT BRIDGE ENDS
S-PL-6	06-15-21	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-CC-1	03-01-23	CRASH CUSHION
S-GR31-1	06-15-21	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C	06-15-21	GUARDRAIL GENERAL NOTES AND POST DETAILS
S-GRC-4	06-15-21	GUARDRAIL CONNECTION TO BRIDGE RAILING CONCRETE PARAPET
S-GRC-5	02-28-20	GUARDRAIL CONNECTION TO BRIDGE ENDS (TRAILING ENDS)
S-GRT-2	06-28-19	TYPE 38 GUARDRAIL END TERMINAL
S-GRT-2P	10-16-20	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-GRA-3	06-15-21	TYPE 13 GUARDRAIL ANCHOR



PLAN



ELEVATION



STRIPES AT 45 DEGREE TOWARD TRAVEL WAY.

BACKGROUND: YELLOW (STANDARD SPECIFICATION 916.06)
COPY: BLACK

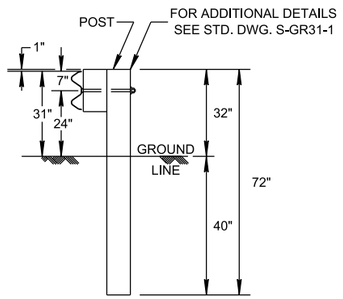
X AND Y SHALL BE WITHIN 3" OF FACE WIDTH AND HEIGHT, RESPECTIVELY, AND FACE SHALL HAVE A MINIMUM 300 SQUARE INCHES COPY AREA.

✳ FOR MAINTENANCE AND REPAIR PROJECTS:
IF ONLY THE TERMINAL IS TO BE REPLACED,
USE S-GRS-4 TO TRANSITION BACK TO 27" HEIGHT.

There is so much information on this and all Standard Drawings.

First, under general note C and in the blue box, it tells you what item number to use to pay for the Type 38 end terminal.

Also, in the green box, it tells you the item number for the guardrail that will be used up to the end terminal. This can also be seen in the next Standard Drawing.



SECTION A-A

NOTE TO INSTALLER

SKT-SP-MGS WITH 46'- 10½" INSTALLATION IS SHOWN, POST MATERIAL, SIZE, GUARDRAIL SPLICING LOCATION, TAPER RATE, OFFSET, GUARDRAIL HEIGHT, IMPACT HEAD DIMENSION, AND ALL OTHER MISCELLANEOUS HARDWARE MAY BE DIFFERENT. INSTALLATION SHALL FOLLOW THE MANUFACTURER'S SHOP DRAWINGS.

GENERAL NOTES

(A) ONLY MASH COMPLIANT TL-3 END TERMINALS ON THE TDOT QUALIFIED PRODUCTS LIST MAY BE INSTALLED. MANUFACTURER'S SHOP DRAWINGS SHALL BE REQUIRED BEFORE ANY TANGENTIAL END TERMINAL INSTALLATIONS CAN BEGIN. THE CONTRACTOR SHALL HAVE ONE COMPLETE SET OF SHOP DRAWINGS ON SITE DURING INSTALLATION OR REPAIR OF ANY TANGENTIAL GUARDRAIL TERMINAL ANCHOR. THE CONTRACTOR SHALL ALSO PROVIDE THE CONSTRUCTION OR MAINTENANCE SUPERVISOR WITH ONE COMPLETE SET OF SHOP DRAWINGS INCLUDING TDOT QUALIFIED PRODUCTS LIST EVALUATION NUMBER.

(B) FOR THE TYPE 38 GUARDRAIL TERMINAL TO FUNCTION AS IT WAS CRASH TESTED UNDER MASH, THE EARTH PAD MUST BE CONSTRUCTED PER STD. DWG. S-GRT-2P OR S-GRT-2R.

(C) THE END TERMINAL (INCLUDING ANCHOR) IS TO BE INSTALLED UNDER ITEM NUMBER 705-06.20 TANGENT ENERGY ABSORBING TERM MASH TL-3 PER EACH.

(D) TERMINAL SYSTEM MUST BE CONSTRUCTED SO THAT THE FULL LENGTH OF THE TERMINAL SYSTEM GUARD RAILING IS IN STRAIGHT ALIGNMENT.

(E) DIFFERENT TERMINAL SYSTEMS OR PARTS SHALL NOT BE COMBINED ON A RUN OF GUARDRAIL.

(F) THE FIRST 12'-6" FROM IMPACT HEAD IS GATING FOR SKT-SP-MGS. DO NOT USE THIS SECTION IN LENGTH OF NEED.

(G) IF GUARDRAIL NEEDS TO BE EXTENDED, EXTEND GUARDRAIL IN INCREMENTS OF 12'-6".

(H) IF WOOD POSTS ARE USED, ALL HOLES IN WOOD POSTS ARE TO BE DRILLED BEFORE PRESERVATIVE TREATMENT.

(I) ALL CUTTING, DRILLING, AND WELDING OF STEEL COMPONENTS SHALL BE DONE BEFORE GALVANIZING.

