THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Travis Smith Digitally signed by Travis Smith
Date: 2022.03.02 10:11:06 -06'00'

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

TENNESSEE DEPARTMENT OF TRANSPORTATION
MATERIALS & TESTS DIVISION- GEOTECHNICAL ENGINEERING SECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243
TRAVIS W. SMITH, P.E. NO. 113851

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

SHEET NAME	SHEET NO.
SIGNATURE SHEET	GEOTECH-SIGN1
GEOTECHNICAL PLANS	G2 – G56

YEAR	PROJECT NO.	SHEET NO.
2022	NH-I-40-5(146)	GEOTECH-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G1

GEOTECHNICAL INDEX

SHEET NAME **SHEET NO.**

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
INDEX

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G2

DEFINITION OF EARTHWORK TERMS

THE TERMS AND DEFINITIONS BELOW SHALL CHARACTERIZE THE MATERIAL TYPE THAT WILL BE ENCOUNTERED DURING EXCAVATION AND GRADING. SEE TYPE MATERIAL REFERENCE IN TYPICAL SECTIONS LEGEND.

A. SOIL MATERIAL

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

B. SOLID ROCK MATERIAL

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

C. SOFT ROCK OR DEGRADABLE ROCK

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

D. TRANSITIONAL MATERIALS

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

TABULATED GEOTECHNICAL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1 2	203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	424,000
1	203-05	UNDERCUTTING	C.Y.	72,600
1 2	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	22
3	711-05.71	51IN SINGLE SLOPE CONCRETE BARRIER WALL	L.F.	555
1 2	740-10.04	GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.	167,600

FOOTNOTES:

1 THIS ITEM TO BE USED BETWEEN THE STATIONS LISTED IN THE NOTES BELOW OR OTHERWISE DIRECTED AS DIRECTED BY ENGINEER FOR THE STABILIZATION OF SUBGRADE.

2 QUANTITIES ESTIMATED FOR SINKHOLE REPAIR(S) AT THE FOLLOWING LOCATIONS:

SINKHOLE	STATION	GSR (TON)	GEOTEXTILE (S.Y.)	MINERAL AGGREGATE (SIZE 57) (TON)
SNK-1	749+96 - 24' (RT)	3	24	2
SNK-2	616+49 - 30' (RT)	25	113	20

3 QUANTITIES ESTIMATED FOR ROCKFALL PROTECTION AT THE FOLLOWING LOCATIONS:
BARRIER WALL QUANTITY INCLUDES 30 LINEAR FEET OF BARRIER WALL FOR WALL END EXTENSIONS BEYOND THE LIMITS OF THE ROCK CUTS.
**SECURITY FENCE TO BE INSTALLED ON TOP OF BARRIER WALL AT ROCKFALL 1.

ROCKFALL	STATION	51IN SINGLE SLOPE CONCRETE BARRIER WALL (L.F.)
1**	700+62.00 TO 704+25.00 RT	365
2	2017+50.00 TO 2019+40.00 RT	190

NOTES

NO GEOTECHNICAL SOIL SAMPLES WERE OBTAINED AT ALIGNMENTS MNAA MAINTENACE ROAD, EAST WEST ROAD AND OLD DONELSON SB & NB.

GRADED SOLID ROCK BUTTRESSES WILL BE REQUIRED:

SR-255
* 760+50 TO 760+61.92 (RT)
* 769+00 TO 769+70.23 (RT)

CD ROAD
* 2045+27.02 TO 2045+50 (RT)

RAMP BB
* 253+50 TO 254+00 (LT)

RAMP C
* 300+00 TO 304+50 (LT)
* 304+50.59 TO 310+50.15 (RT)

RAMP CC
* 350+00 TO 354+50 (RT)

RAMP E
* 516+76 TO 518+85.05 (LT)
* 516+76 TO 526+00 (RT)

RAMP EE
* 550+00 TO 555+50 (LT)

GRADED SOLID ROCK PADS WILL BE REQUIRED:

S.R. 255
* 760+61.92 TO 764+00

CD ROAD
* 2009+00.00 TO 2010+50.00 (RT)
* 2045+27.02 TO 2047+50 (RT)

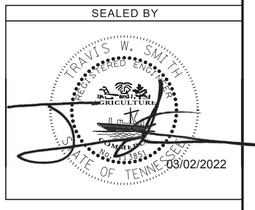
RAMP B
* 212+21.25 TO 219+00 (RT)

RAMP C
* 304+50.59 TO 310+50.15 (RT)

RAMP CC
* 350+00 TO 354+50 (RT)

RAMP E
* 516+76 TO 518+50 (LT)

SEALED BY

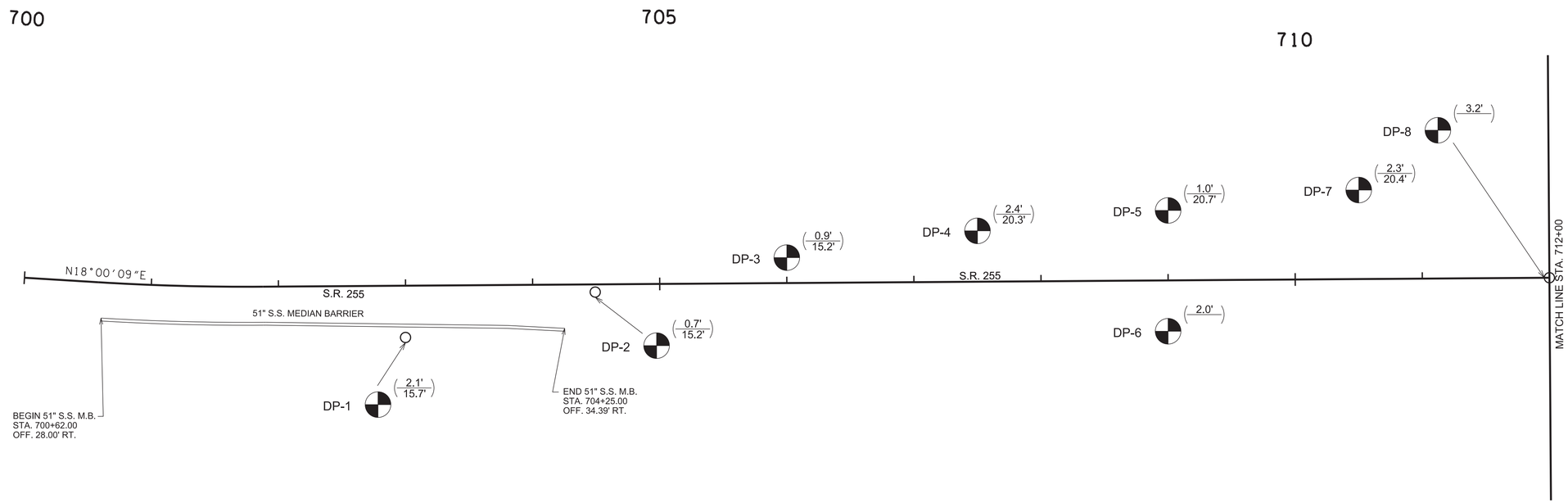


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

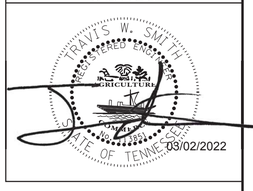
GEOTECHNICAL NOTES & TAB. QTYS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G3

S.R. 255
STATION 700+00 TO STATION 712+00



SEALED BY



LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

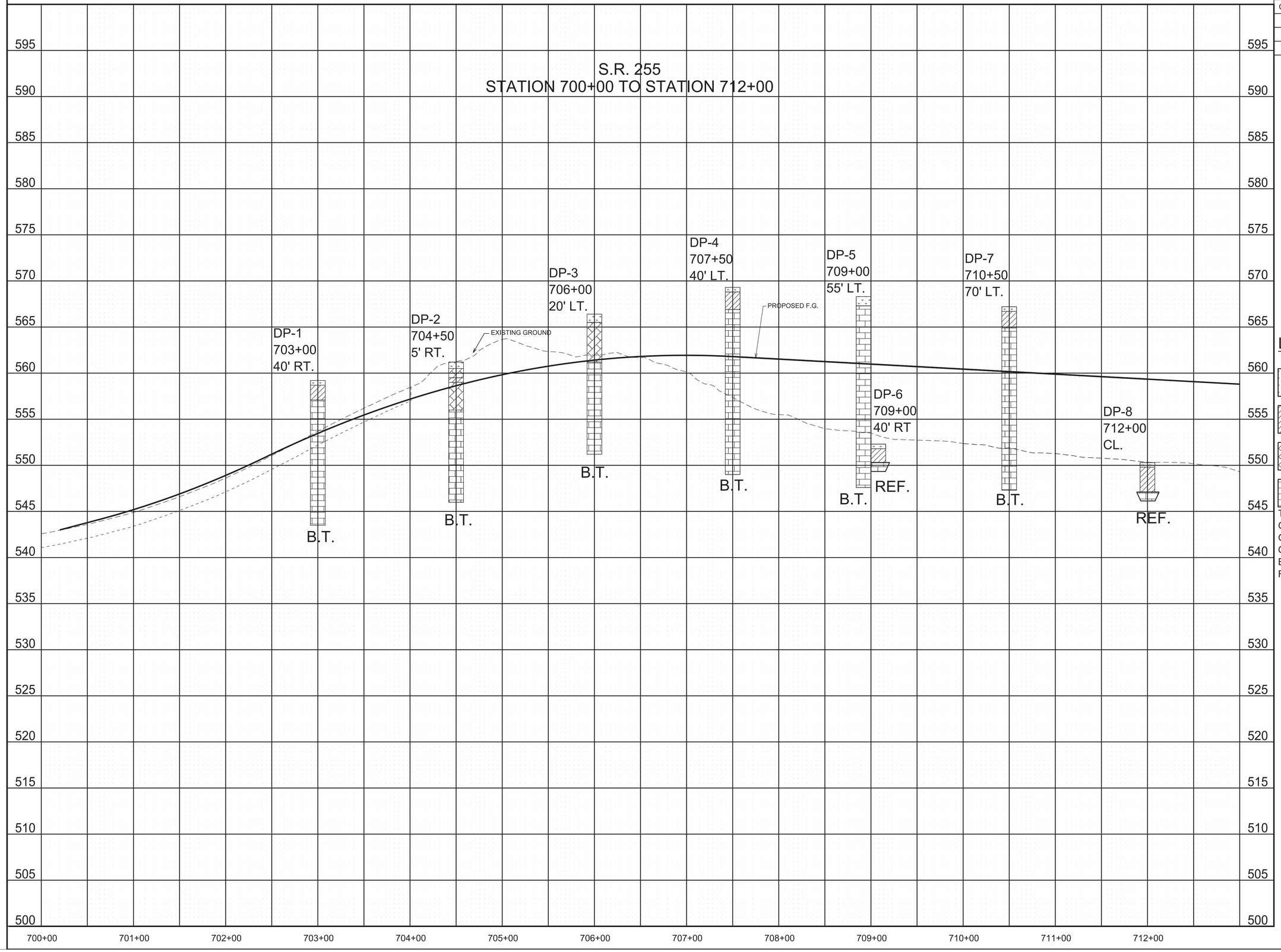
GEOTECHNICAL
BORING LAYOUT

CELL BDR2ND

2/28/2022 10:13:24 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G4

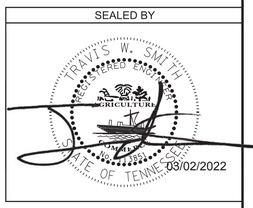


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON GEOTECHNICAL NOTES AND TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

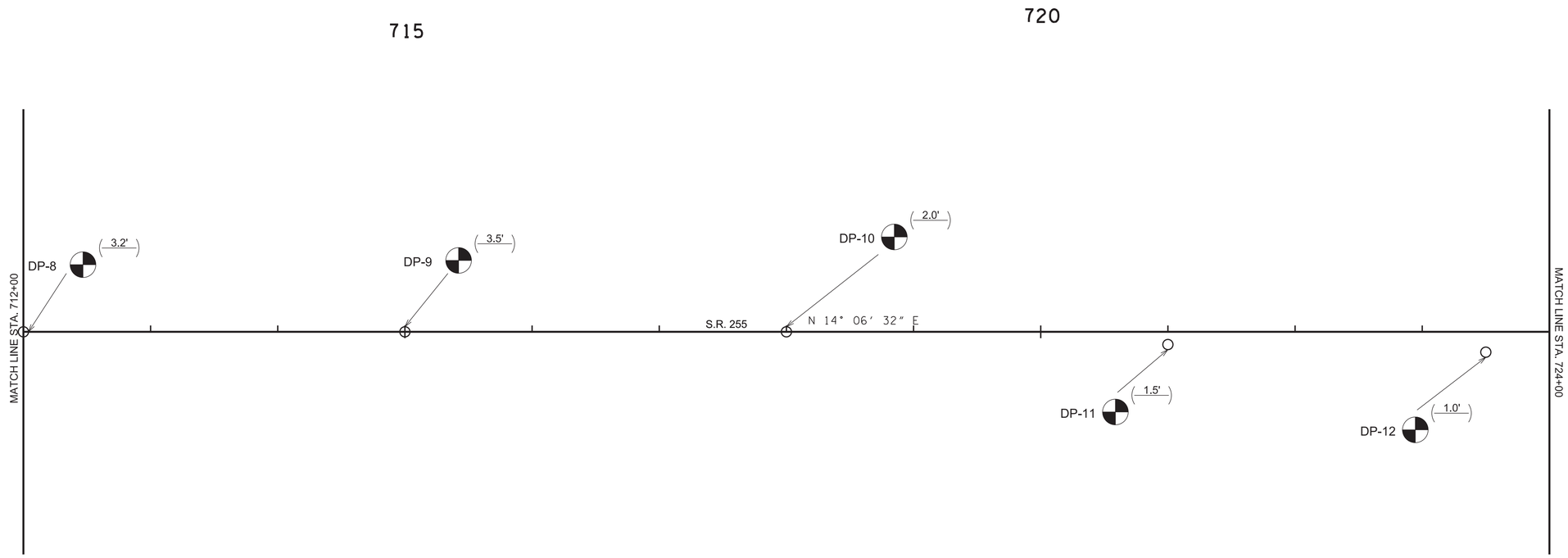


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G5

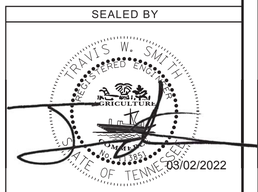
S.R. 255
STATION 712+00 TO STATION 724+00



LEGEND

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

SEALED BY



03/02/2022

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

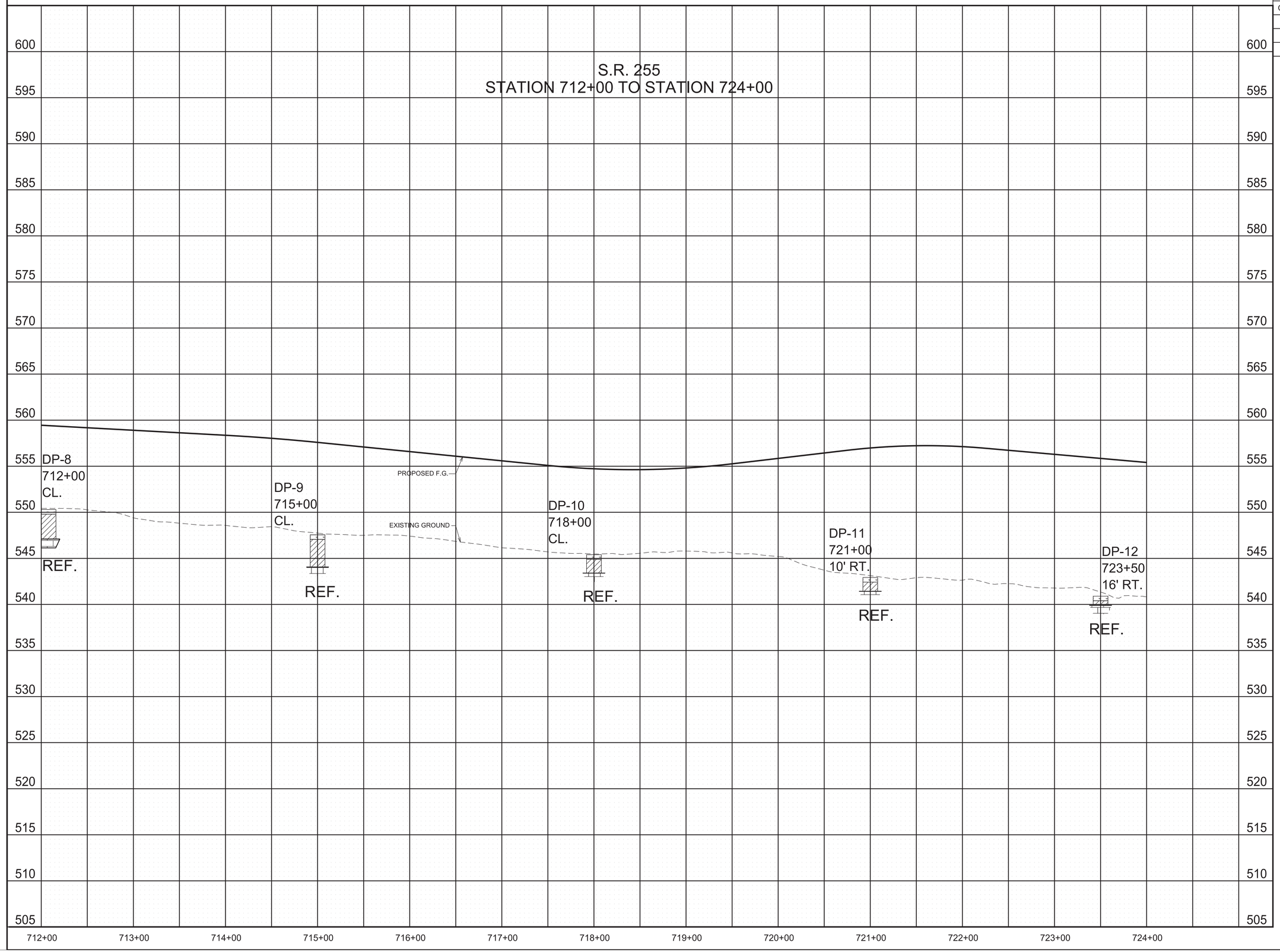
GEOTECHNICAL BORING LAYOUT

CELL BDR2ND

2/28/2022 10:14:00 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G6

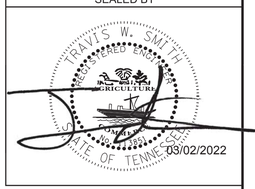


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

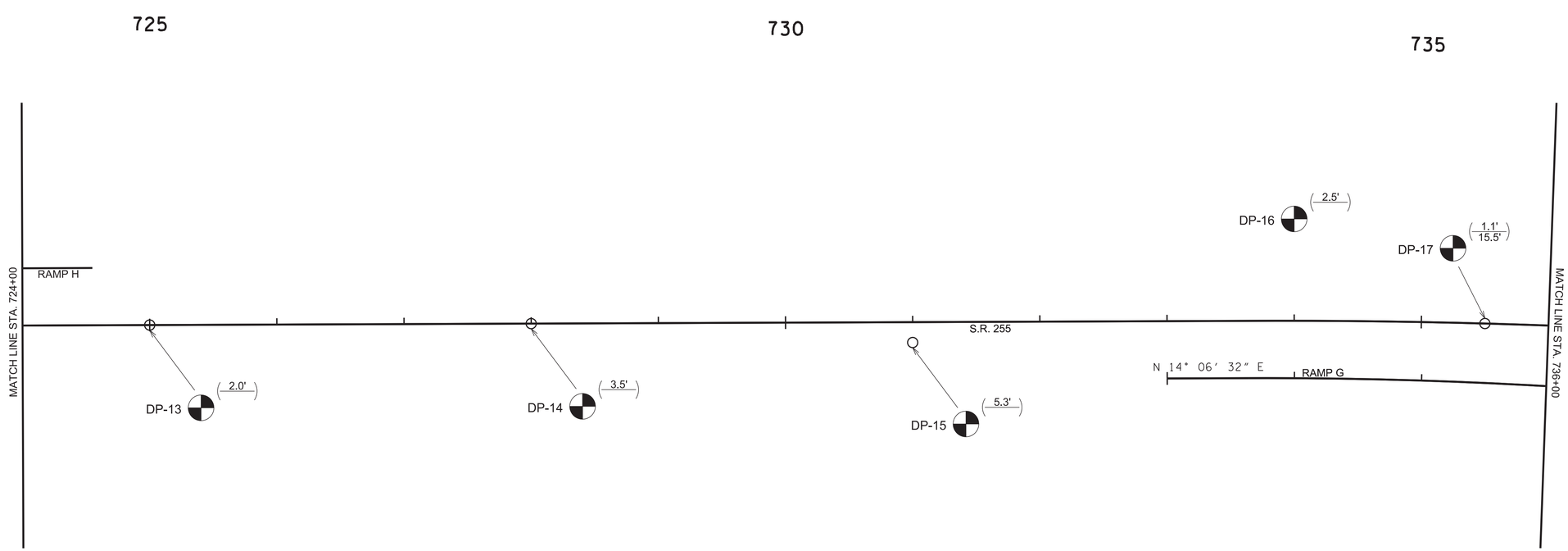
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:14:18 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G6-pro-sr255-8c.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G7

S.R. 255
STATION 724+00 TO STATION 736+00

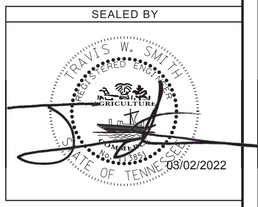


LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

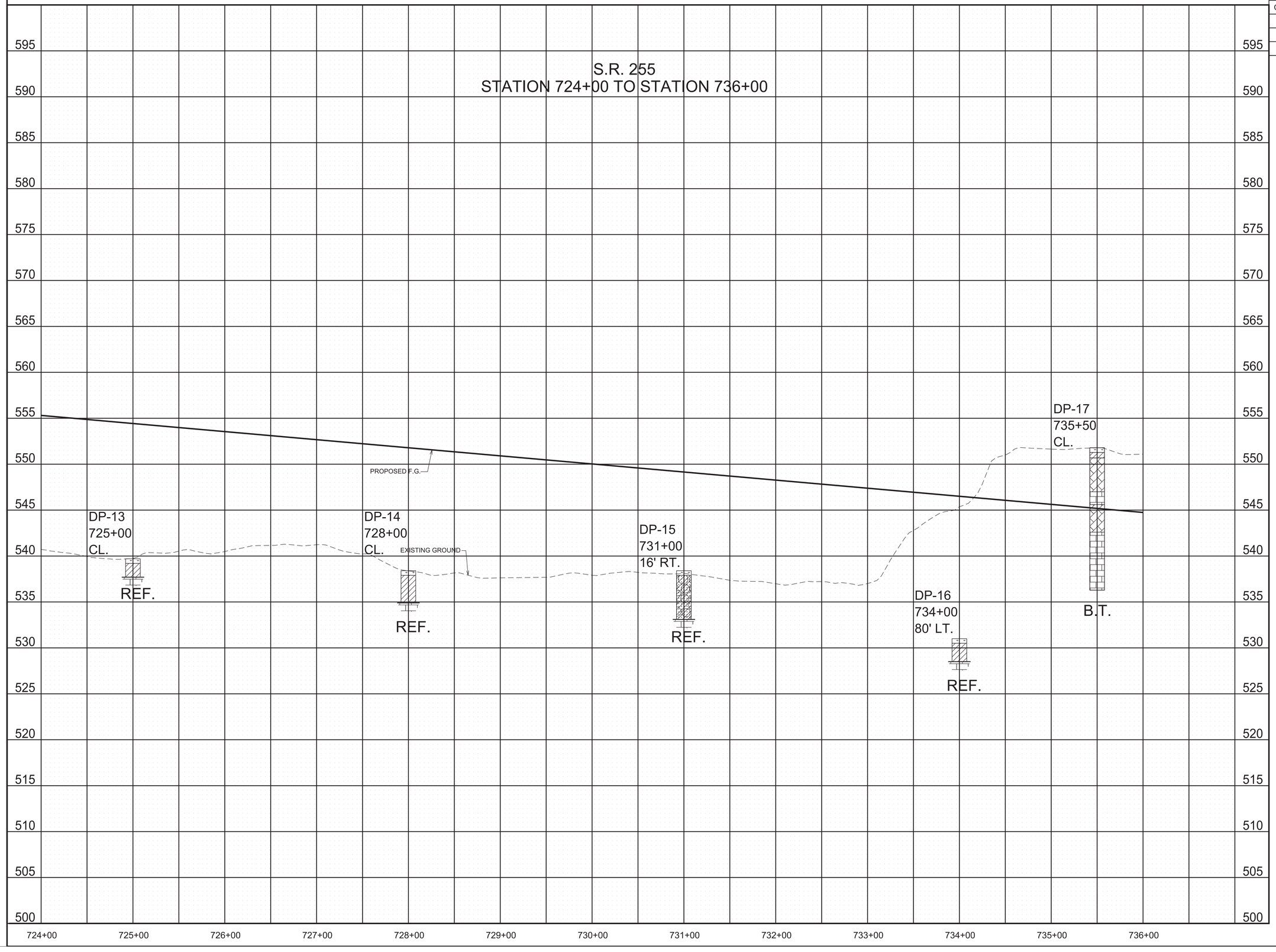
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
BORING
LAYOUT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G8

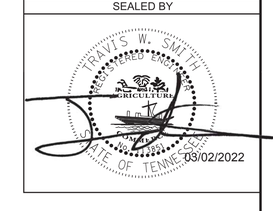


LEGEND

- TOPSOIL
- CLAYEY GRAVEL WITH SAND (TYPE A MATERIAL)
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

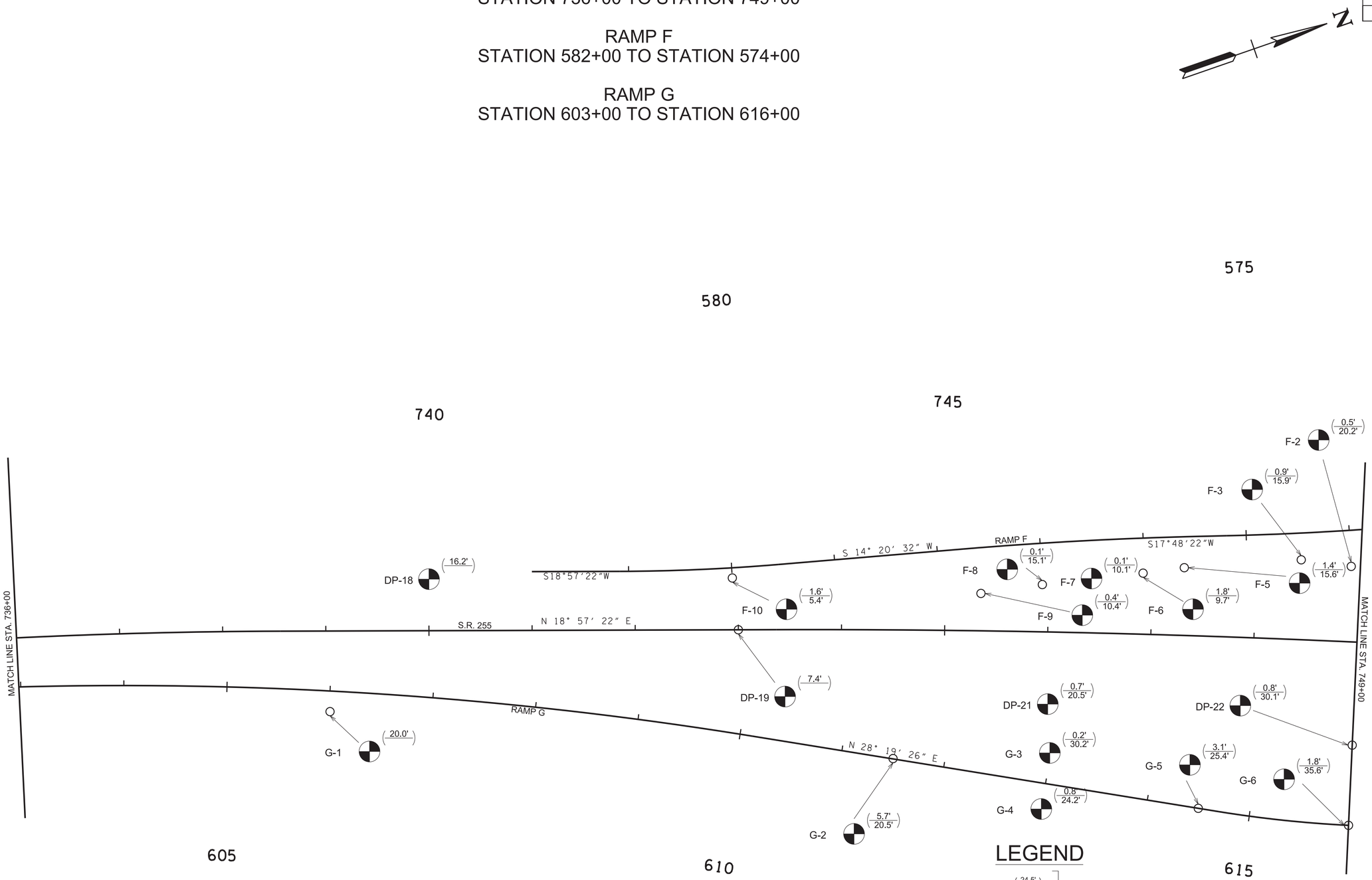
GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G9

S.R. 255
STATION 736+00 TO STATION 749+00

RAMP F
STATION 582+00 TO STATION 574+00

RAMP G
STATION 603+00 TO STATION 616+00

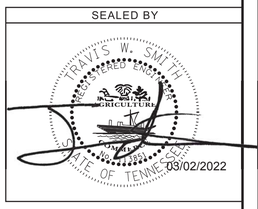


LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

SEALED BY

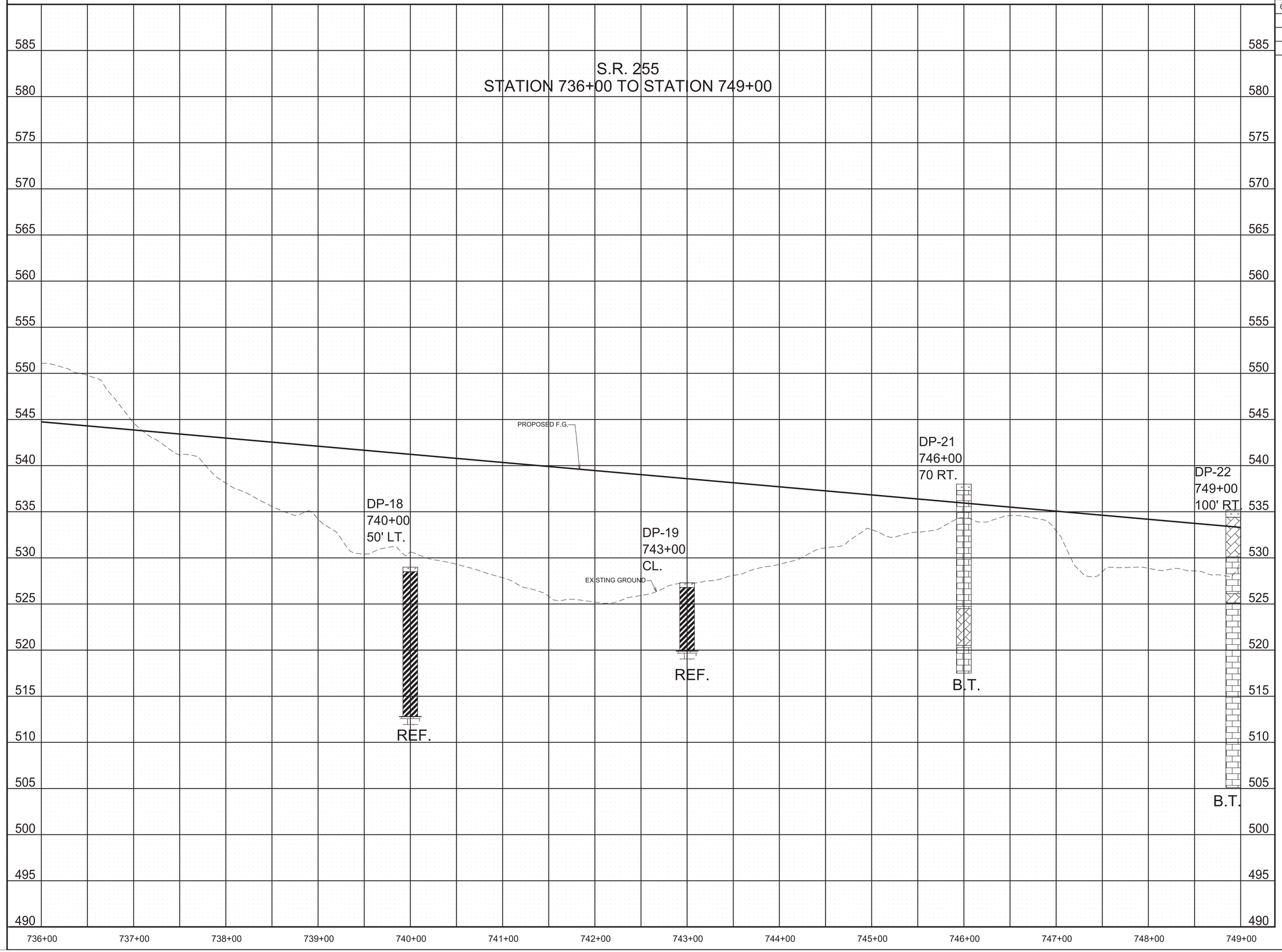


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING LAYOUT

CELL BDR2ND
2/28/2022 10:15:42 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G10

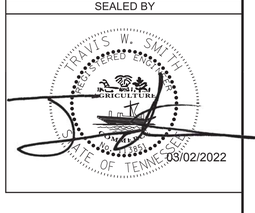


LEGEND

- TOPSOIL
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:15:53 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G10-pro-sr255-10d-.sht

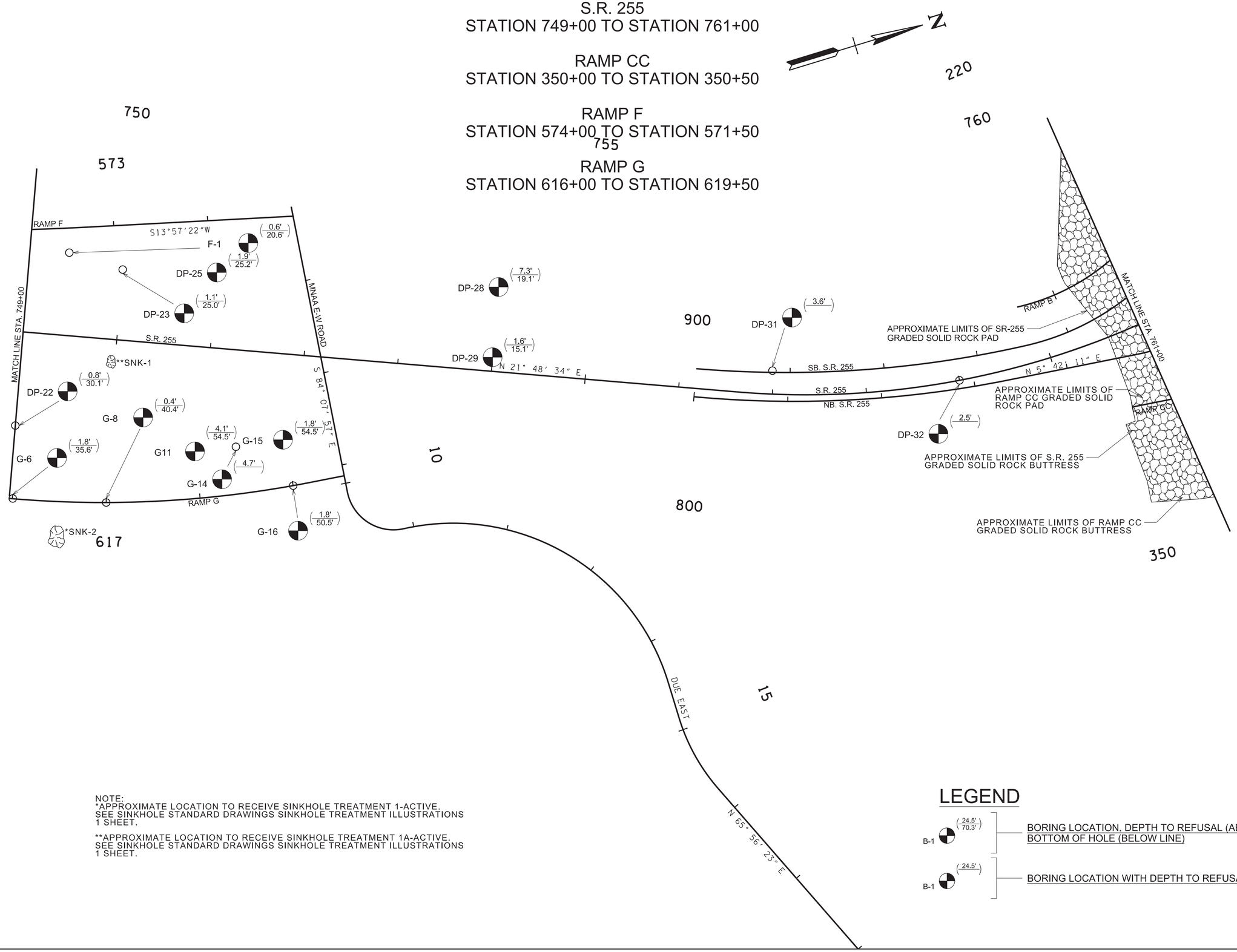
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G11

S.R. 255
STATION 749+00 TO STATION 761+00

RAMP CC
STATION 350+00 TO STATION 350+50

RAMP F
STATION 574+00 TO STATION 571+50

RAMP G
STATION 616+00 TO STATION 619+50



NOTE:
*APPROXIMATE LOCATION TO RECEIVE SINKHOLE TREATMENT 1-ACTIVE. SEE SINKHOLE STANDARD DRAWINGS SINKHOLE TREATMENT ILLUSTRATIONS 1 SHEET.

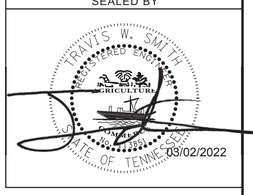
**APPROXIMATE LOCATION TO RECEIVE SINKHOLE TREATMENT 1A-ACTIVE. SEE SINKHOLE STANDARD DRAWINGS SINKHOLE TREATMENT ILLUSTRATIONS 1 SHEET.

LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL

SEALED BY

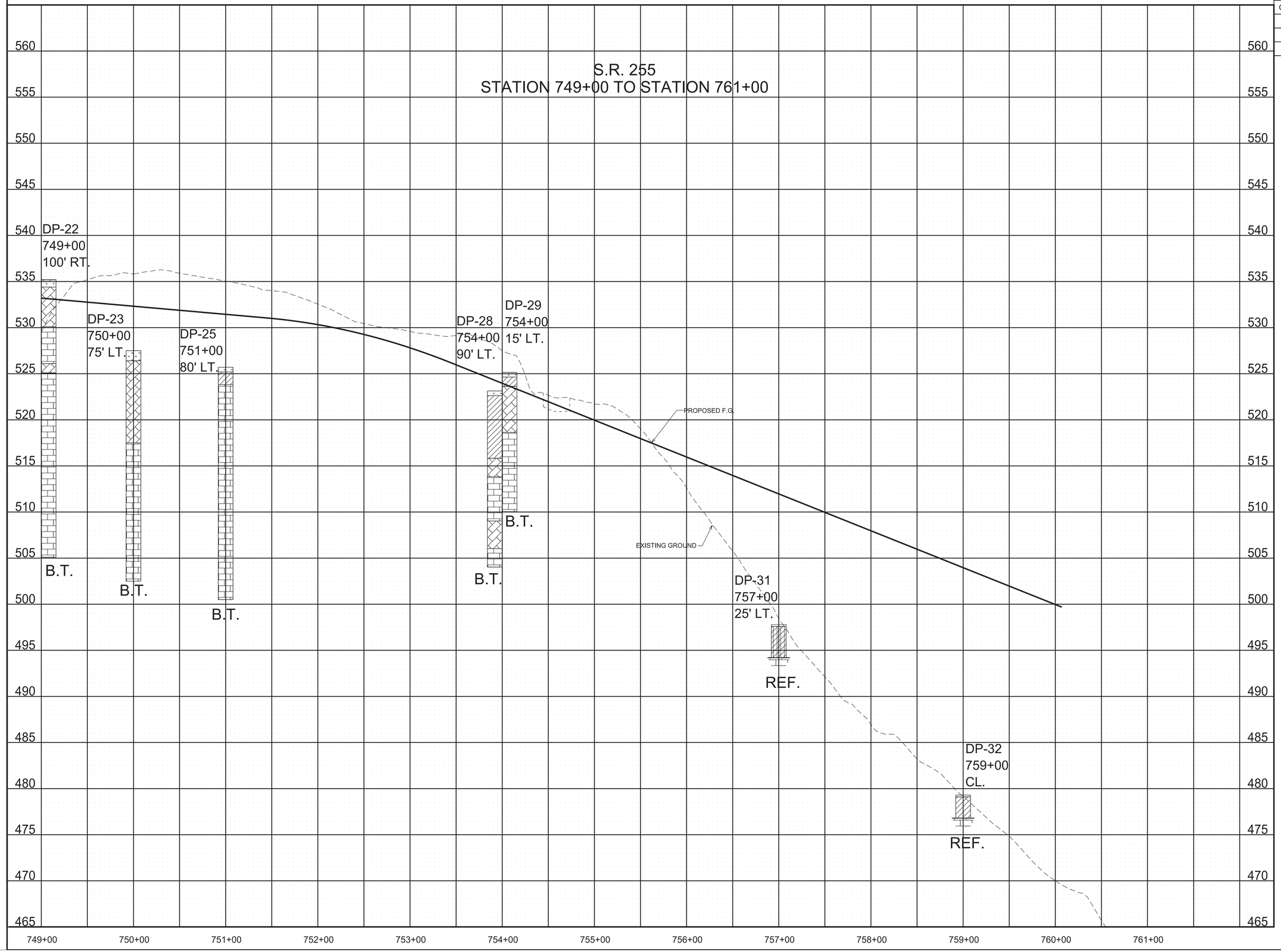


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING LAYOUT

CELL BDR2ND
2/28/2022 10:16:46 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G12

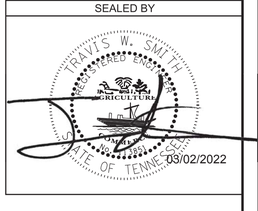


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- SILTY CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

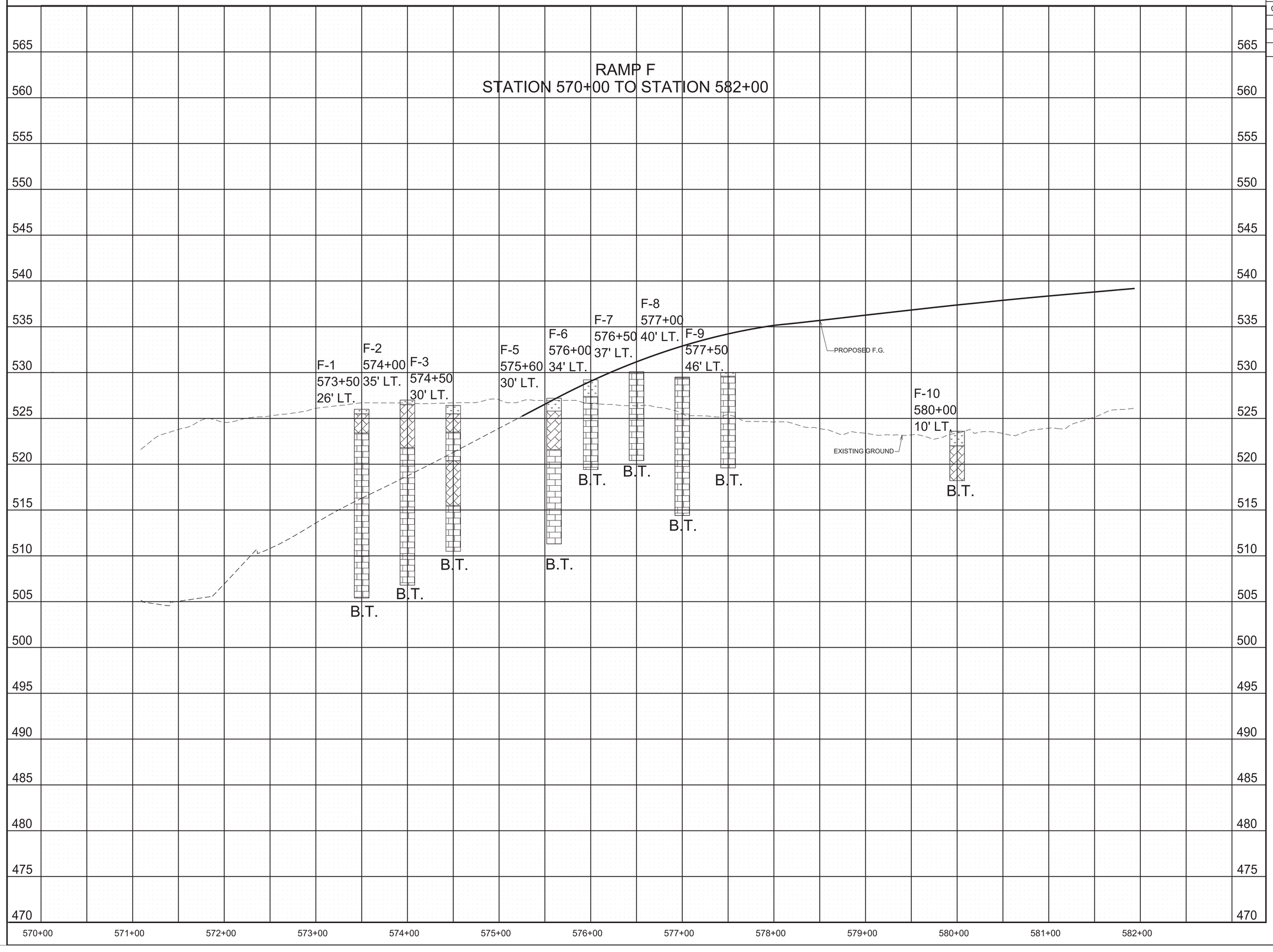
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G13



LEGEND

- TOPSOIL
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

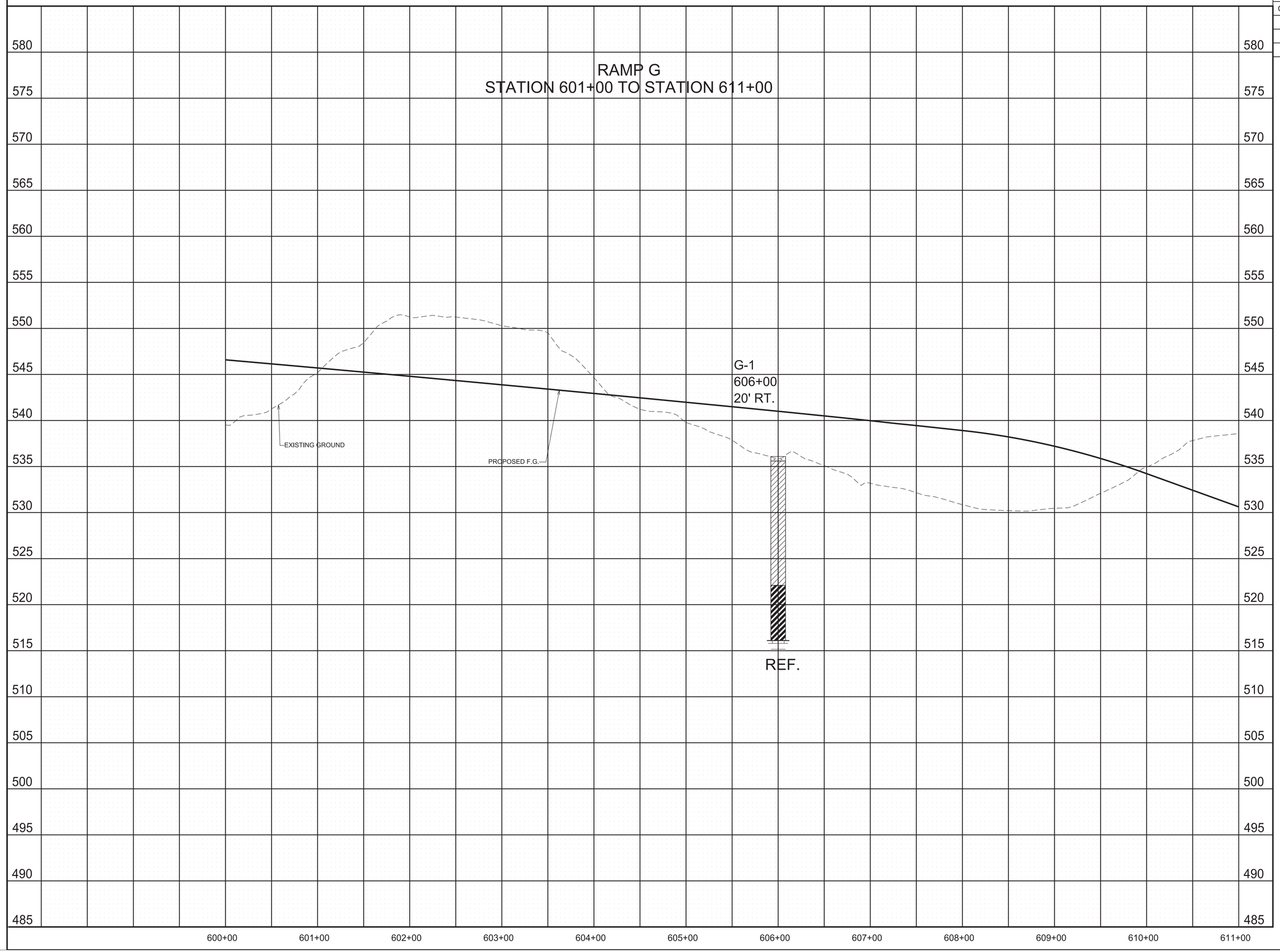
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:17:09 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G13-F-Pro-038.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G14