(J) THE FINISHED CABLE ASSEMBLY WILL NOT BE ACCEPTABLE UNLESS IT IS IN TENSION WITH NO SAG.

(K) IF THE SHOULDER WIDTH IS LESS THAN 2'-0", END TERMINAL MUST BE FLARED. IF THE SHOULDER WIDTH IS GREATER THAN 2'-0", END TERMINAL MAY BE TANGENTIAL. IF FLARED IMPLEMENTATION IS IMPLEMENTED, USE 25:1 MAXIMUM FLARE RATE OR INSTALL END TERMINAL AS DIRECTED BY THE FIELD ENGINEER.

(L) FOR RETROFIT PROJECTS, SEE S-GRT-2R.

(M) FOR NEW CONSTRUCTION, INSTALL TERMINALS AT 31" HEIGHT. FOR RETROFIT PROJECTS, USE GUARDRAIL HEIGHT TRANSITION DETAIL, SEE STD. DWG.S-GRS-4.

NOTE TO DESIGNER

(N) DO NOT USE WITHOUT REFERENCING S-GRT-2P OR S-GRT-2R.

- REV. 11-3-14: MODIFIED PAY LENGTH FOR TYPE 38 END TERMINAL.

  REV. 4-4-16: GENERAL REVISION.

- REV. 3-28-17: UPDATED NOTES TO INSTALLER, ADDED W-BEAM OVERLAPPING DETAIL REORGANIZED SHEET. CHANGED PAY ITEM NUMBER. REPLACED "SKT350" WITH "SKT-SP-MGS" IN NOTE TO INSTALLER. CHANGED ITEM NO 705-02.02 TO 705-06.01.

  REV. 06-28-2019: REMOVED W-BEAM OVERLAPPING DETAIL. MOVED NOTE TO DESIGNER TO GENERAL NOTES. REDREW SHEET.

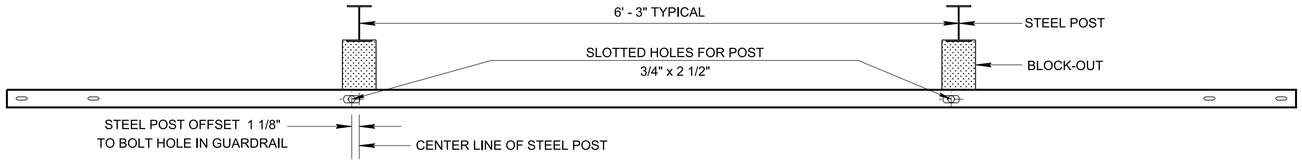
- MINOR REVISION – FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