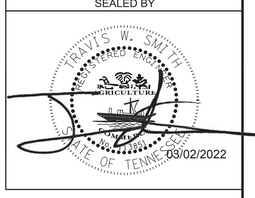


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

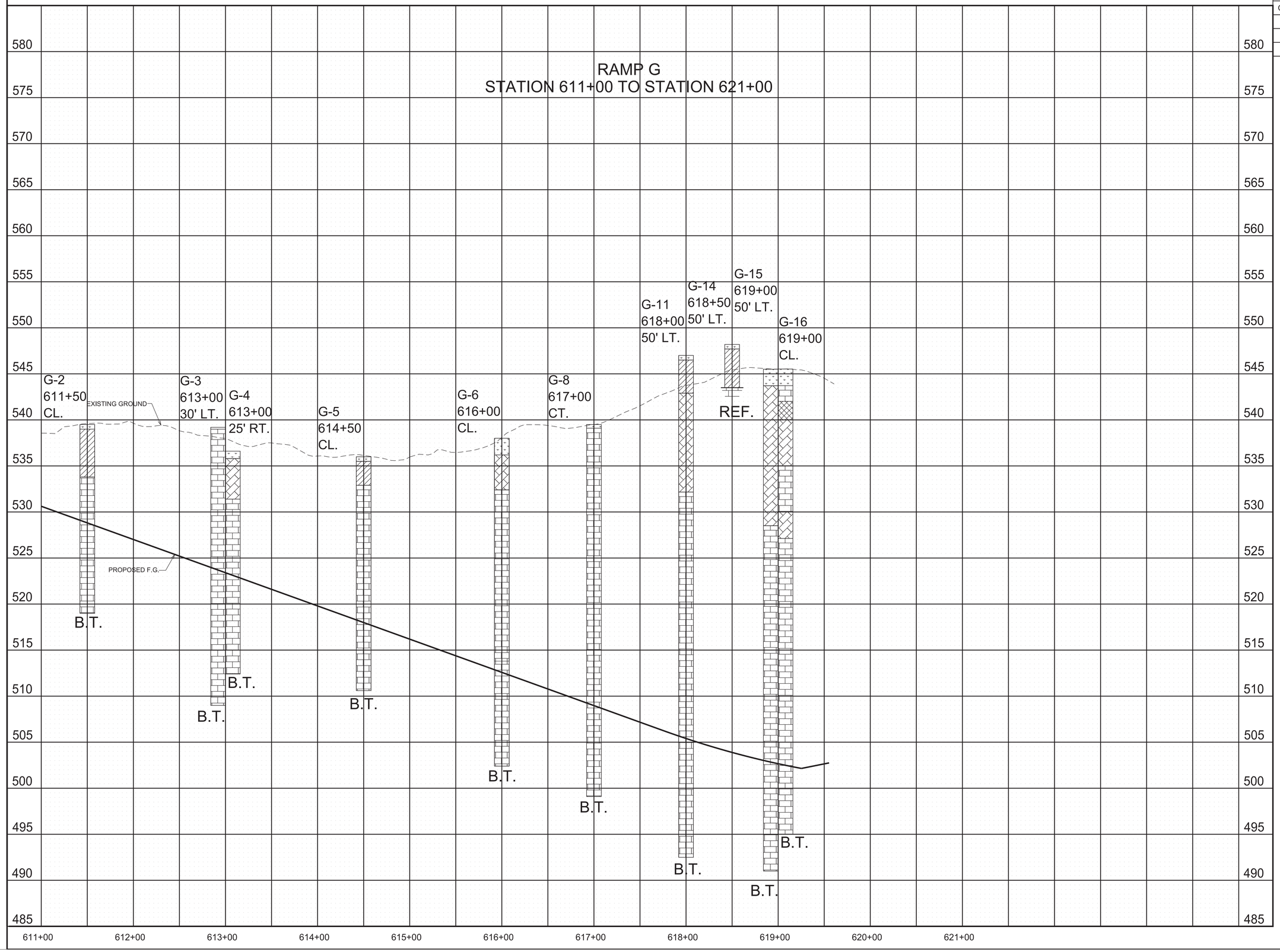
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:17:11 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G14-G-1-2-039.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G15

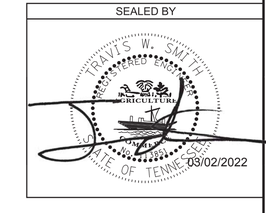


LEGEND

- TOPSOIL
- CAVITY FILLED WITH CLAY (TYPE A MATERIAL)
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G16

S.R. 255
STATION 761+00 TO STATION 772+00

RAMP B
STATION 212+00 TO STATION 219+10

RAMP BB
STATION 250+00 TO STATION 254+50

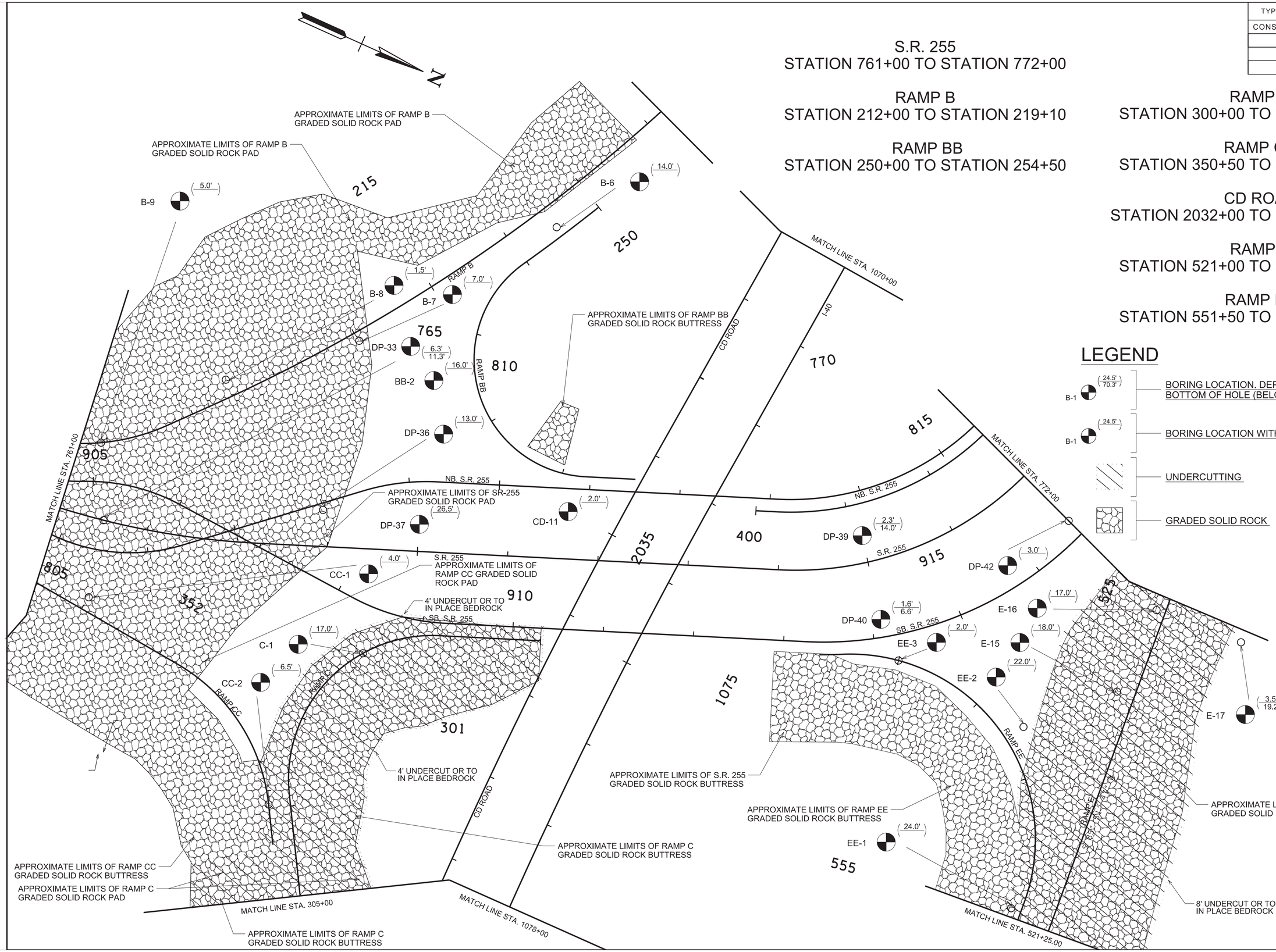
RAMP C
STATION 300+00 TO STATION 305+00

RAMP CC
STATION 350+50 TO STATION 354+50

CD ROAD
STATION 2032+00 TO STATION 2039+00

RAMP E
STATION 521+00 TO STATION 525+00

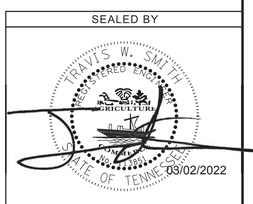
RAMP EE
STATION 551+50 TO STATION 556+00



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- UNDERCUTTING
- GRADED SOLID ROCK

SEALED BY

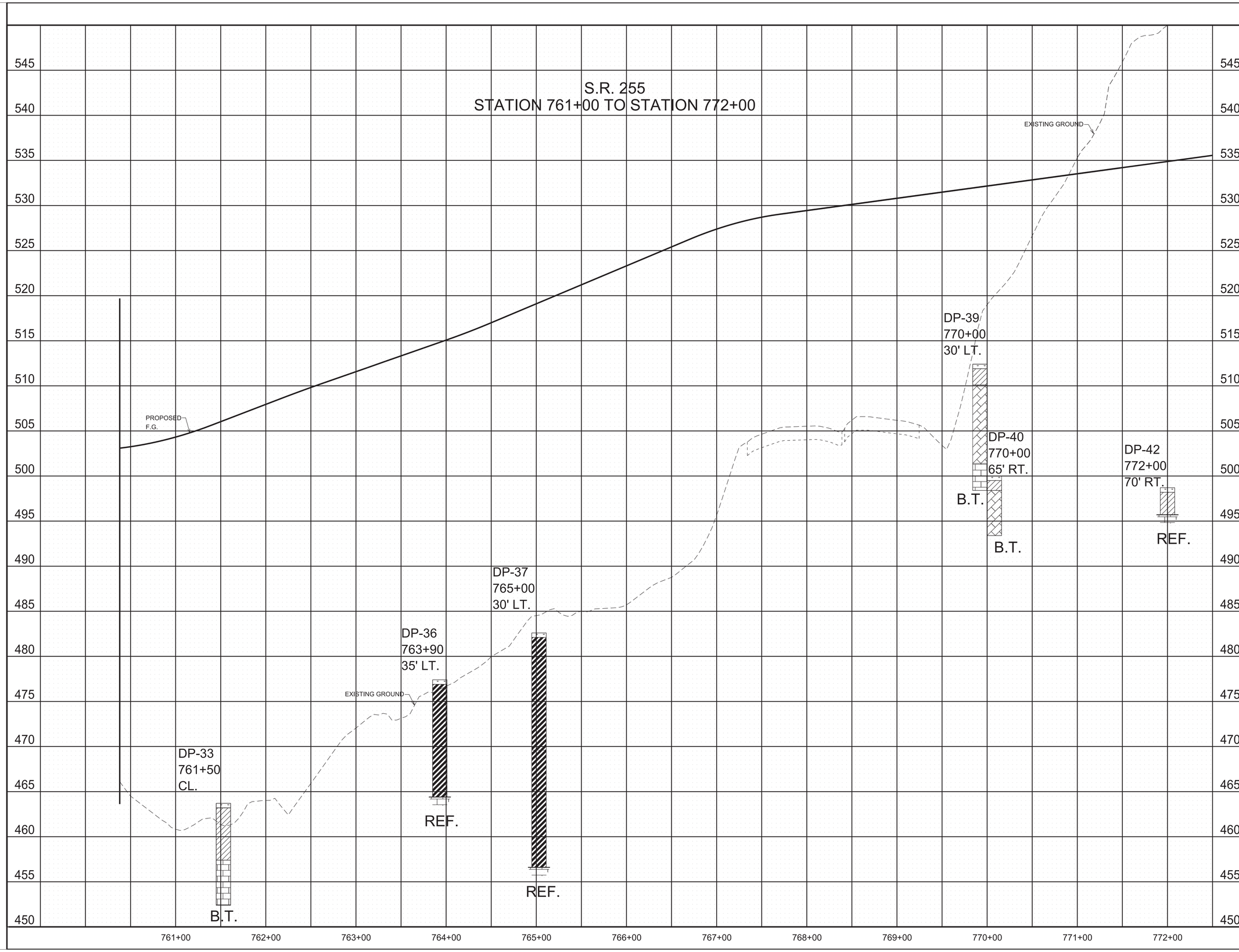


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING LAYOUT

CELL BDR2ND
2/28/2022 10:17:45 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G17

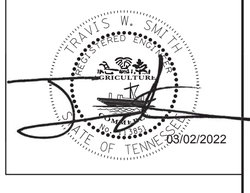


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

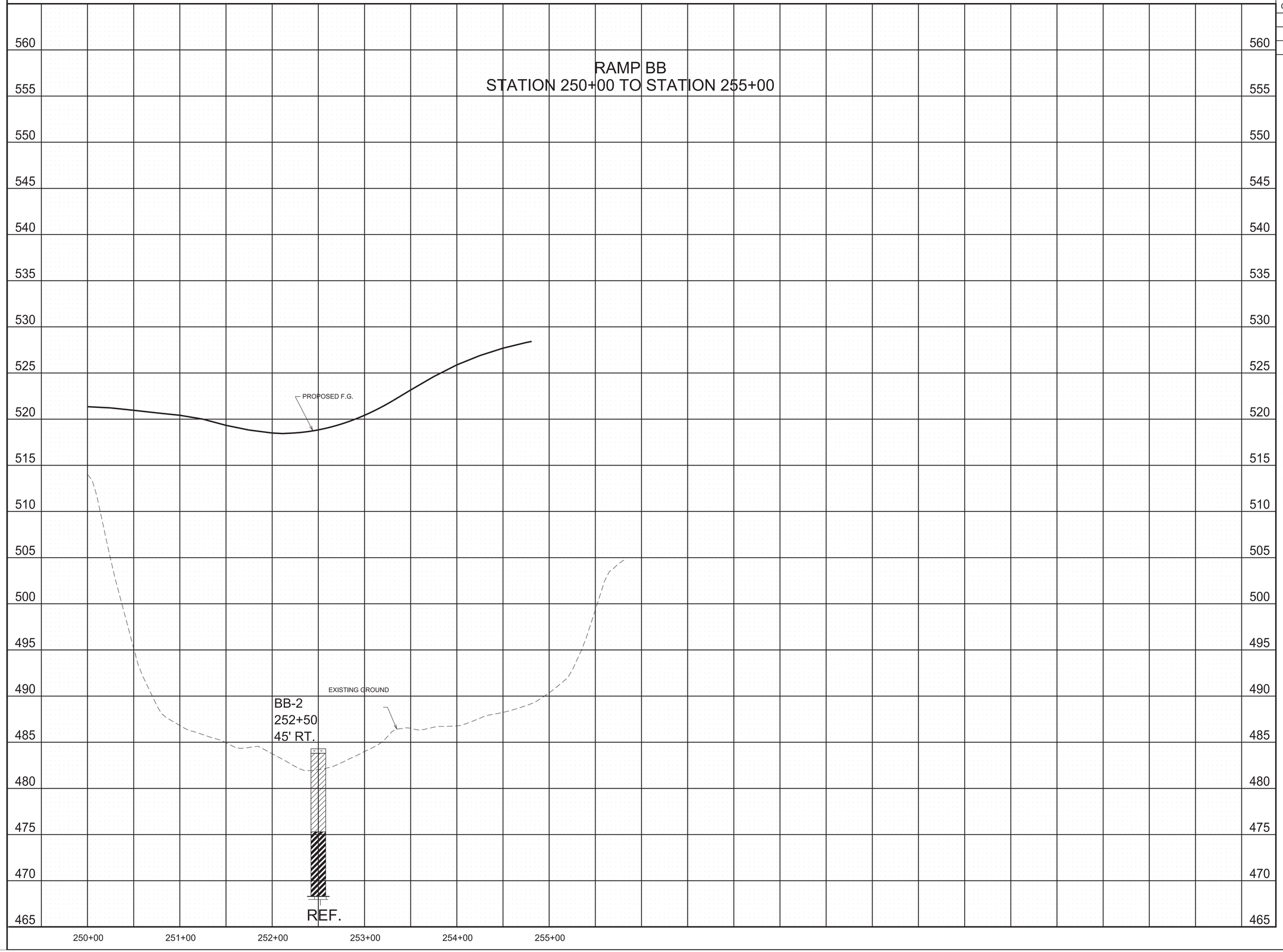
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:18:01 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G17-pro-sr255-12d-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G18

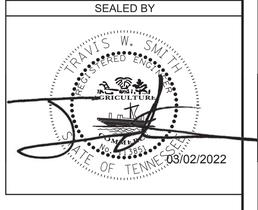


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
REF.= AUGER REFUSAL

SEALED BY



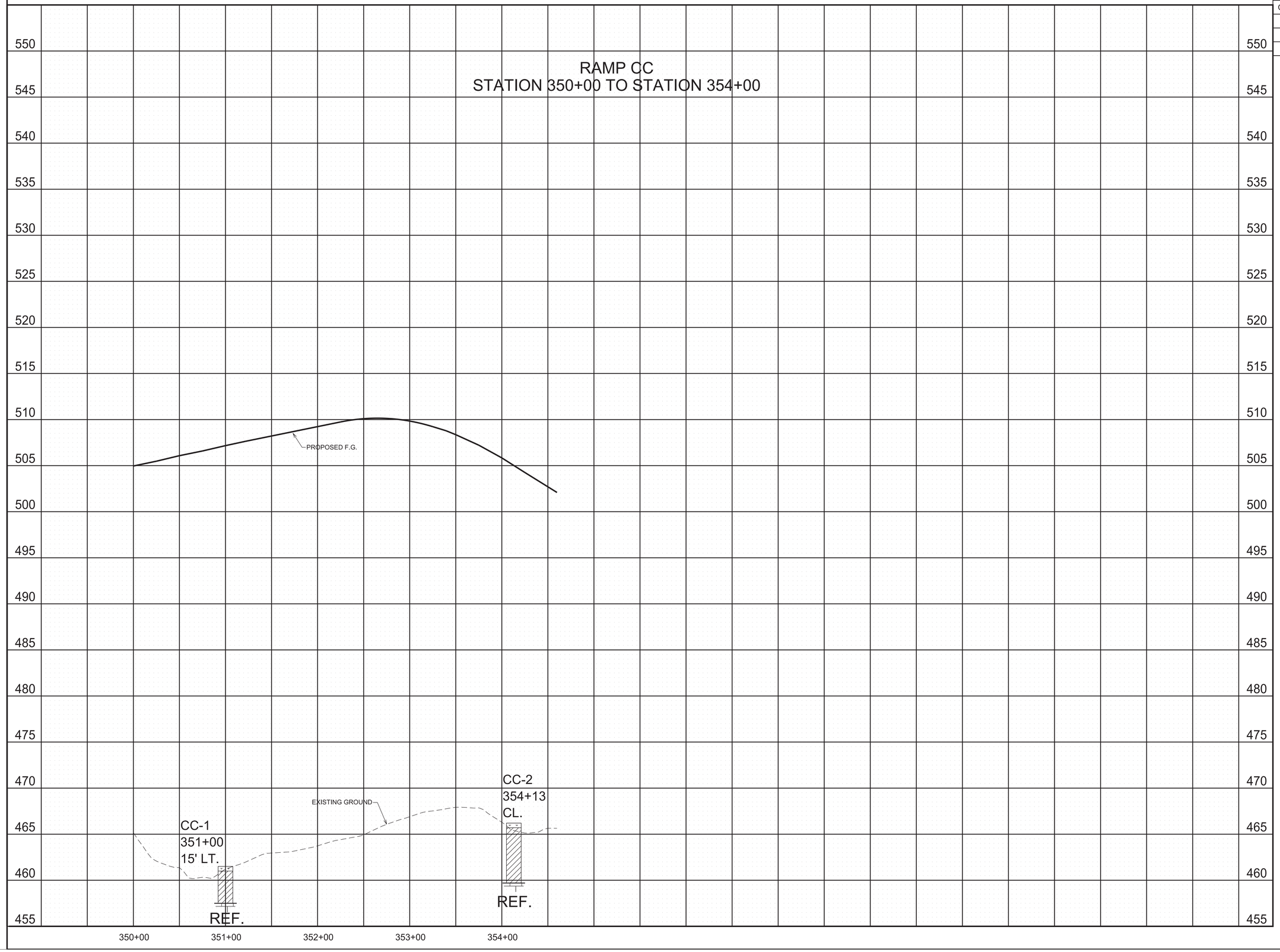
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:18:15 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G18-BB-pro-028.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G19



LEGEND

TOPSOIL

CLAY (TYPE A MATERIAL)

LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.

REF.= AUGER REFUSAL

SEALED BY

TRAVIS W. SMITH
REGISTERED ENGINEER
No. 115131
AGRICULTURE
STATE OF TENNESSEE
03/02/2022

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

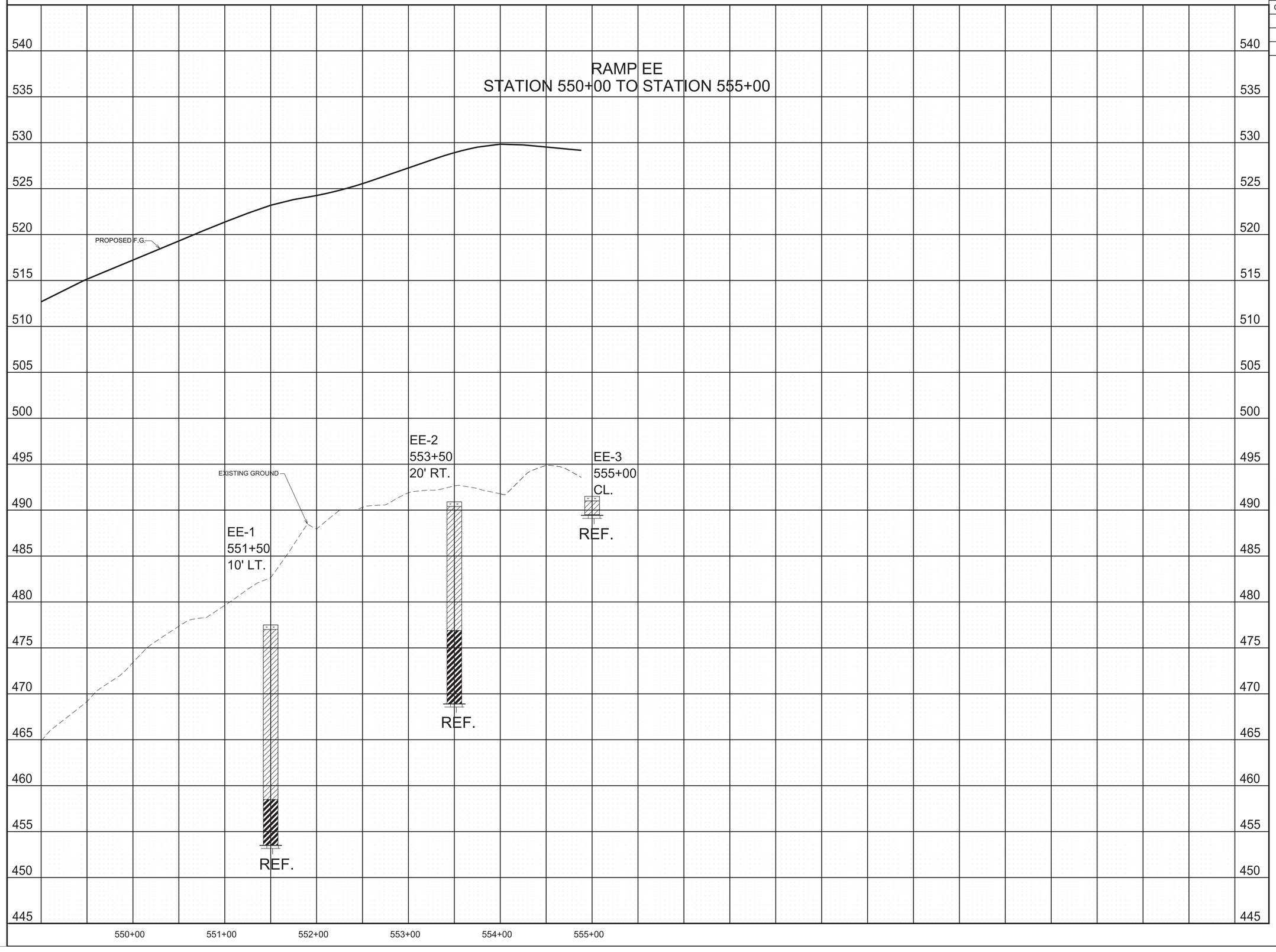
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:18:17 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G19-rampCC-pro-030 - .sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G20

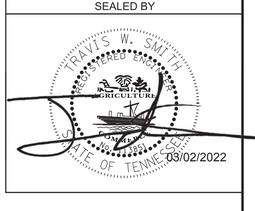


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
REF.= AUGER REFUSAL

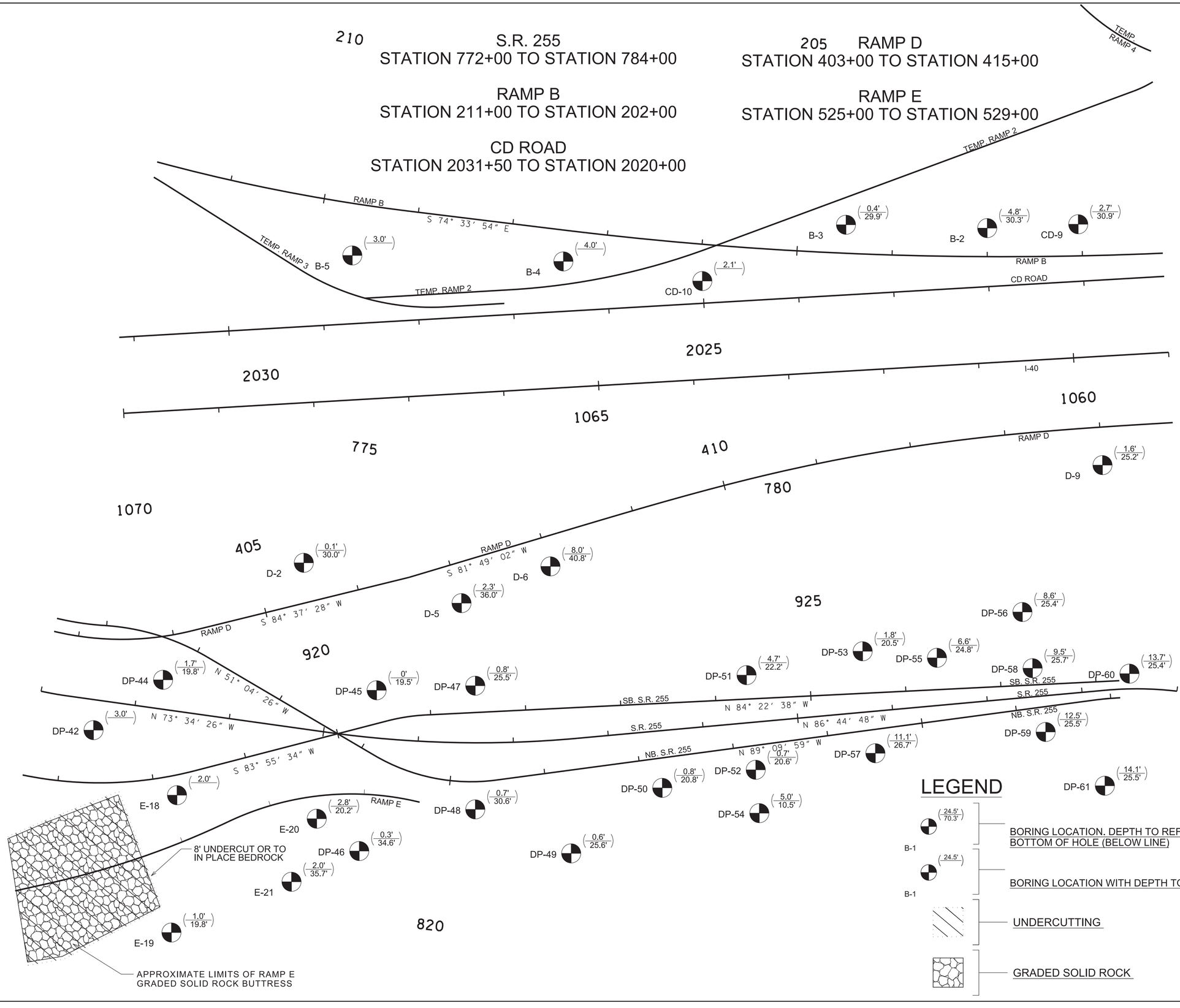
SEALED BY



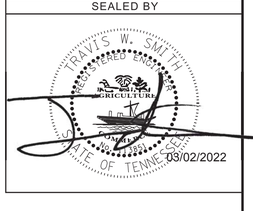
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G21



SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

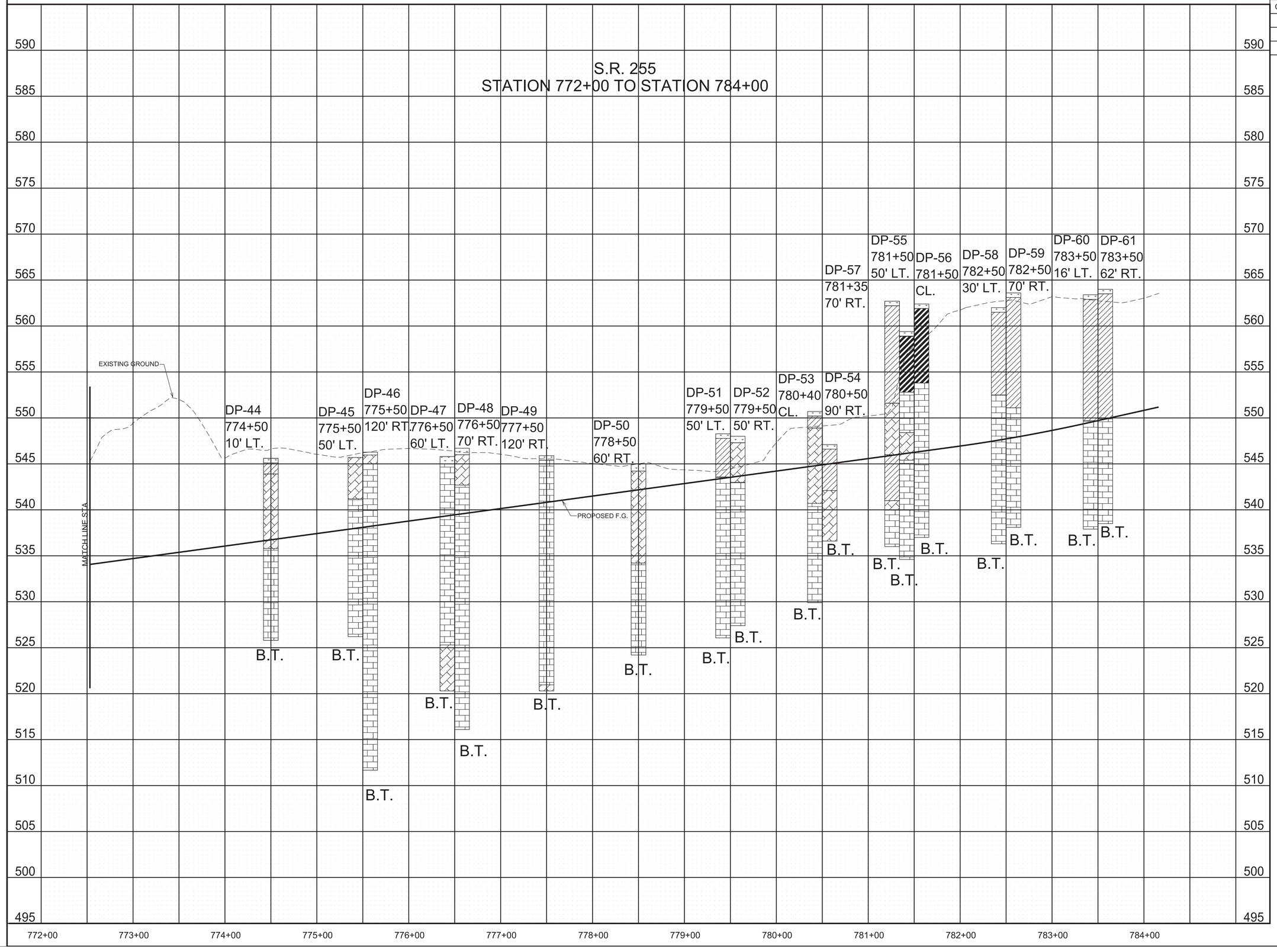
GEOTECHNICAL BORING LAYOUT

CELL BDR2ND

2/28/2022 10:18:47 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G22



LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY

TRAVIS W. SMITH
REGISTERED ENGINEER
No. 115351
AGRICULTURE
STATE OF TENNESSEE
03/02/2022

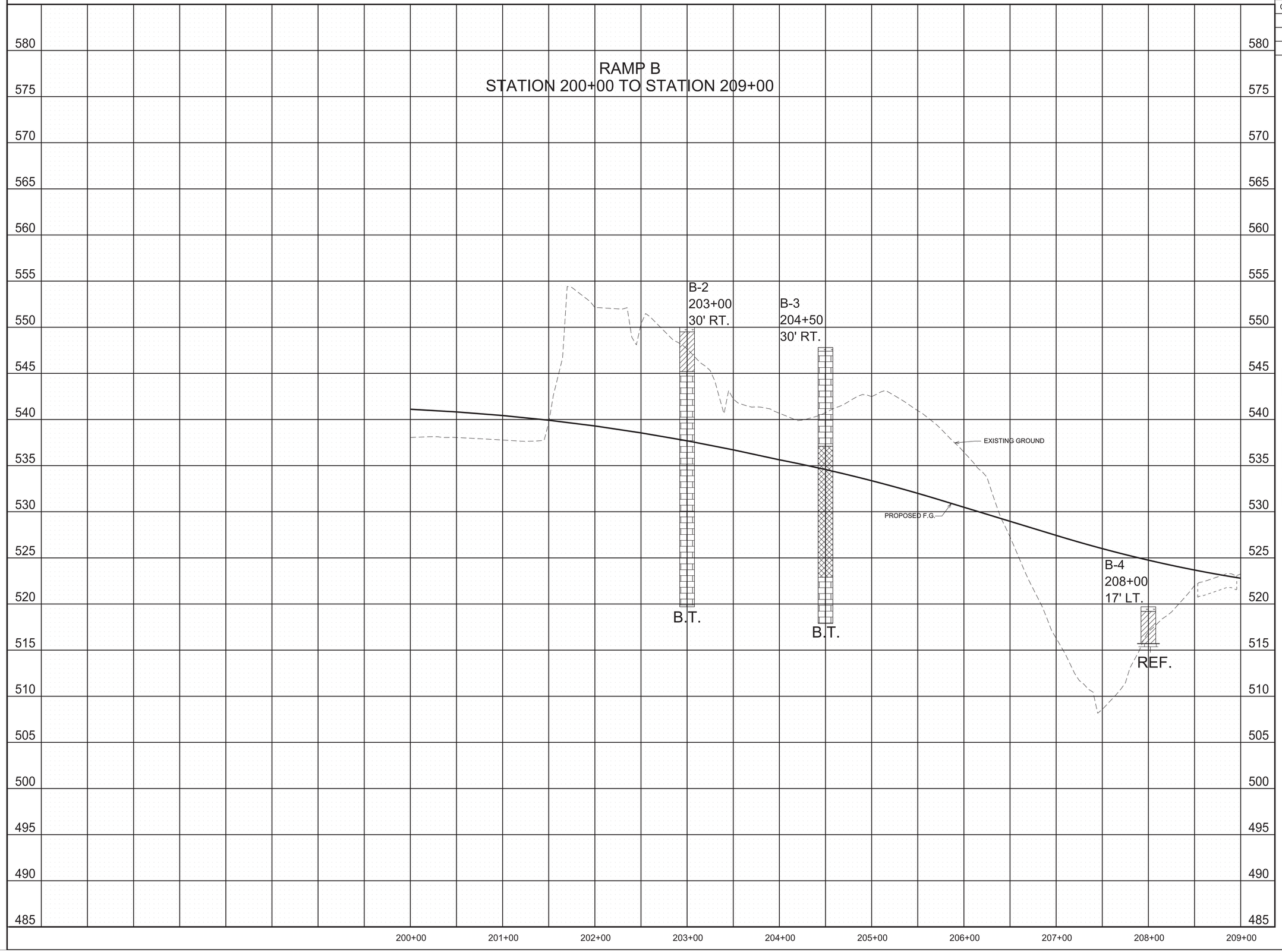
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:18:58 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G22-sr255-13C.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G23

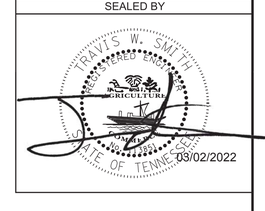


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- CAVITY FILLED WITH CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



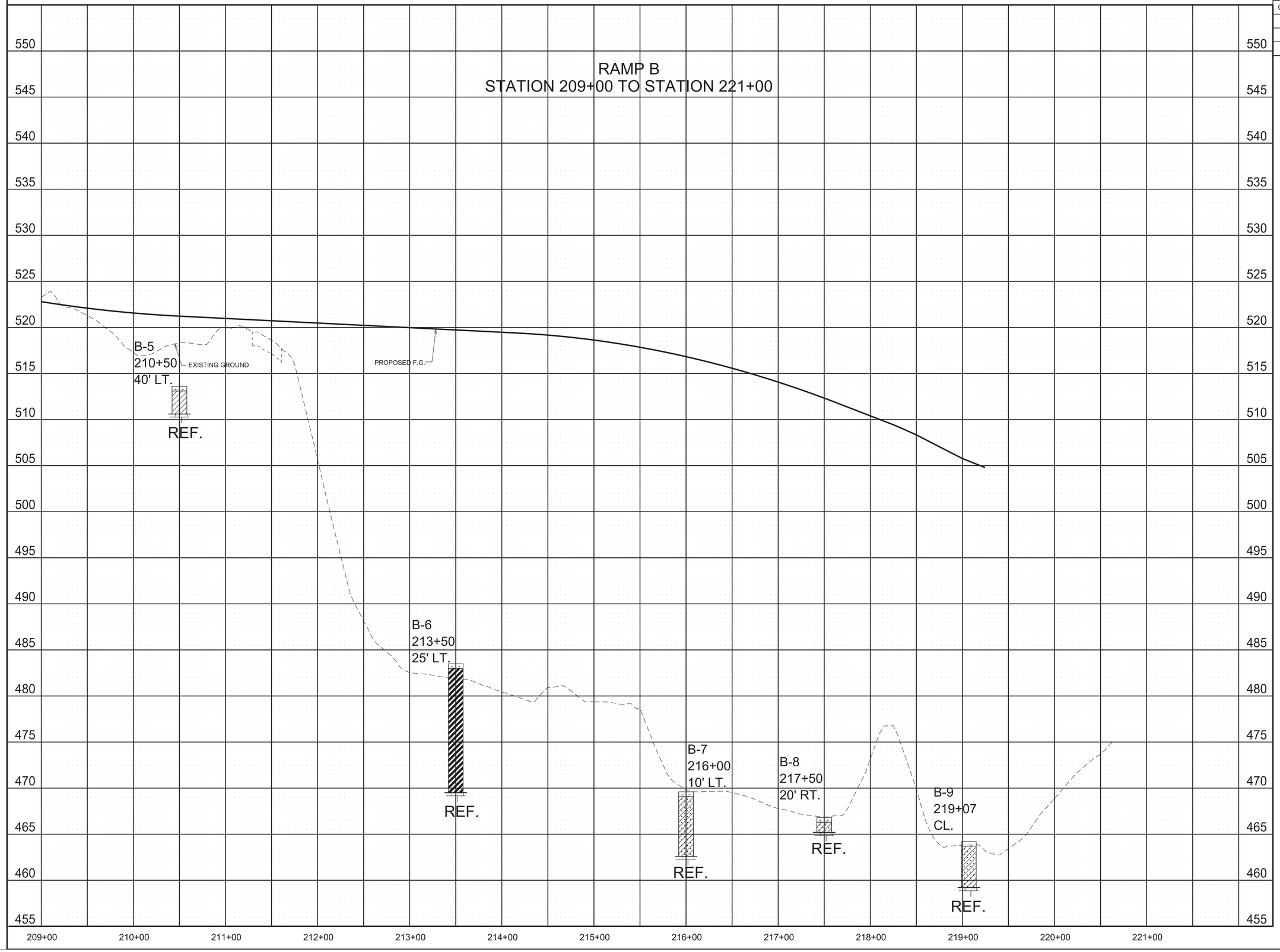
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:19:11 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G23-B-pro-1-2-026.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G24



LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- SANDY LEAN CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G25

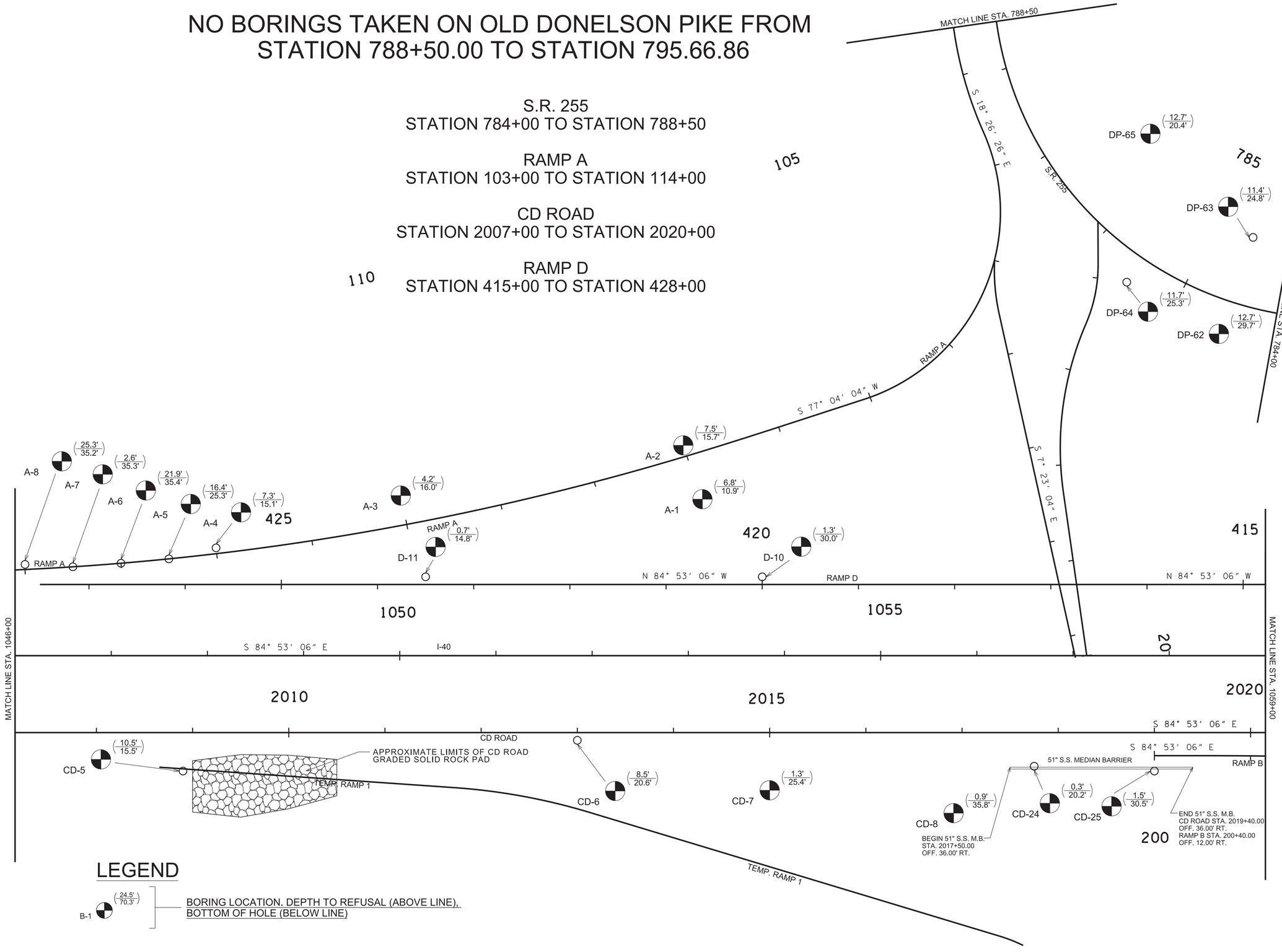
NO BORINGS TAKEN ON OLD DONELSON PIKE FROM STATION 788+50.00 TO STATION 795.66.86

S.R. 255
STATION 784+00 TO STATION 788+50

RAMP A
STATION 103+00 TO STATION 114+00

CD ROAD
STATION 2007+00 TO STATION 2020+00

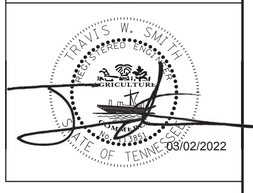
RAMP D
STATION 415+00 TO STATION 428+00



LEGEND

B-1 (24.5′/70.3′) — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

SEALED BY



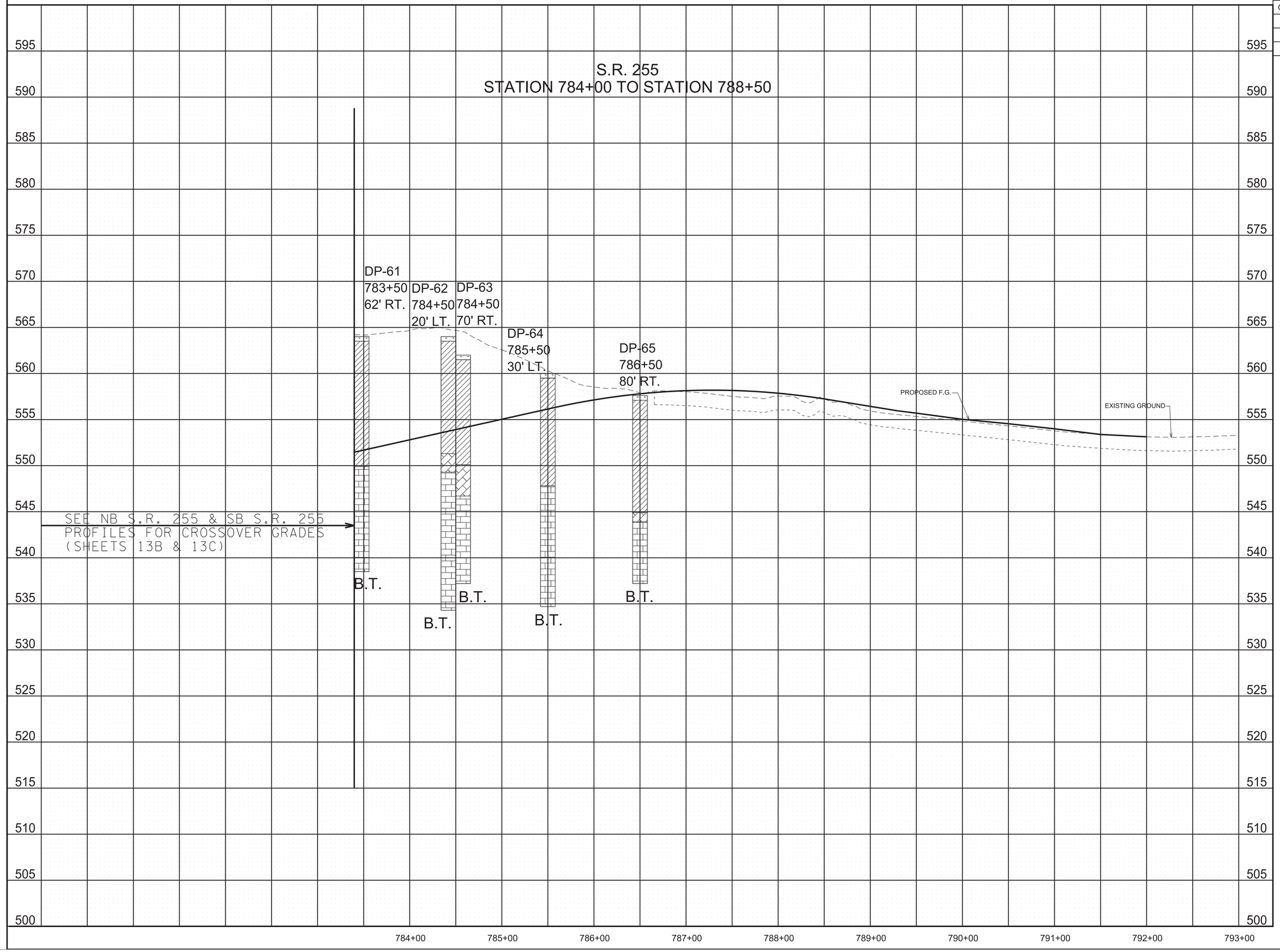
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING LAYOUT

CELL BDR2ND

2/28/2022 10:19:47 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G26

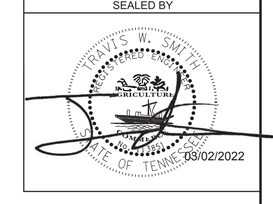


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



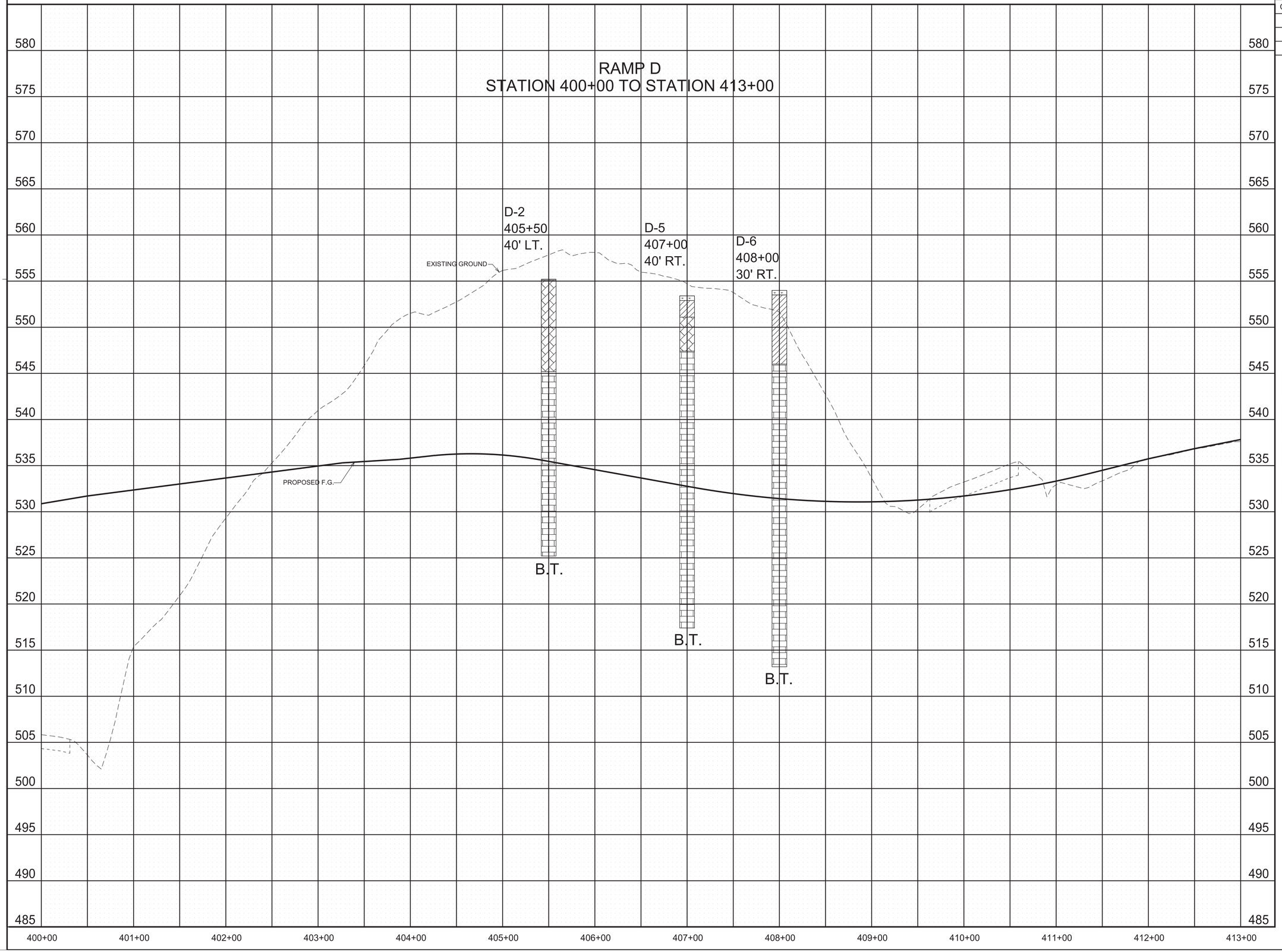
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:19:58 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G26-pro-14d.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G27



LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY

TRAVIS W. SMITH
REGISTERED ENGINEER
AGRICULTURE
STATE OF TENNESSEE
03/02/2022

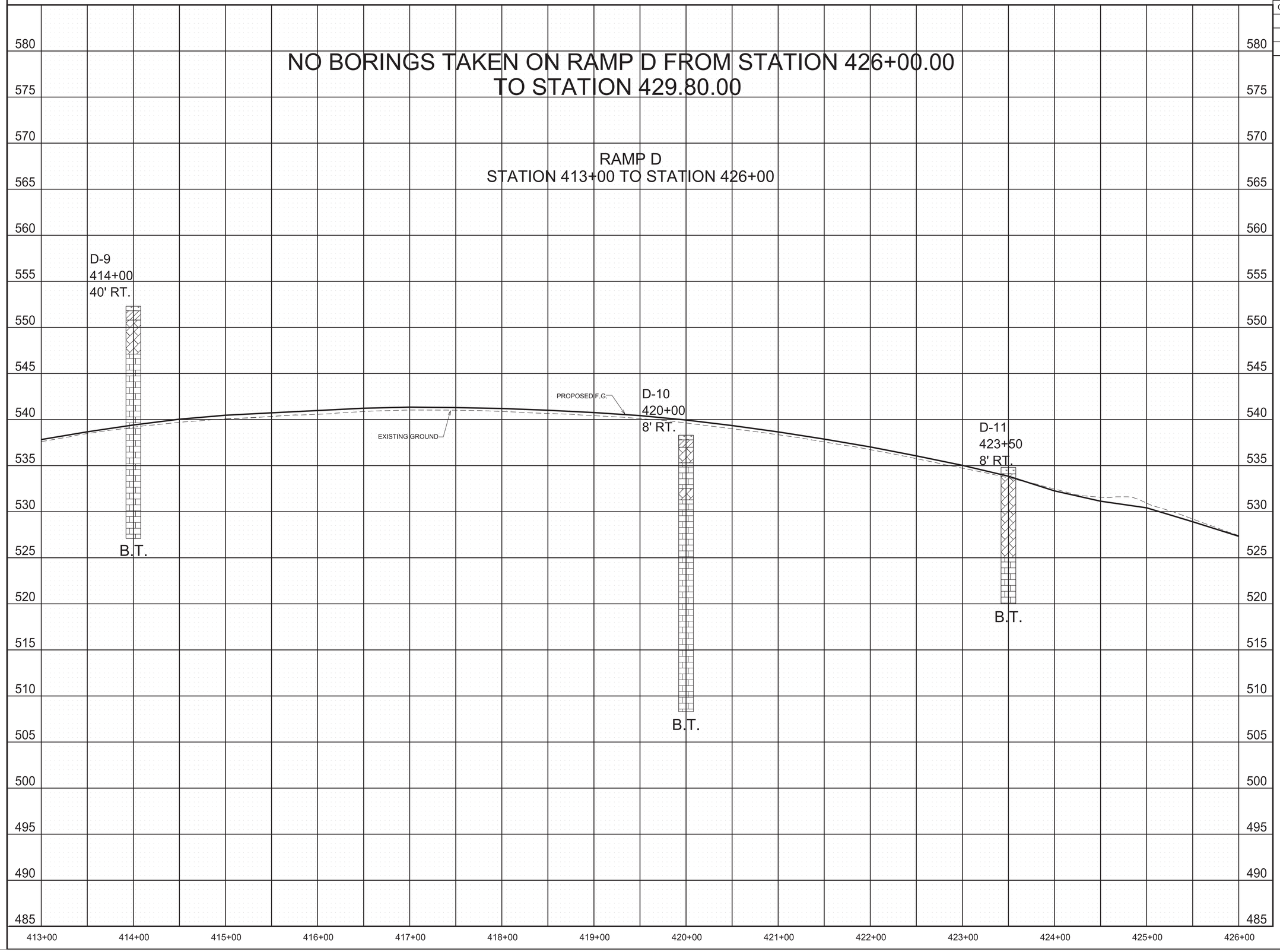
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:20:17 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G27-D-Pro-1-3-031.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G28

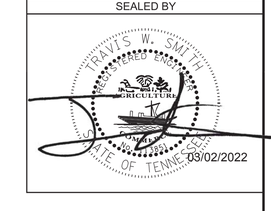


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

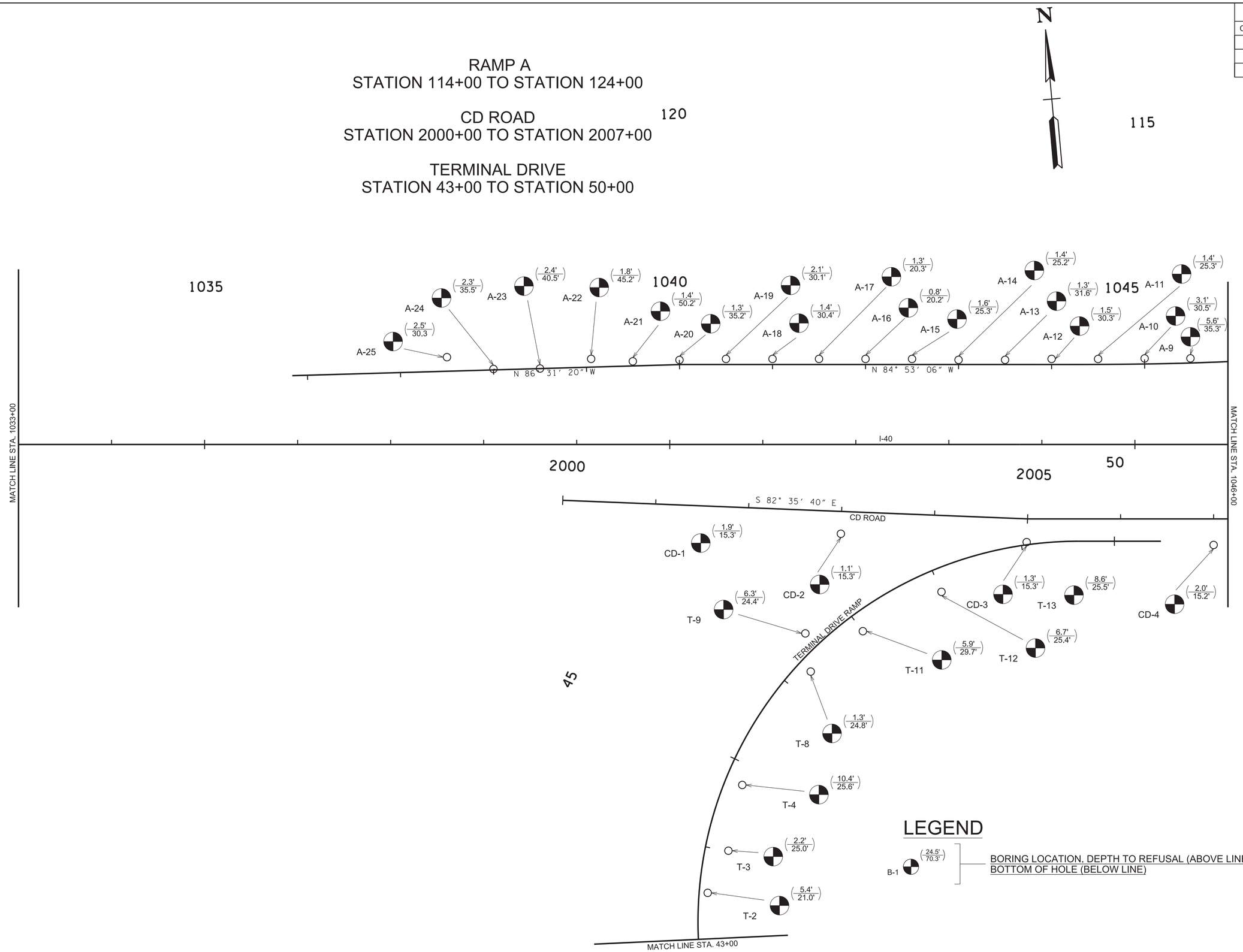
GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G29

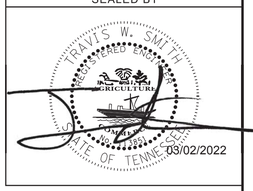
RAMP A
STATION 114+00 TO STATION 124+00

CD ROAD
STATION 2000+00 TO STATION 2007+00

TERMINAL DRIVE
STATION 43+00 TO STATION 50+00



SEALED BY

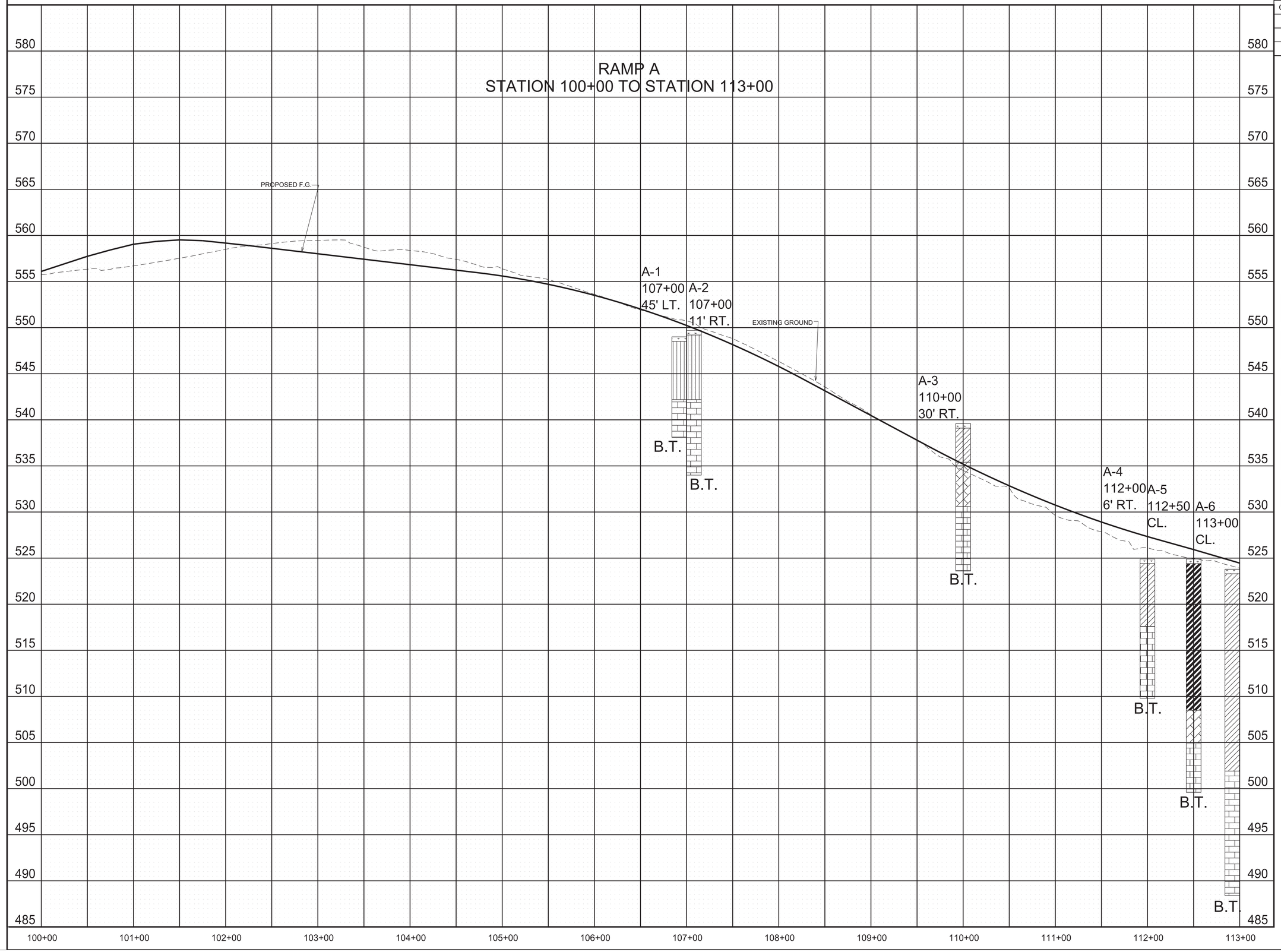


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
BORING
LAYOUT

CELL BDR2ND
2/28/2022 10:20:50 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G30

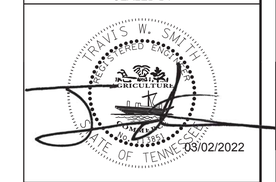


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- SILT (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



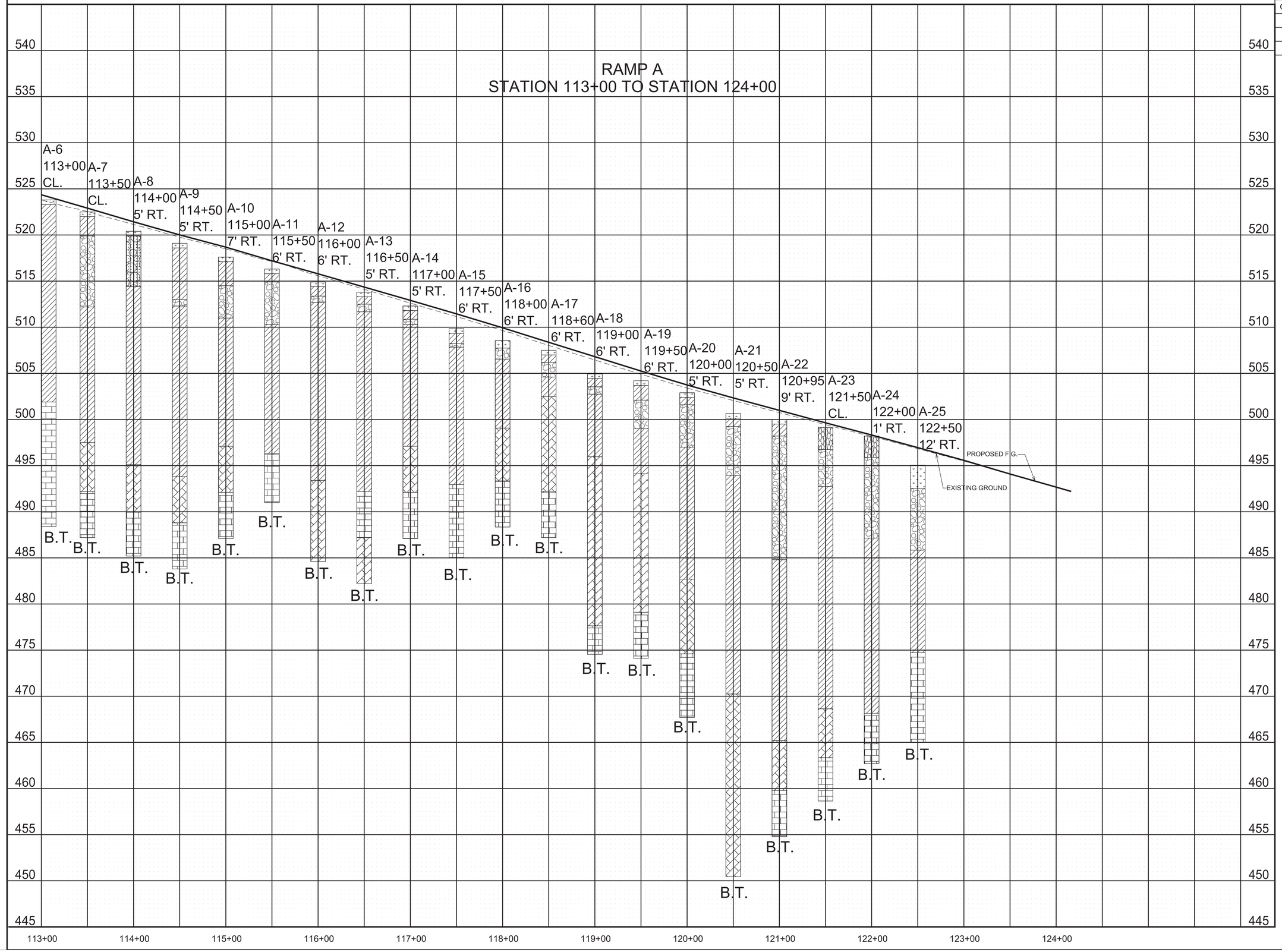
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:21:03 AM
N:\GeotechFiles\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G30--A-Pro-1-2-024.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G31

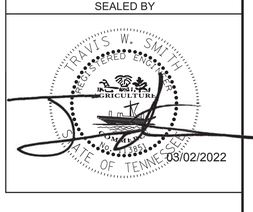


LEGEND

- TOPSOIL
- ASHALT
- BOULDER / COBBLE
- SILTY GRAVEL WITH SAND (TYPE A MATERIAL)
- CLAY (TYPE A MATERIAL)
- SILT (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

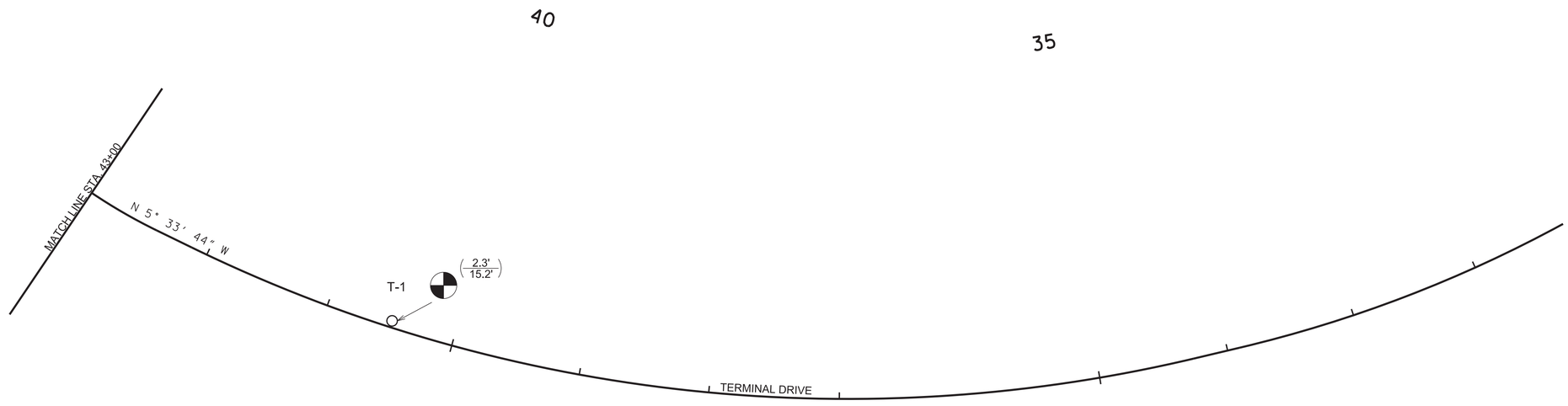
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:21:06 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G31-A-Pro-2-2-025.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G32

TERMINAL DRIVE
STATION 43+00 TO STATION 31+00



LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

SEALED BY

TRAVIS W. SMITH — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE

03/02/2022

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

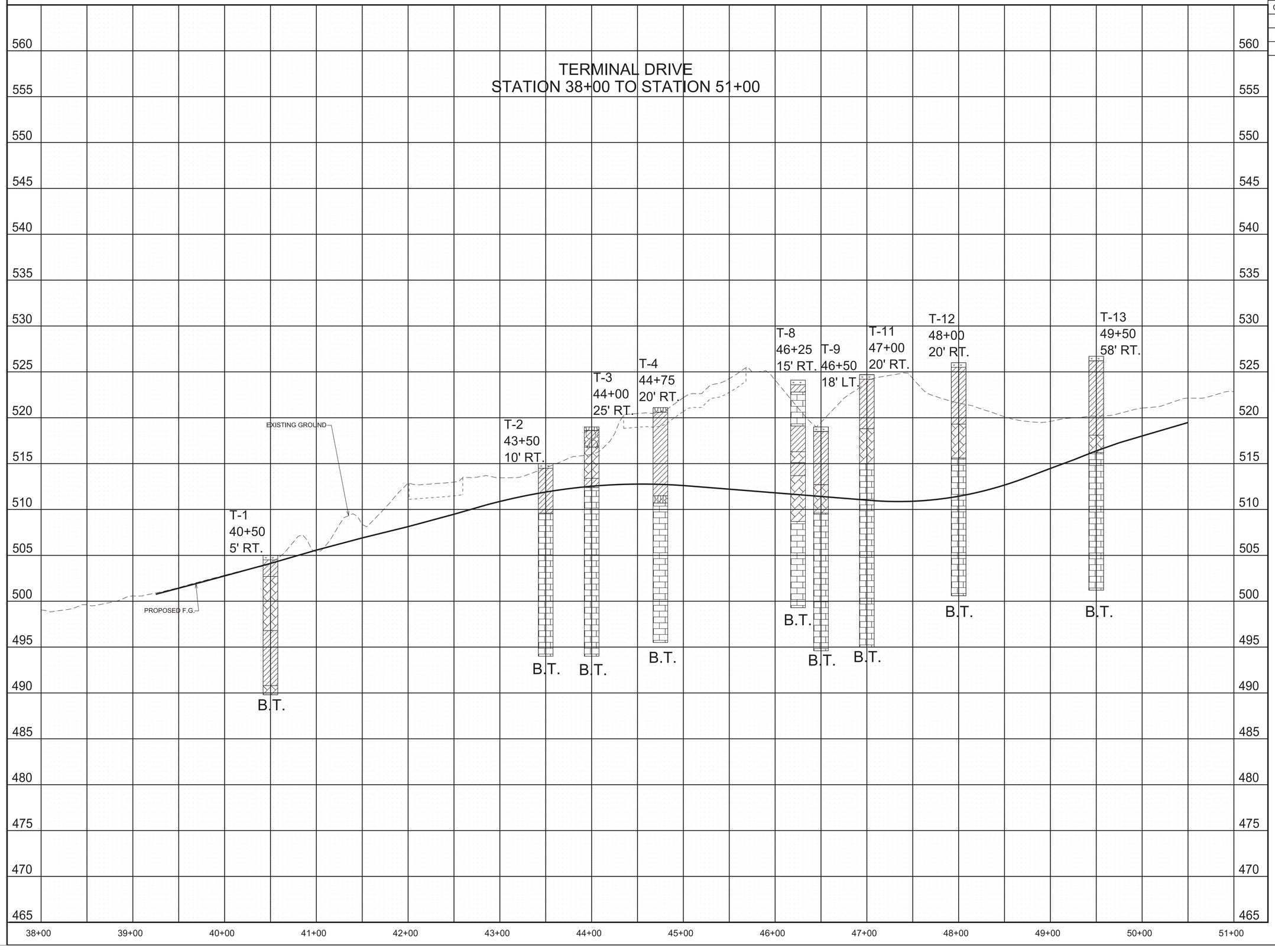
GEOTECHNICAL
BORING
LAYOUT

CELL BDR2ND

2/28/2022 10:21:35 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G33

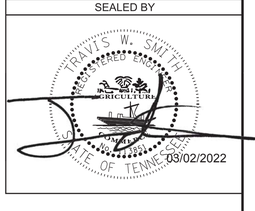


LEGEND

- TOPSOIL
- ASHALT
- GRAVEL CLAY (TYPE A MATERIAL)
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



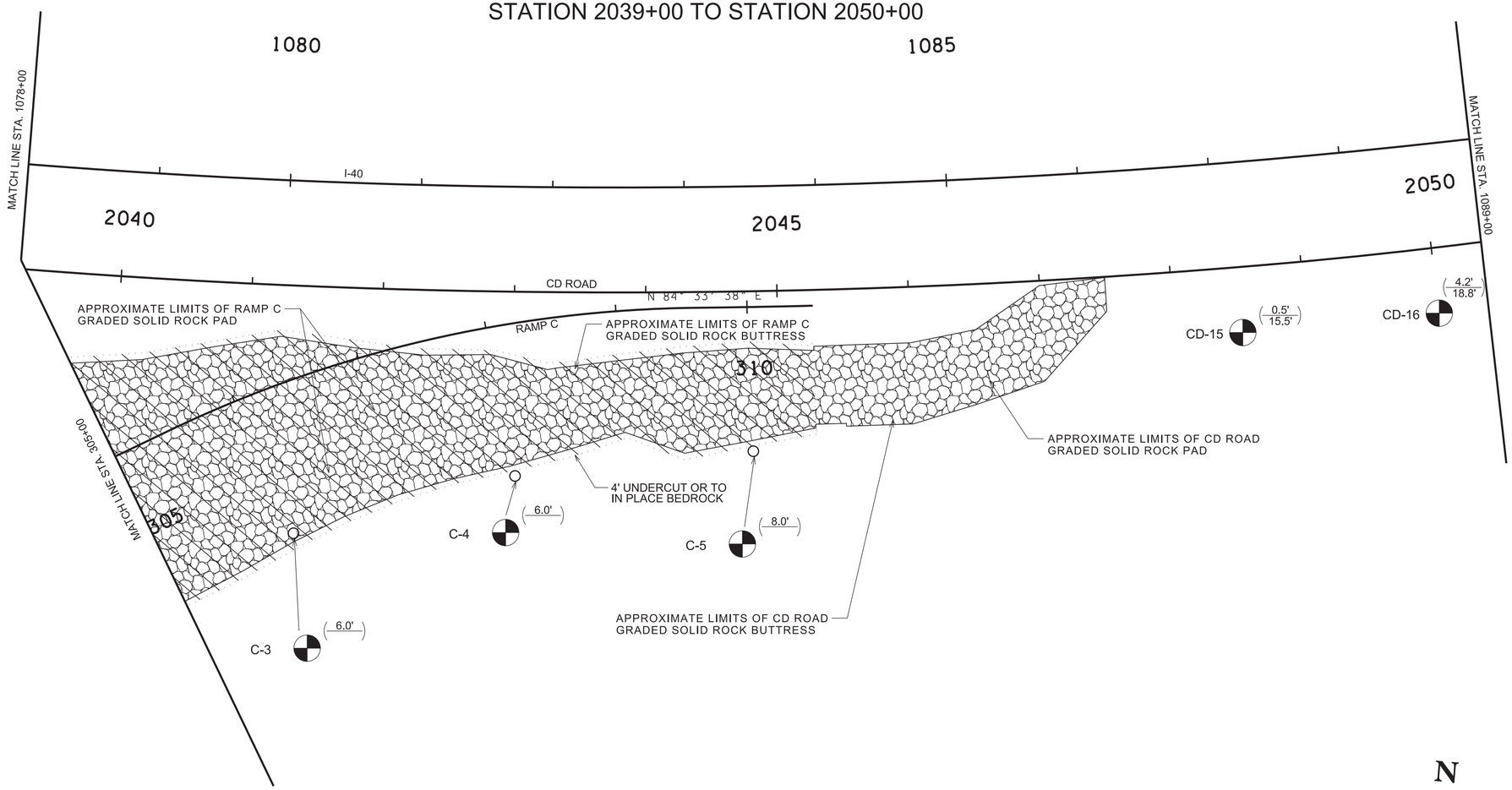
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G34