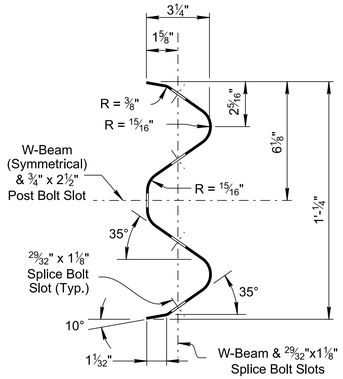
TYPE 38 GUARDRAIL END TERMINAL

07-11-2013 | S-GRT-2

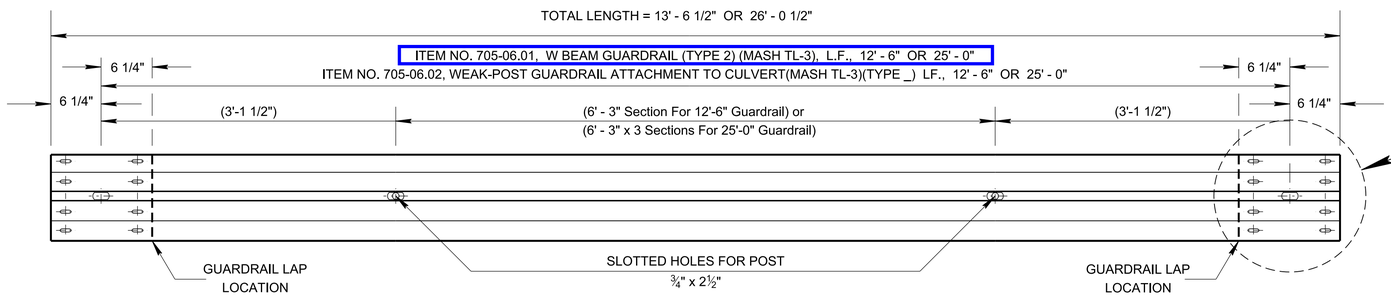
NOT TO SCALE



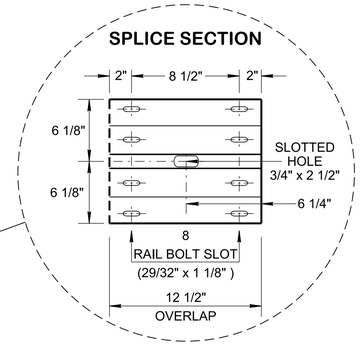
PLAN VIEW



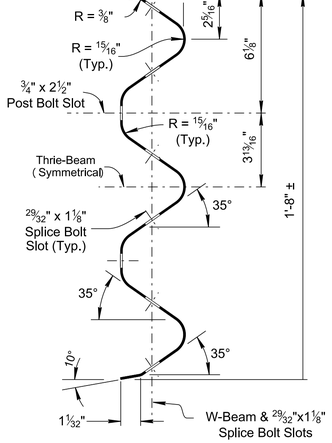
W-BEAM PANEL SECTION



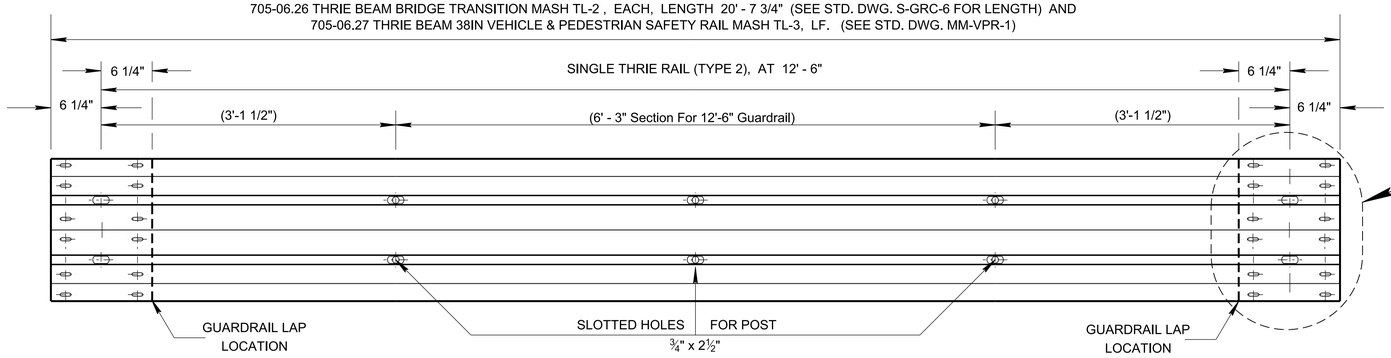
W-BEAM 12 GAUGE
FRONT ELEVATION



705-06.25 THRIE BEAM BRIDGE TRANSITION MASH TL-3 , EACH, LENGTH 20' - 7 3/4" (SEE STD. DWG. S-GRC-4 FOR LENGTH),
705-06.26 THRIE BEAM BRIDGE TRANSITION MASH TL-2 , EACH, LENGTH 20' - 7 3/4" (SEE STD. DWG. S-GRC-6 FOR LENGTH) AND
705-06.27 THRIE BEAM 38IN VEHICLE & PEDESTRIAN SAFETY RAIL MASH TL-3, LF. (SEE STD. DWG. MM-VPR-1)



THRIE-BEAM PANEL SECTION



THRIE-BEAM RAIL 12 GAUGE
FRONT ELEVATION

SPLICE SECTION

This standard drawing is lays out a ton of detail about the guardrail. In the blue box, it list the item number that should be used and it should match the green box on the previous Standard Drawing, S-GRT-2. This standard drawing also has the lengths of guardrail and spacing of the block-outs.

GENERAL NOTES

- (A) METAL BEAMS SHALL CONFORM TO AASHTO M180 CLASS "A": TYPE II, OR TYPE VI.
- (B) WHERE GUARDRAIL IS PLACED ON A CURVE WITH A RADIUS LESS THAN 150 FEET, THE RAIL IS TO BE SHOP-FORMED TO THE REQUIRED RADIUS.
- (C) AT THE OPTION OF THE CONTRACTOR THE RAIL ELEMENTS FOR THE GUARDRAIL MAY BE FURNISHED IN EITHER 12'-6" OR 25' NOMINAL LENGTHS WITH POST BOLT SLOTS FOR CONNECTION TO POSTS.

- REV. 12-01-14: REVISED NOTE (L)

  REV.04-04-16: REVISED NOTES.
- REV. 10-20-16: ADDED NOTE TO ADDRESS ADDITIONAL HOLES.
- REV. 03-28-17: REMOVED NOTE (T) CHANGED PAY ITEM NUMBER. IMPROVED POST SIDE VIEWS AND FRONT ELEVATION VIEWS.

  REV. 06-28-19: MOVED GENERAL NOTES FOR POST, BLOCK-OUTS, FUTURE ADJUSTMENTS, END TREATMENTS, DESIGN AND PAYMENT ALONG WITH GUARDRAIL POST TO STD. DWG. NO. S-GR31-1C. ADDED NEW GUARDRAIL DETAILS. RENAMED AND REDREW SHEET.

  REV. 06-15-21: REVISED NOTE (A) ADDED ITEM NUMBERS ON THRIE BEAM RAIL AND ON W BEAM. REMOVED PANEL SUMMARY TABLE.

- MINOR REVISION -- FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
STANDARD DRAWING
DEPARTMENT OF TRANSPORTATION

GUARDRAIL DETAILS

07-11-13 | S-GR31-1

NOT TO SCALE