RAMP C
STATION 305+00 TO STATION 310+50

CD ROAD
STATION 2039+00 TO STATION 2050+00



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- UNDERCUTTING
- GRADED SOLID ROCK

N

SEALED BY

TRAVIS W. SMITH REGISTERED ENGINEER IN CIRCULATION STATE OF TENNESSEE 03/02/2022

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

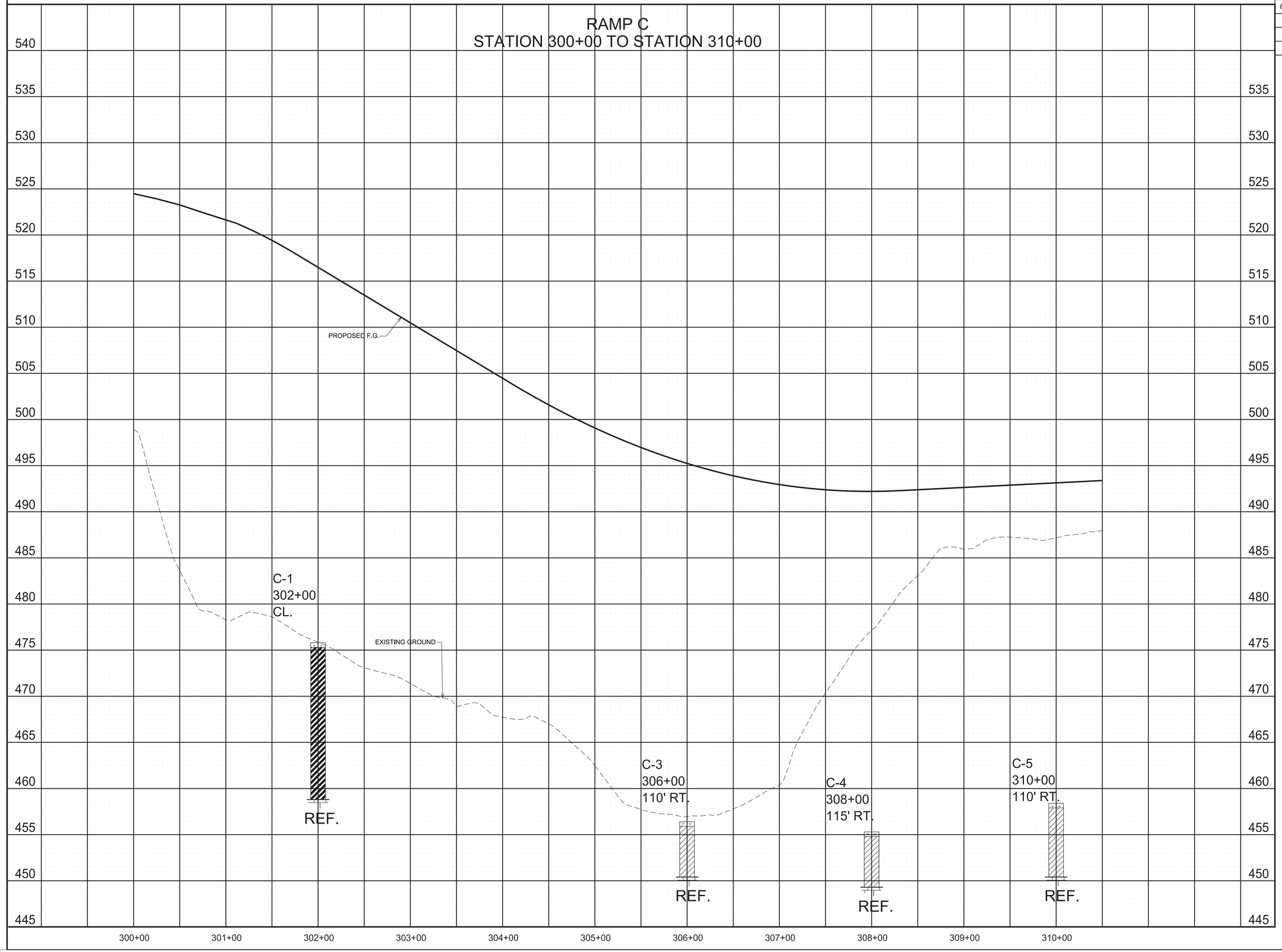
GEOTECHNICAL
BORING
LAYOUT

CELL BDR2ND

2/28/2022 10:22:11 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G35

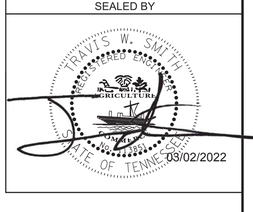


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

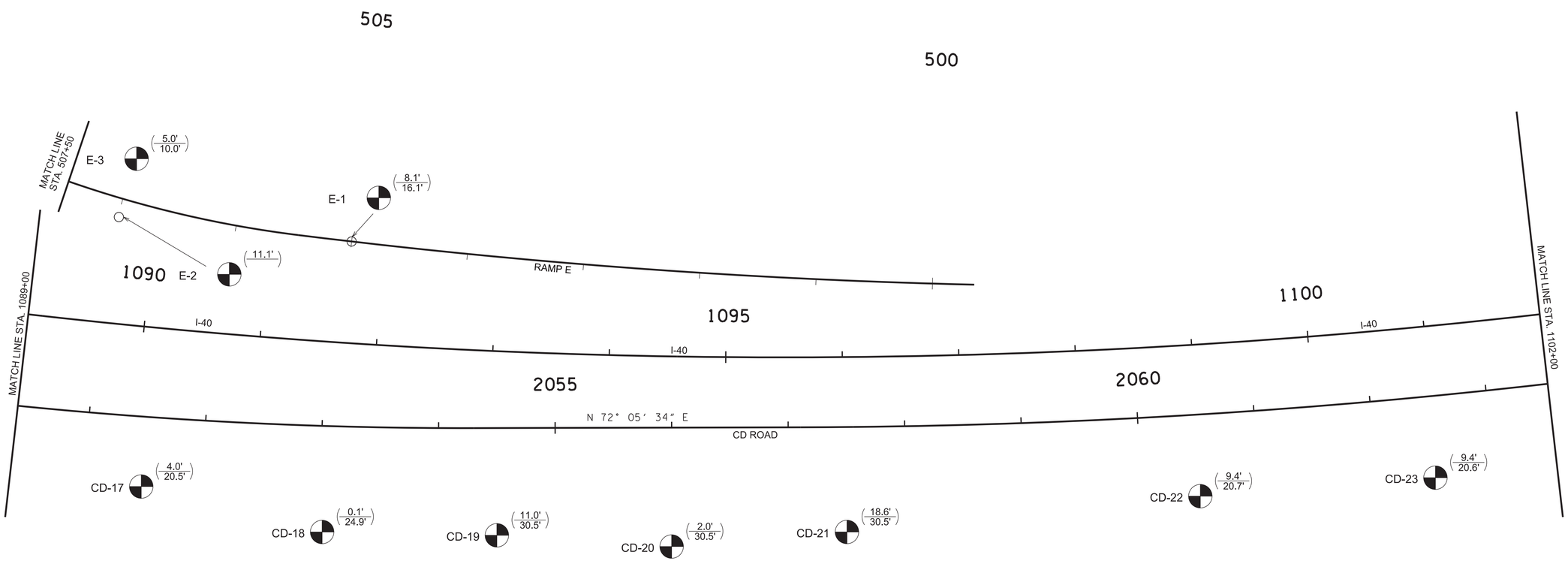
GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G36

NO BORINGS TAKEN FROM STATION 2063+53.27 TO STATION 2064+39.16

CD ROAD
STATION 2051+00 TO STATION 2063+00

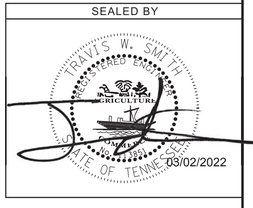
RAMP E
STATION 500+00 TO STATION 507+50



LEGEND

B-1 (24.5' / 70.3') — BORING LOCATION. DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)

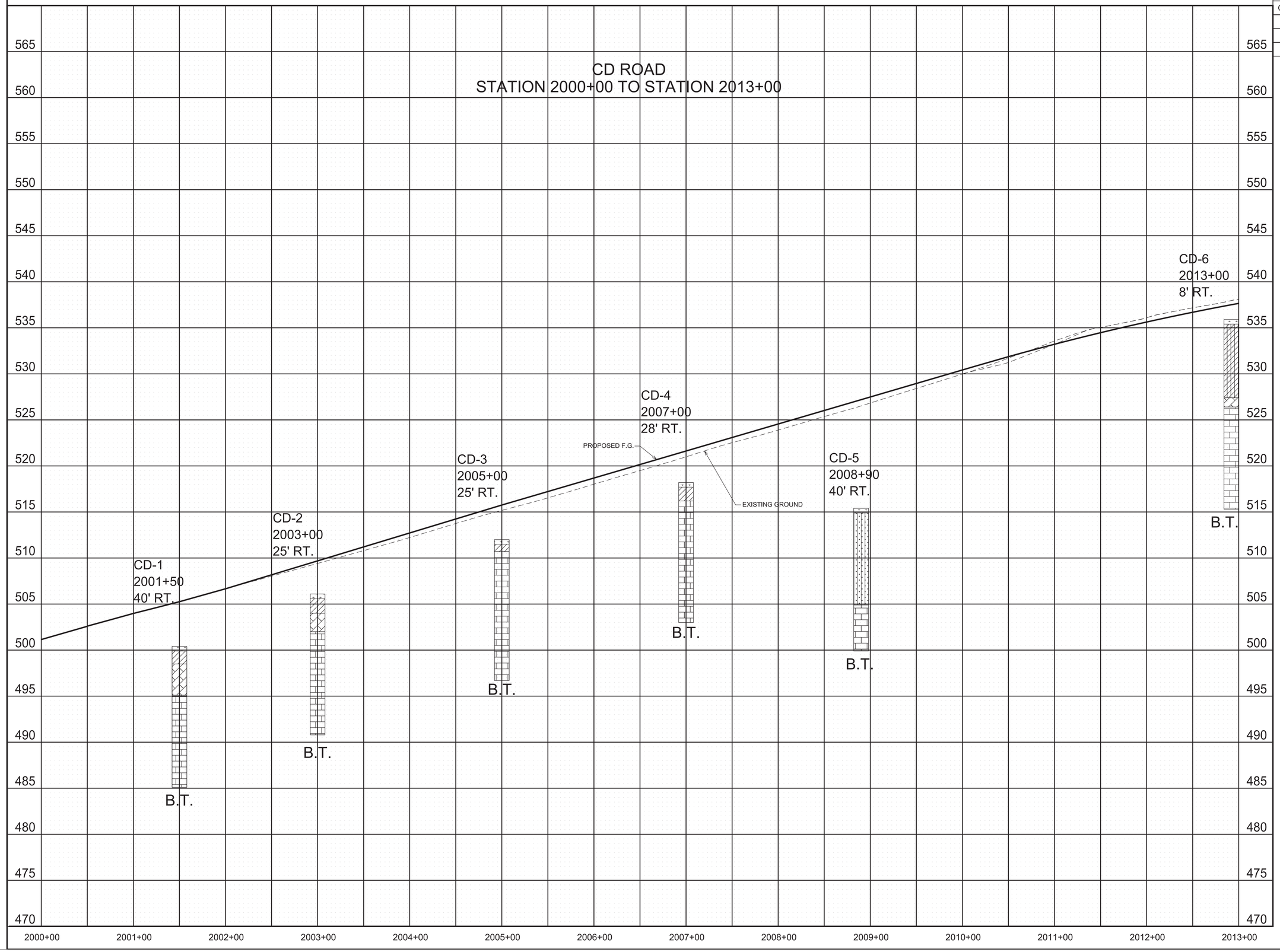
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
BORING
LAYOUT

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G37

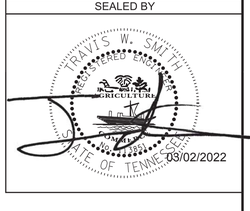


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- SILT WITH SAND (TYPE A MATERIAL)
- SILTY LEAN CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

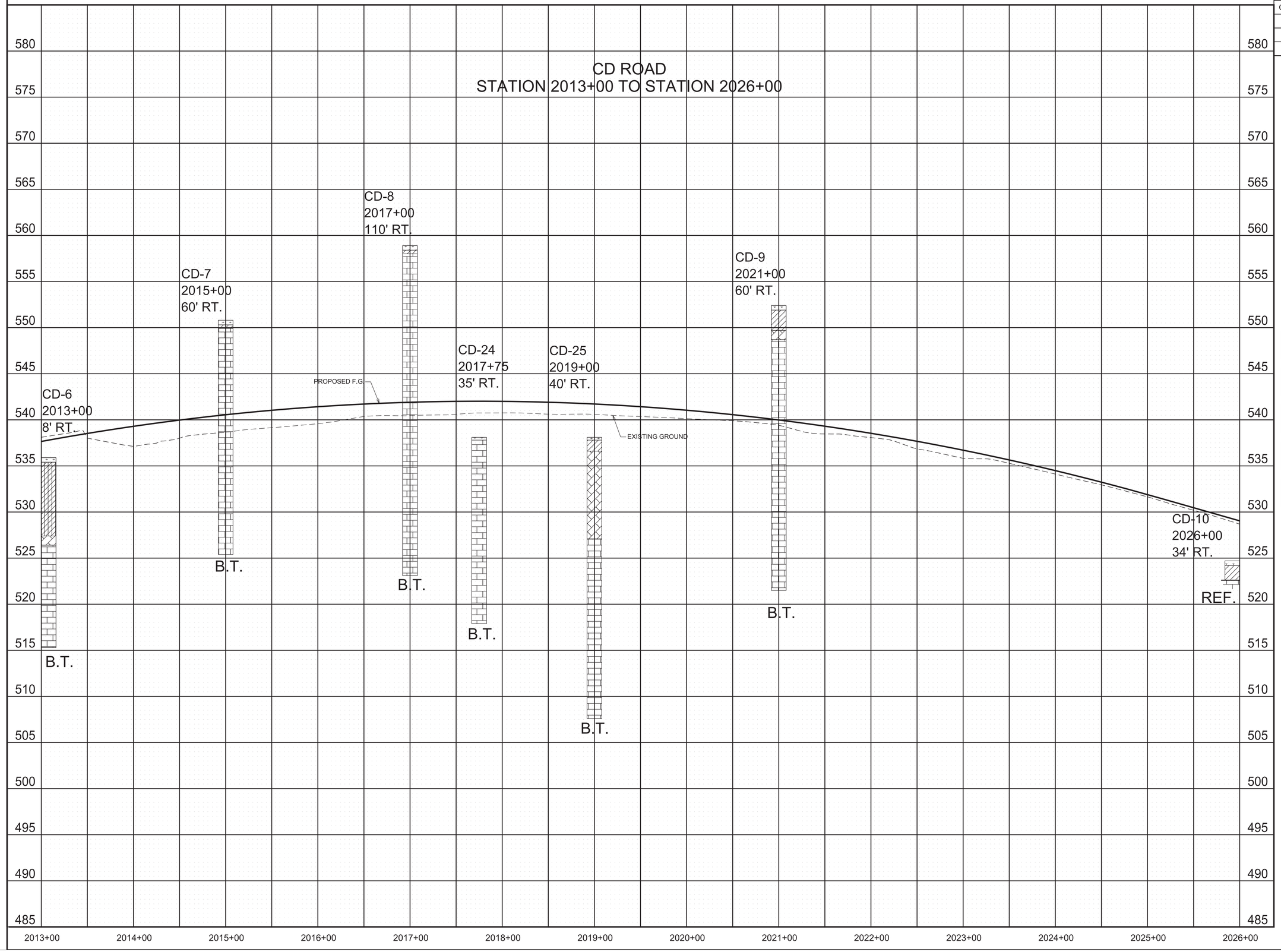
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G38

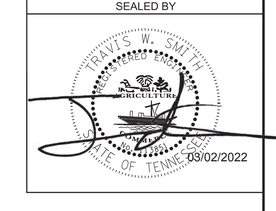


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- SILTY LEAN CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

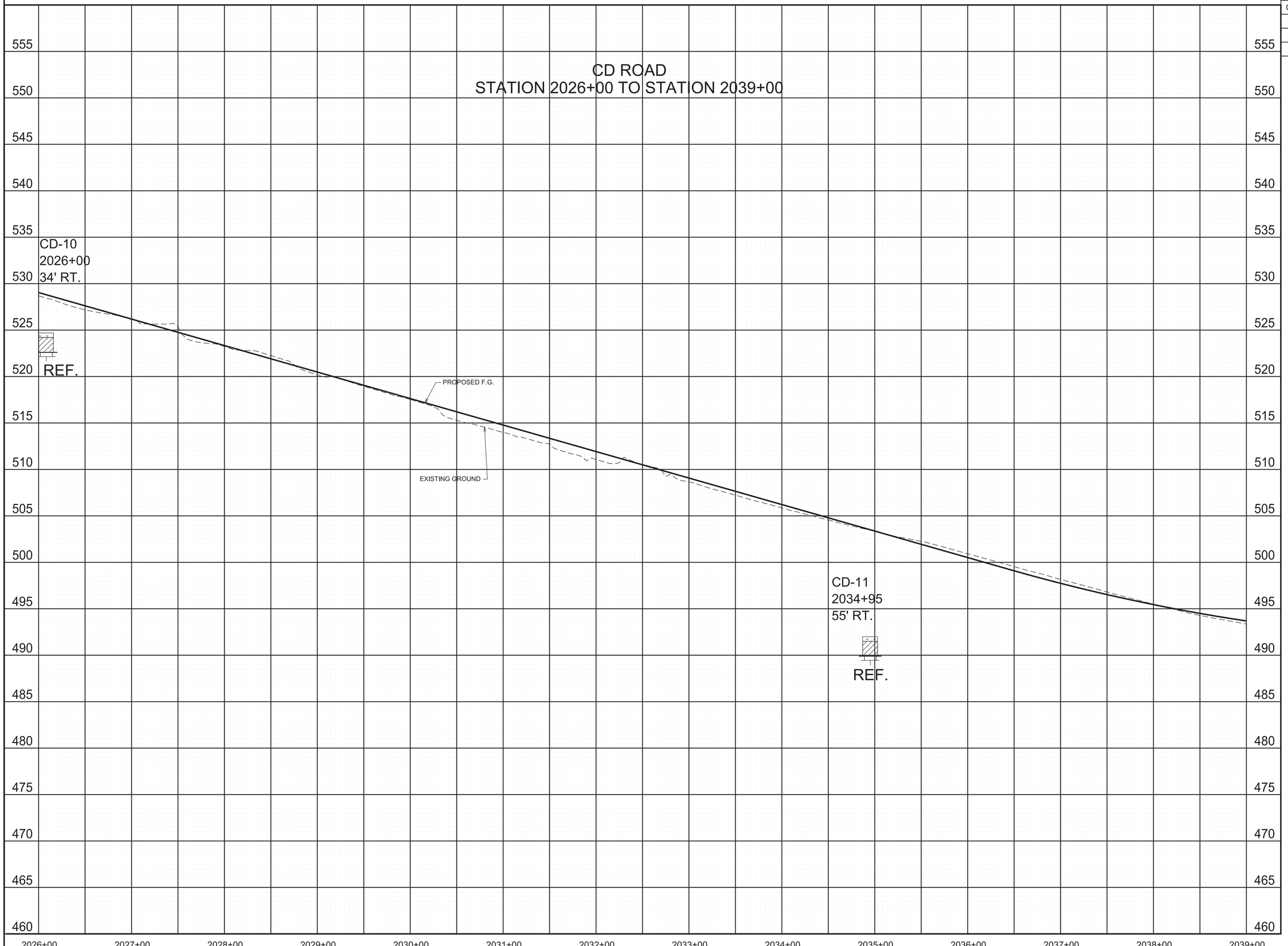
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G39



LEGEND

TOPSOIL

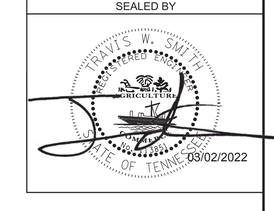
CLAY (TYPE A MATERIAL)

LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.

REF.= AUGER REFUSAL

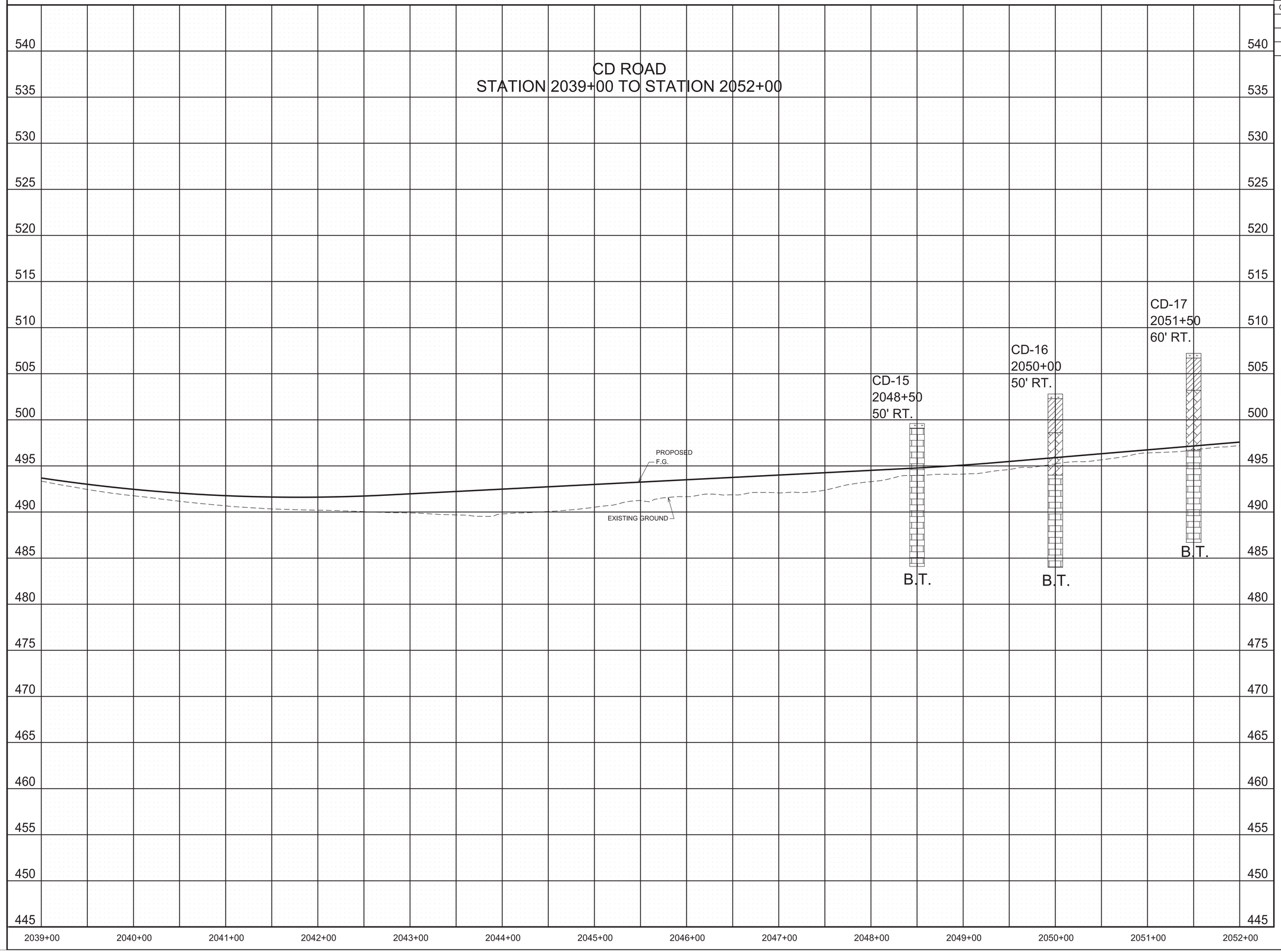
SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G40

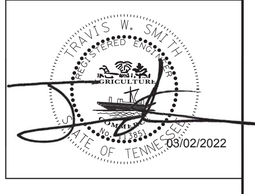


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

SEALED BY



03/02/2022

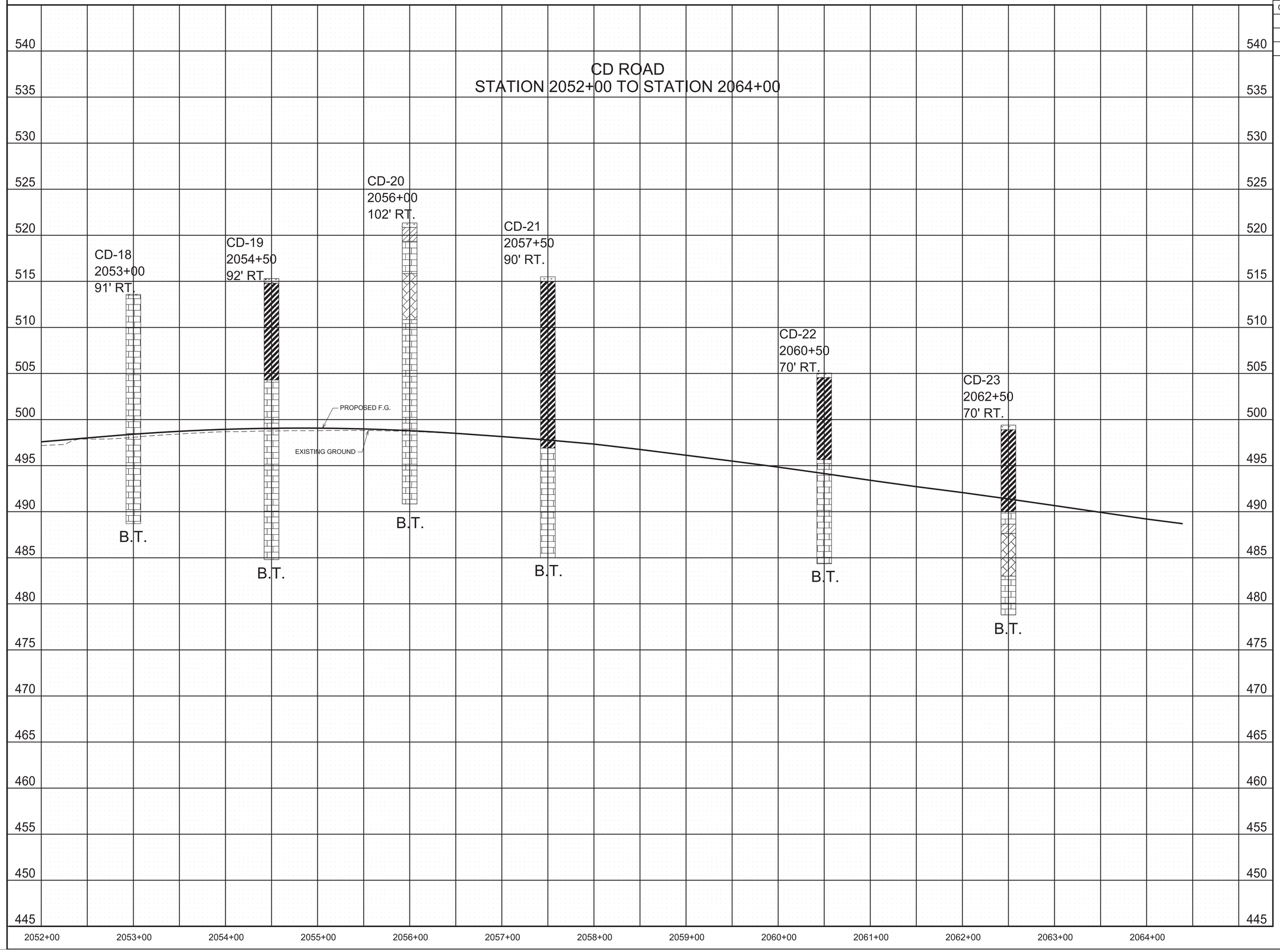
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:23:28 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G40--CD-Pro-4-5-022.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G41



LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED

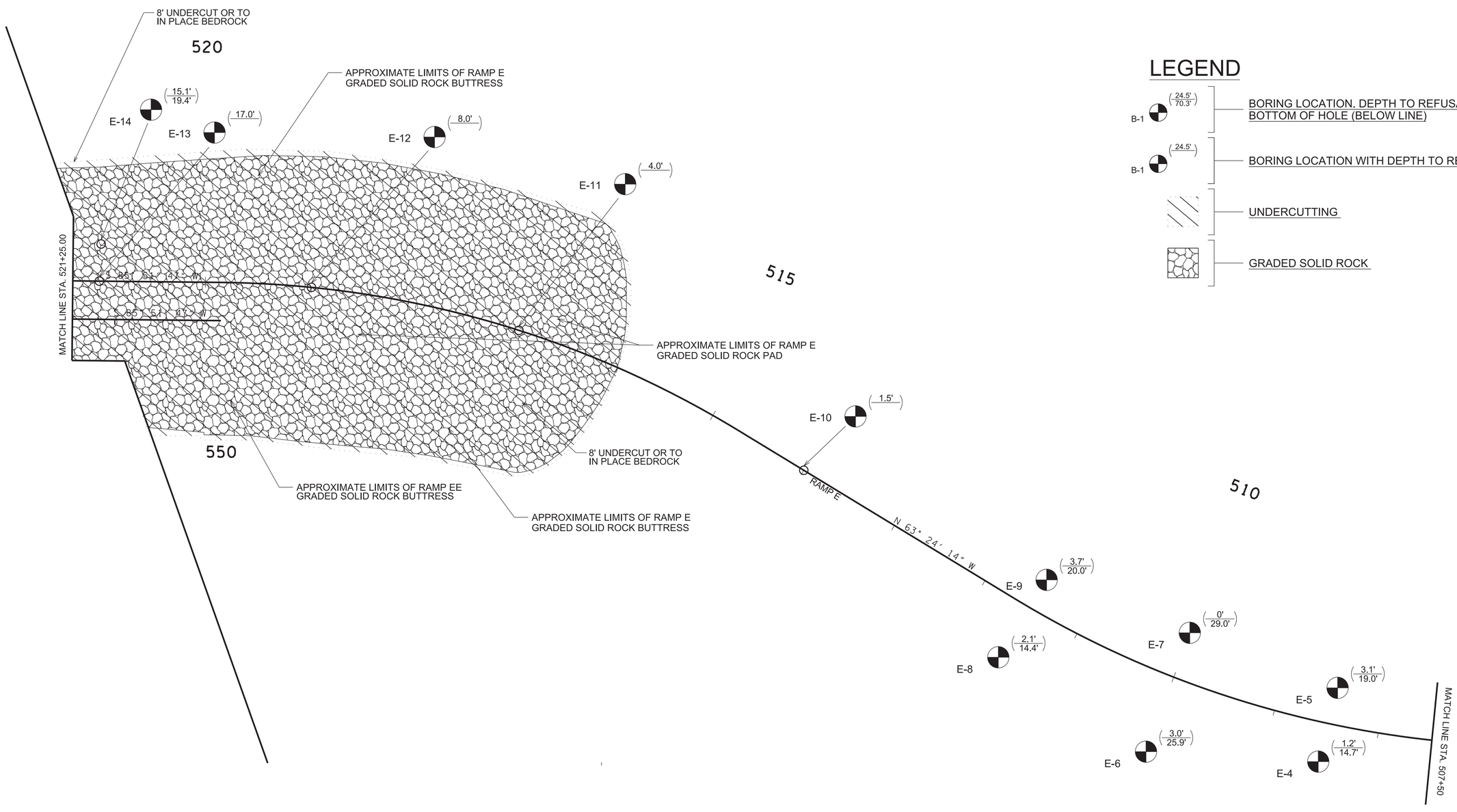
SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G42

RAMP E
STATION 507+50 TO STATION 521+25



LEGEND

- B-1 (24.5' / 70.3') — BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- B-1 (24.5') — BORING LOCATION WITH DEPTH TO REFUSAL
- UNDERCUTTING
- GRADED SOLID ROCK

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

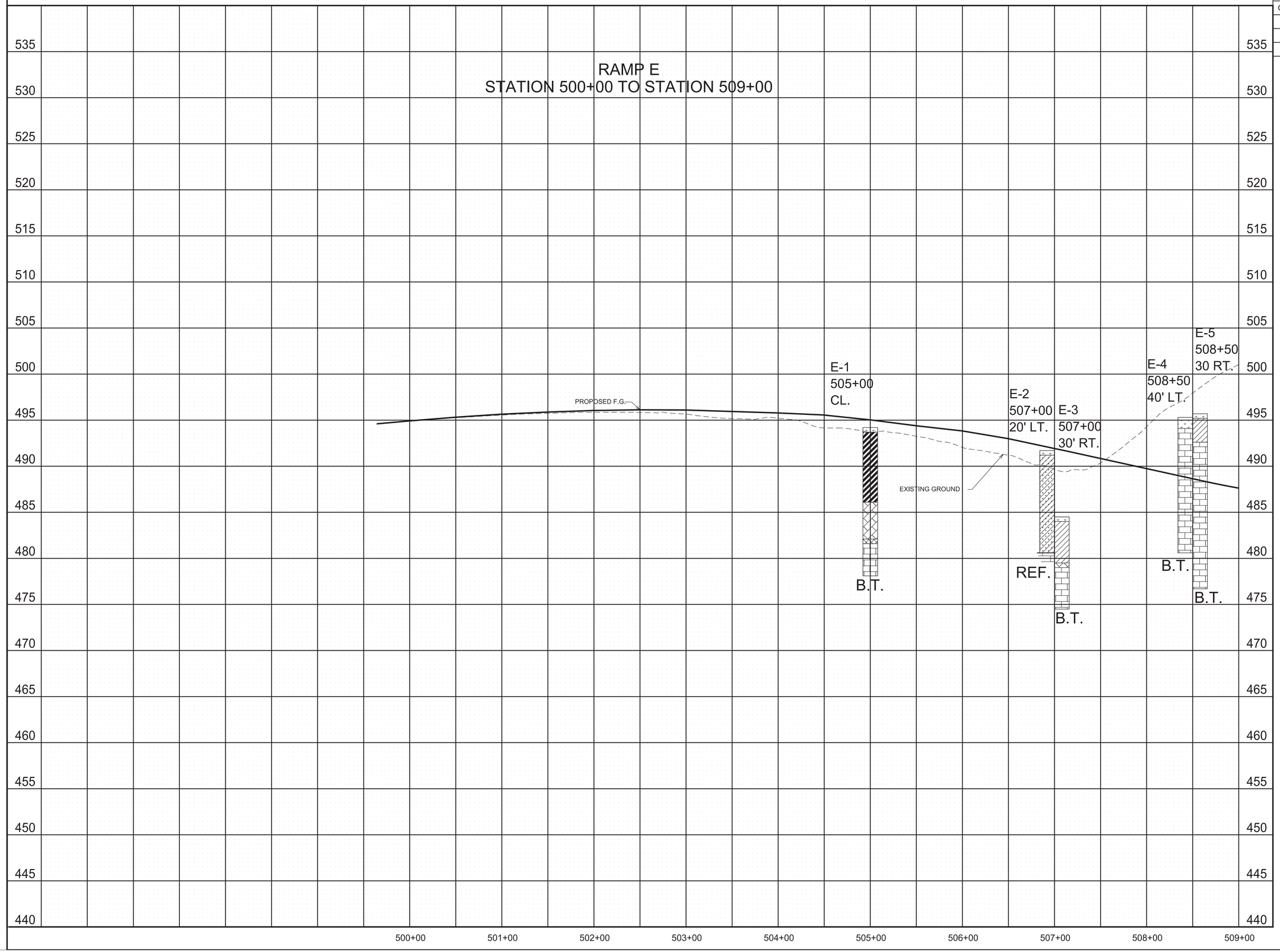
GEOTECHNICAL BORING LAYOUT

CELL BDR2ND

2/28/2022 10:23:55 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G43

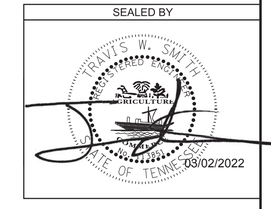


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- CAVITY FILLED WITH CLAY (TYPE A MATERIAL)
- SANDY LEAN CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

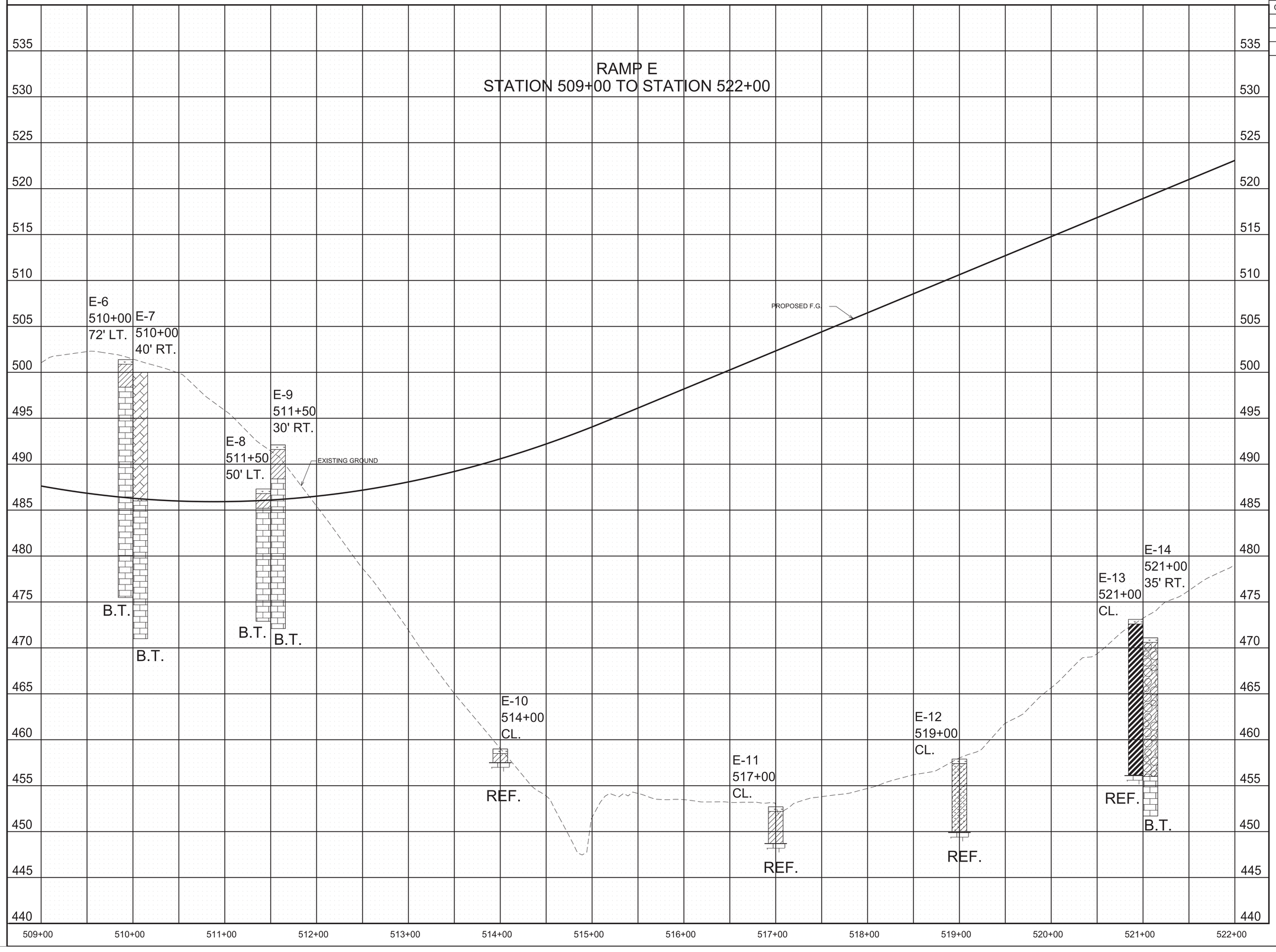


STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

CELL GRDSHT
2/28/2022 10:24:09 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G43-E-Pro-1-3-034.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G44

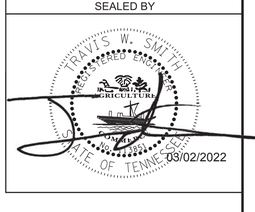


LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- CLAY WITH GRAVEL (TYPE A MATERIAL)
- SANDY LEAN CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

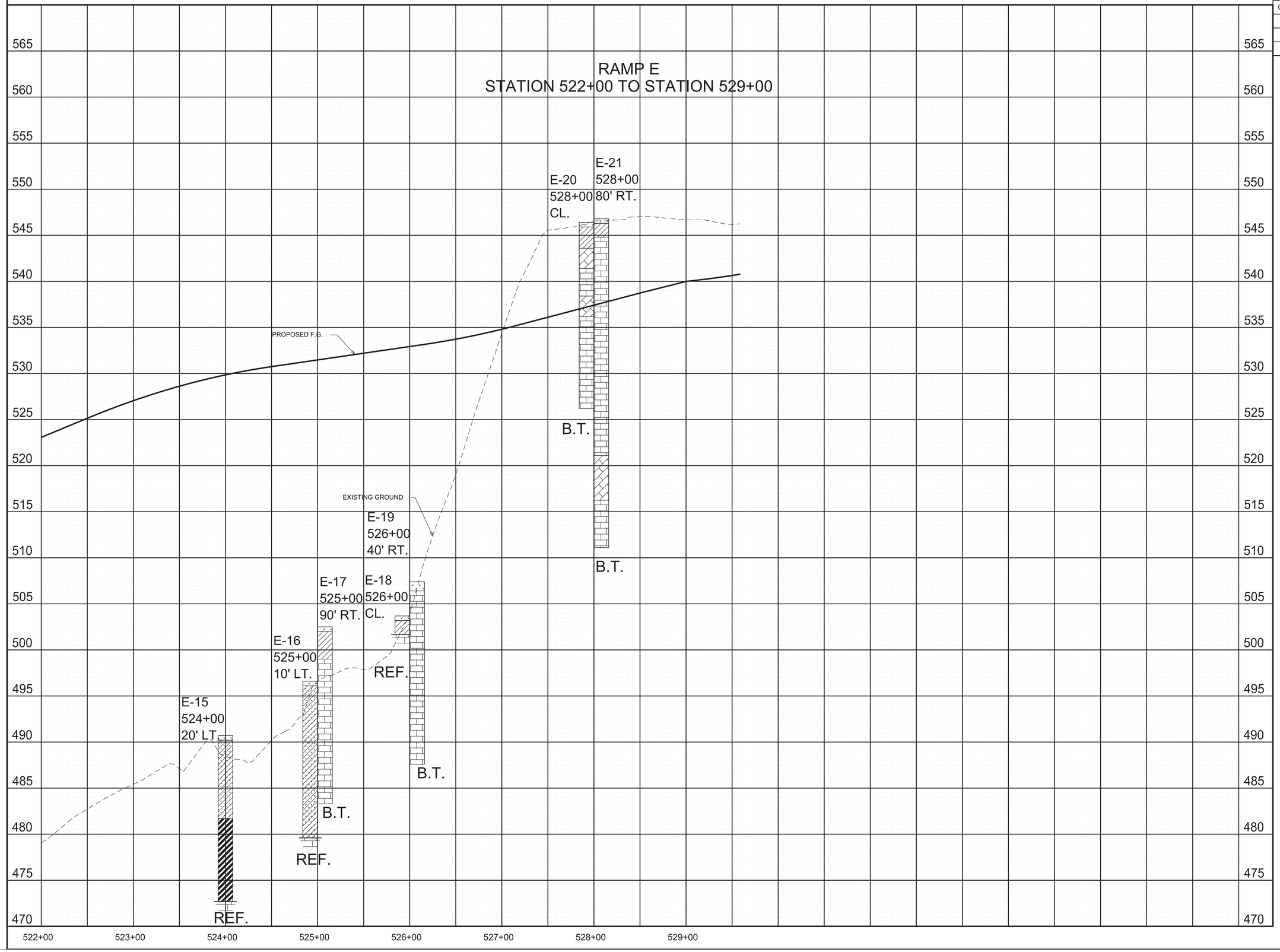
GEOTECHNICAL BORING PROFILE

CELL GRDSHT

2/28/2022 10:24:13 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G44-e-Pro-2-3-035----------.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G45



LEGEND

- TOPSOIL
- CLAY (TYPE A MATERIAL)
- SANDY LEAN CLAY (TYPE A MATERIAL)
- FAT CLAY (TYPE A MATERIAL)
- WEATHERED LIMESTONE (TYPE D MATERIAL)
- LIMESTONE (TYPE B MATERIAL)

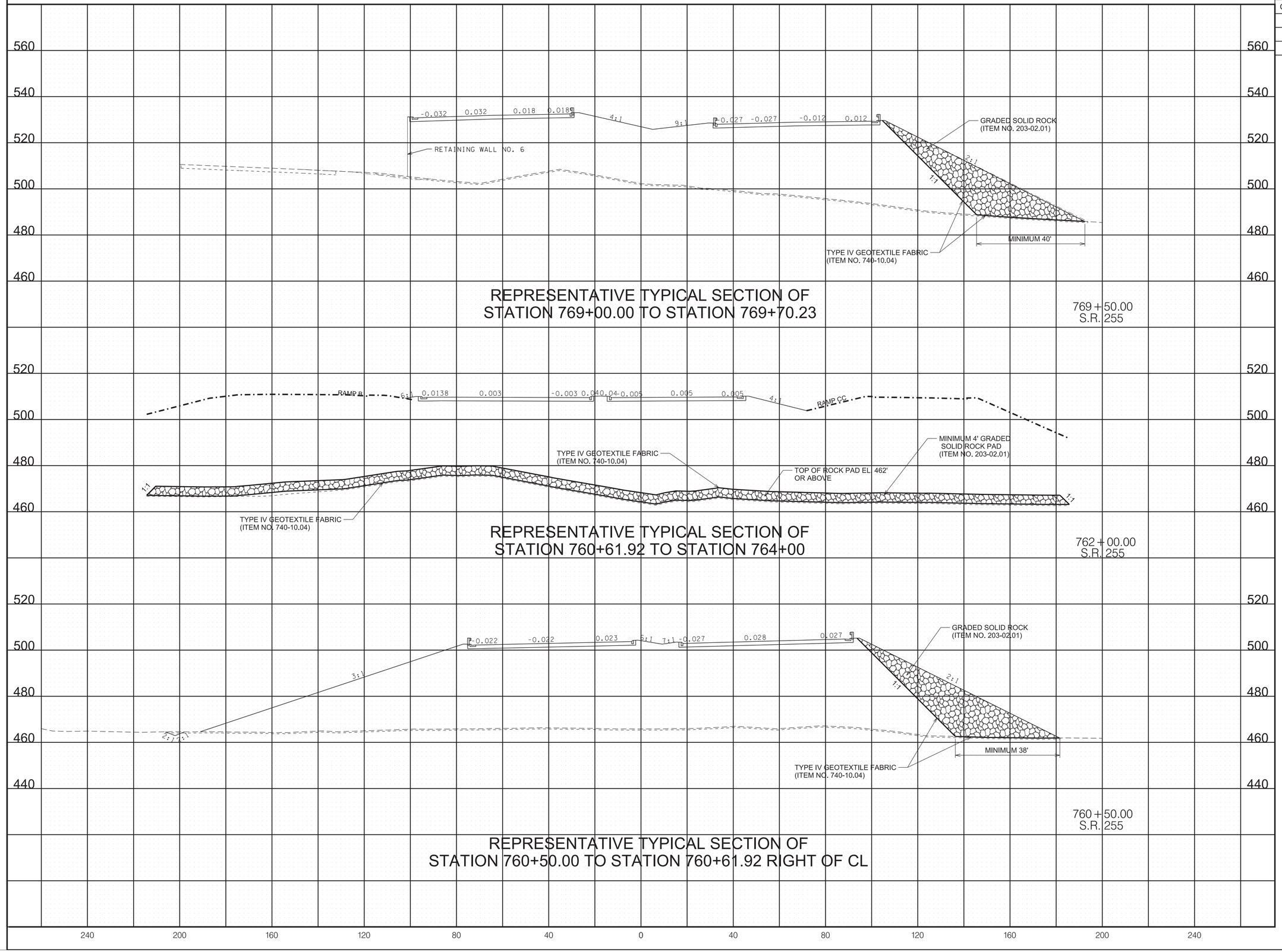
TYPE MATERIAL-SEE DEFINITION OF EARTHWORK TERMS ON NOTES AND GEOTECHNICAL TAB. QTYS. SHEET.
B.T.= BORING TERMINATED
REF.= AUGER REFUSAL

SEALED BY

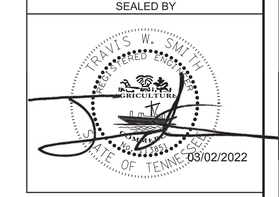
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL BORING PROFILE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G46



SEALED BY



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

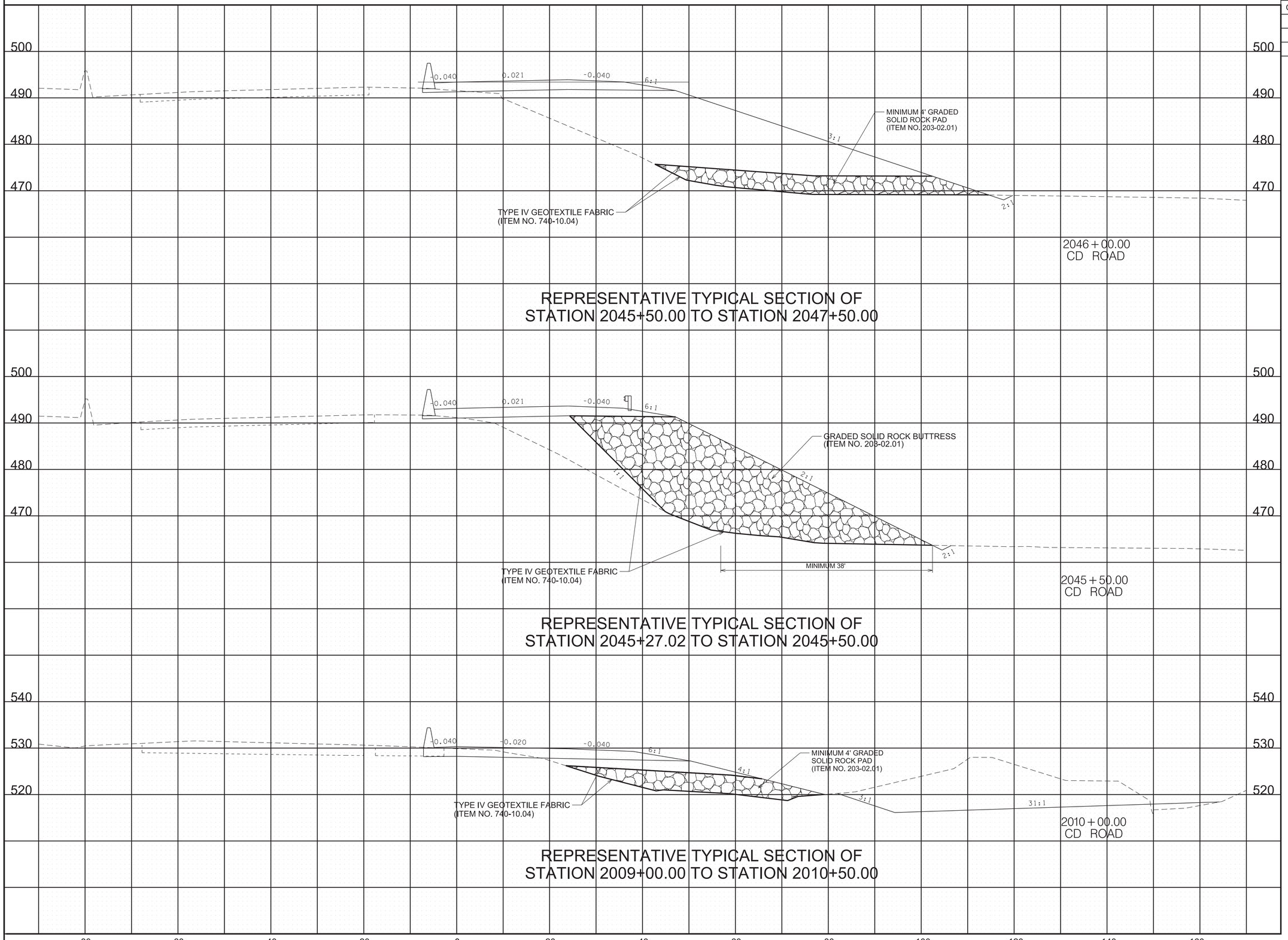
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

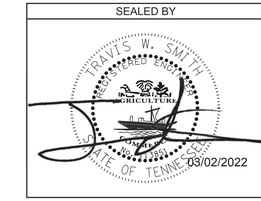
CELL MGRID

2/28/2022 10:24:30 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G46 Typ-SR255-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G47



SEALED BY



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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

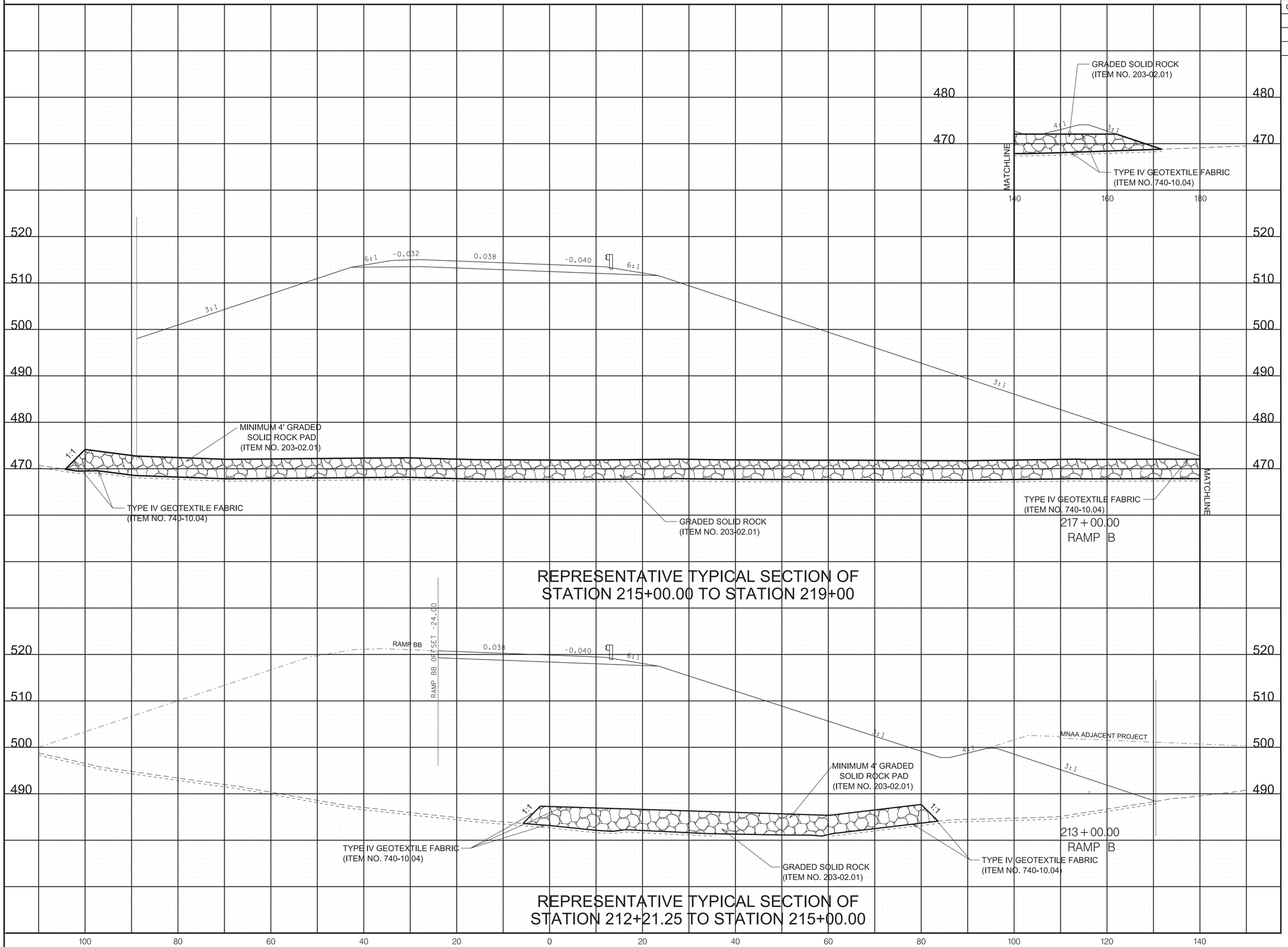
GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

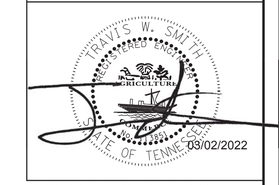
2/28/2022 10:24:38 AM

N:\GeotechFiles\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G47-Typ-CD Road -.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G48



SEALED BY



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

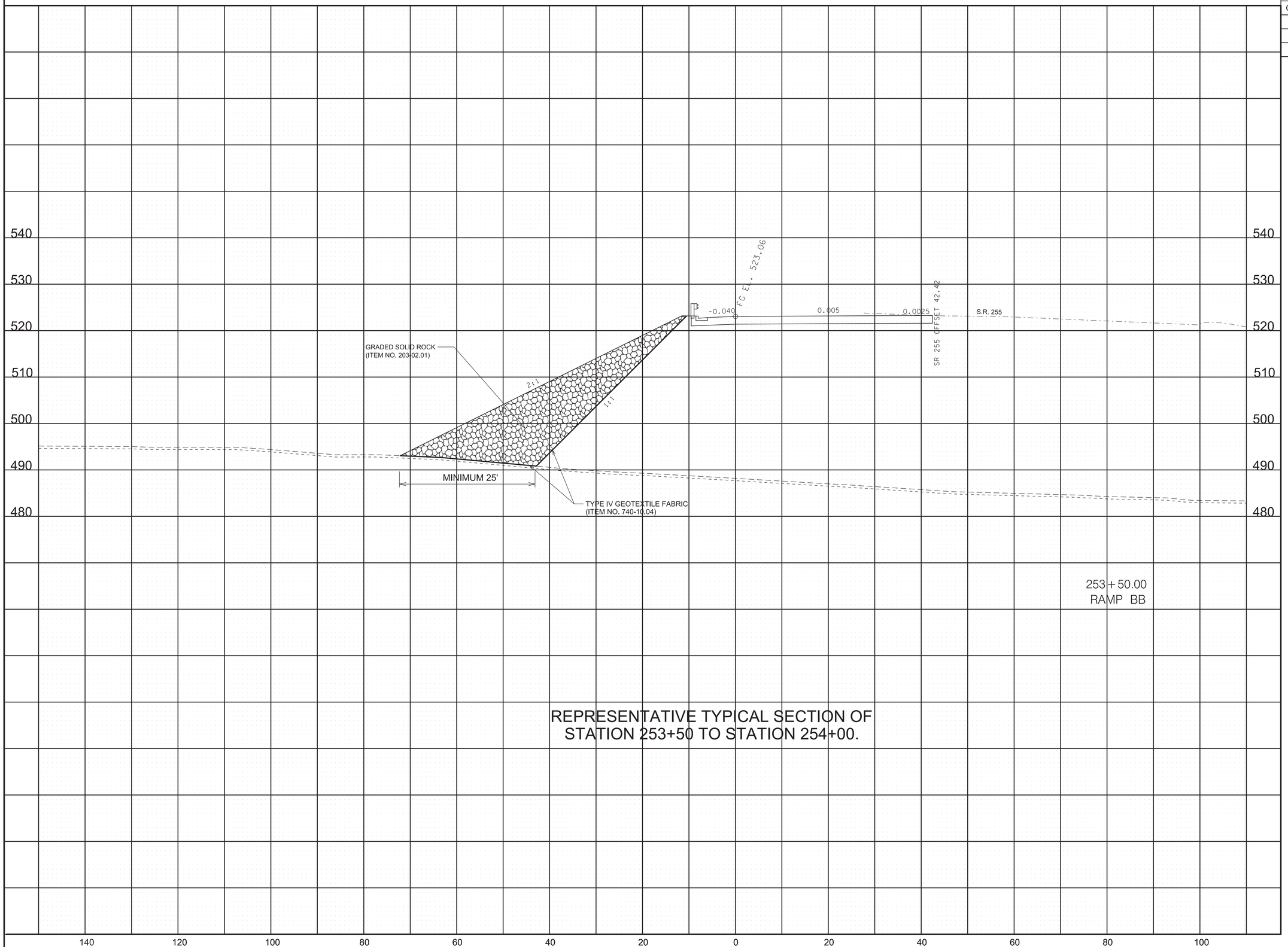
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

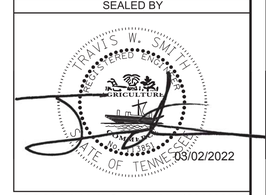
2/28/2022 10:24:45 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G48-Typ-RampB - .sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G49



REPRESENTATIVE TYPICAL SECTION OF
STATION 253+50 TO STATION 254+00.

SEALED BY



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

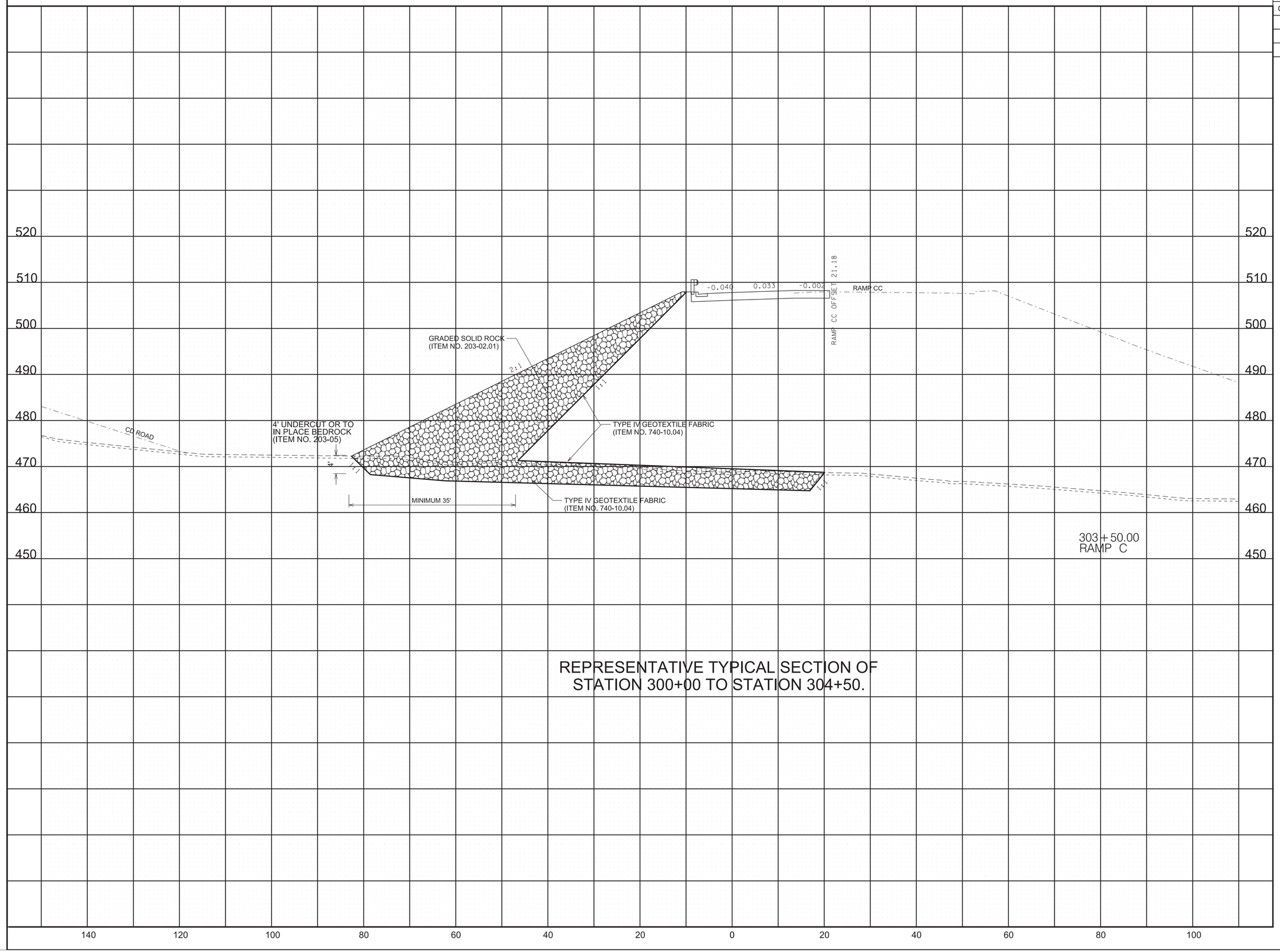
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

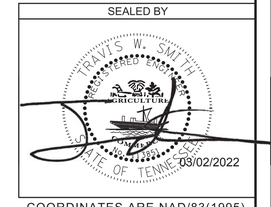
2/28/2022 10:24:51 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G49-Typ-RampBB - .sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G50



REPRESENTATIVE TYPICAL SECTION OF
STATION 300+00 TO STATION 304+50.

SEALED BY



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

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

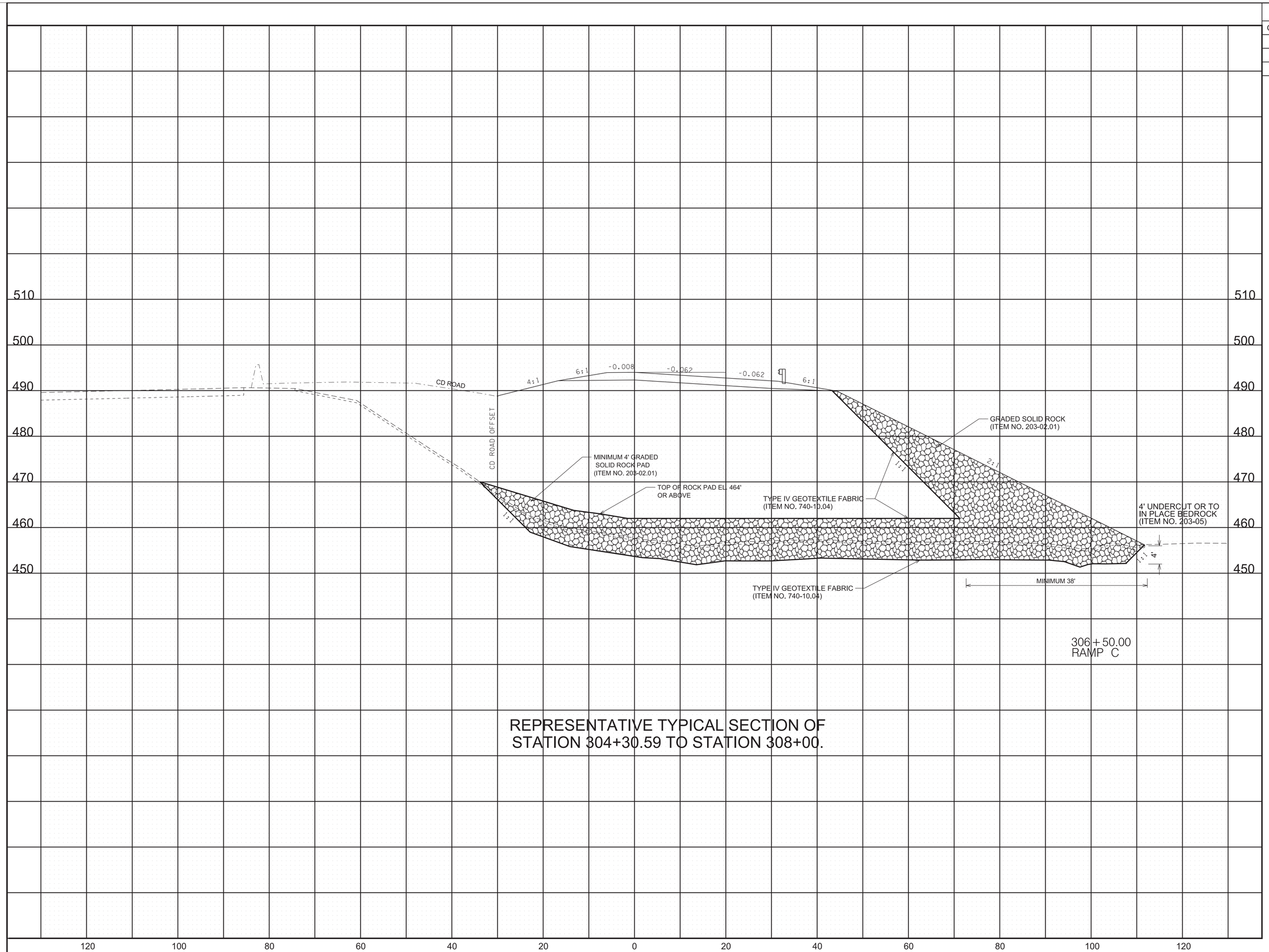
GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

2/28/2022 10:24:58 AM

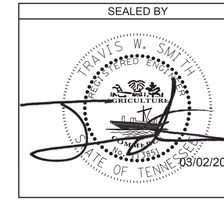
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G50-G52 Typ-RampC-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G51



REPRESENTATIVE TYPICAL SECTION OF
STATION 304+30.59 TO STATION 308+00.

SEALED BY



03/02/2022

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

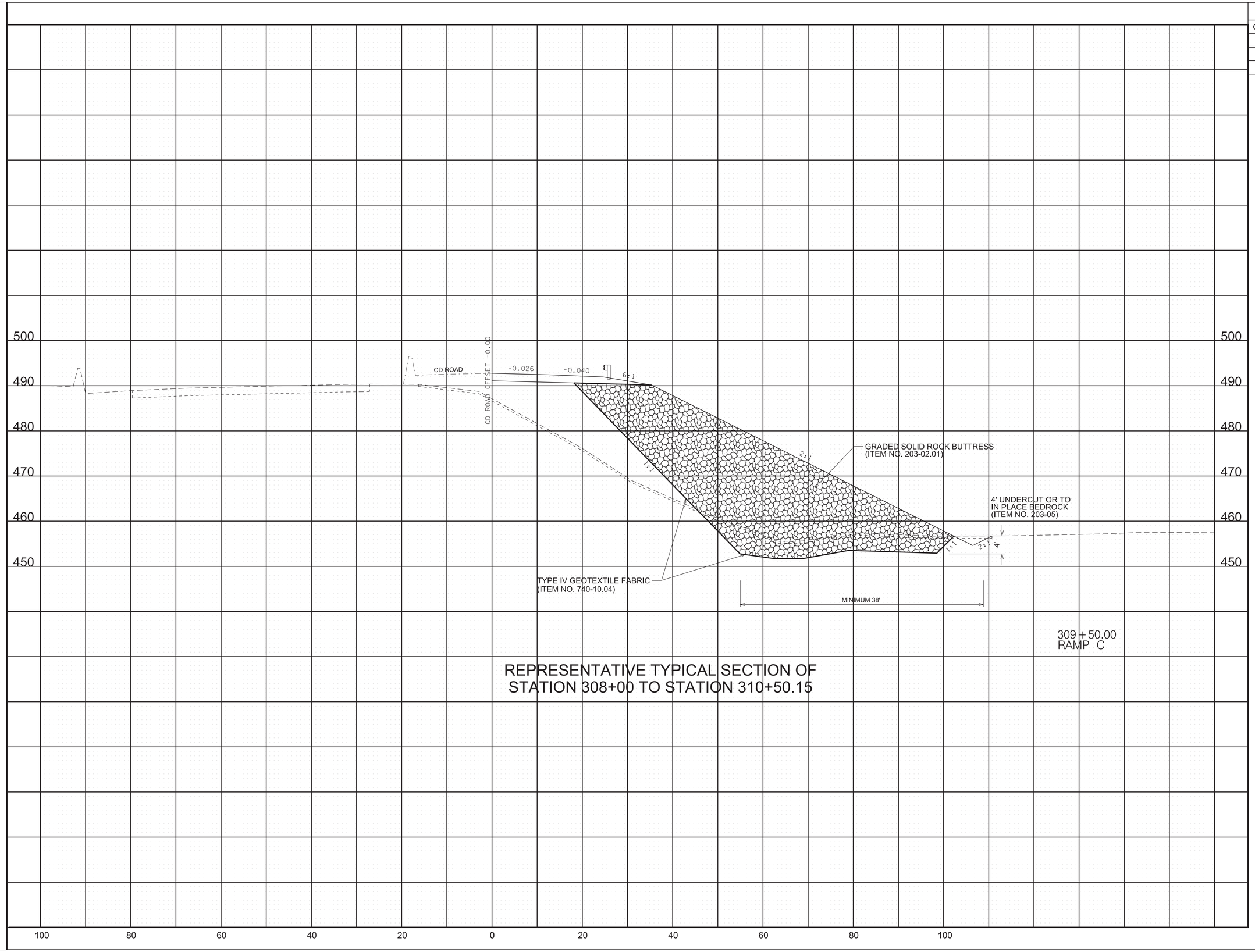
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

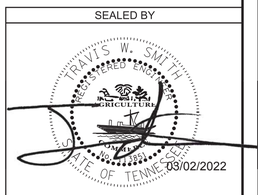
2/28/2022 10:24:59 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G50-G52 Typ-RampC-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G52



REPRESENTATIVE TYPICAL SECTION OF
STATION 308+00 TO STATION 310+50.15

SEALED BY



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

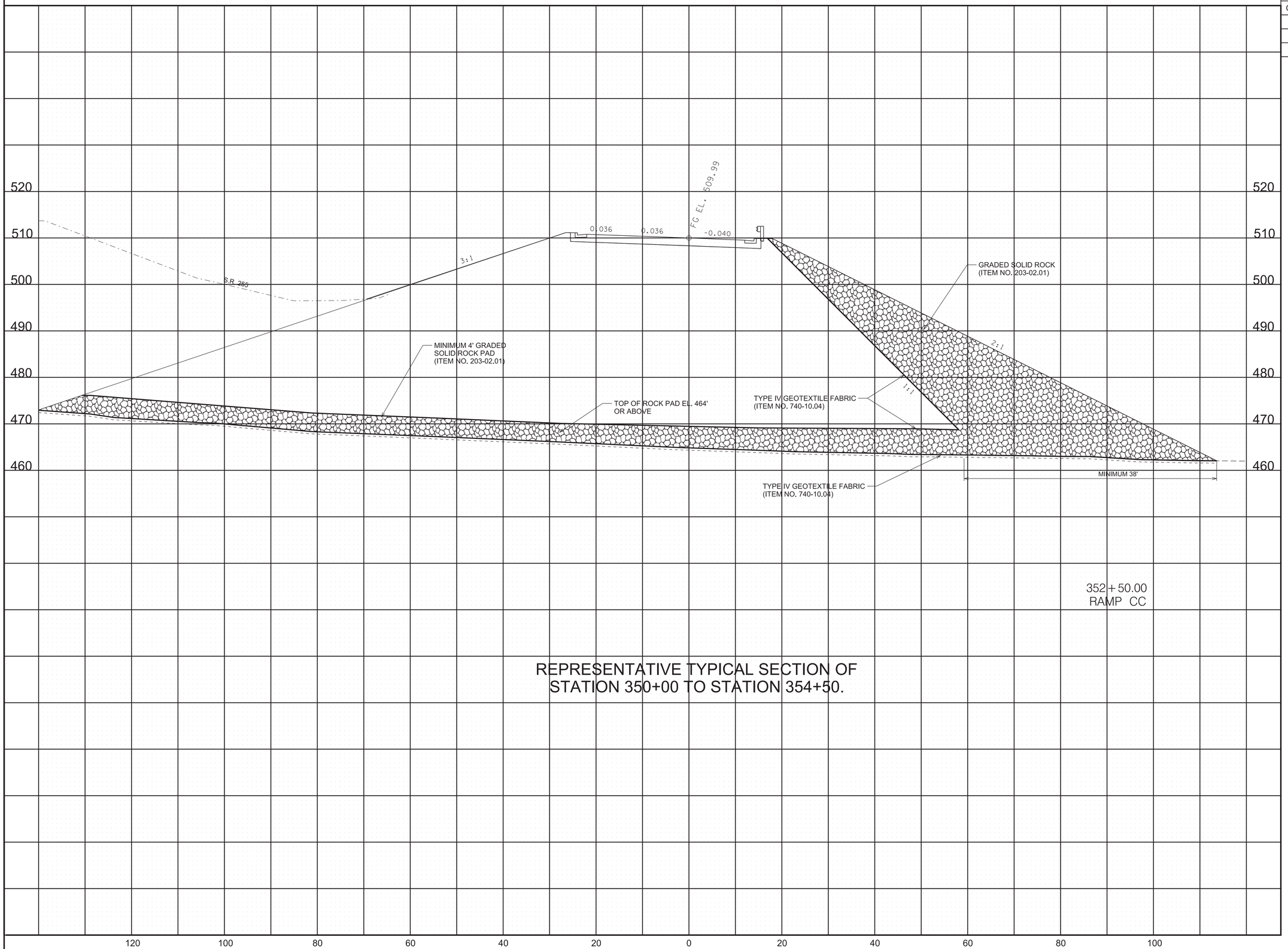
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

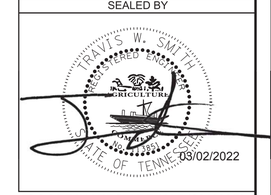
2/28/2022 10:24:59 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G50-G52 Typ-RampC-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G53



REPRESENTATIVE TYPICAL SECTION OF
STATION 350+00 TO STATION 354+50.

SEALED BY



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

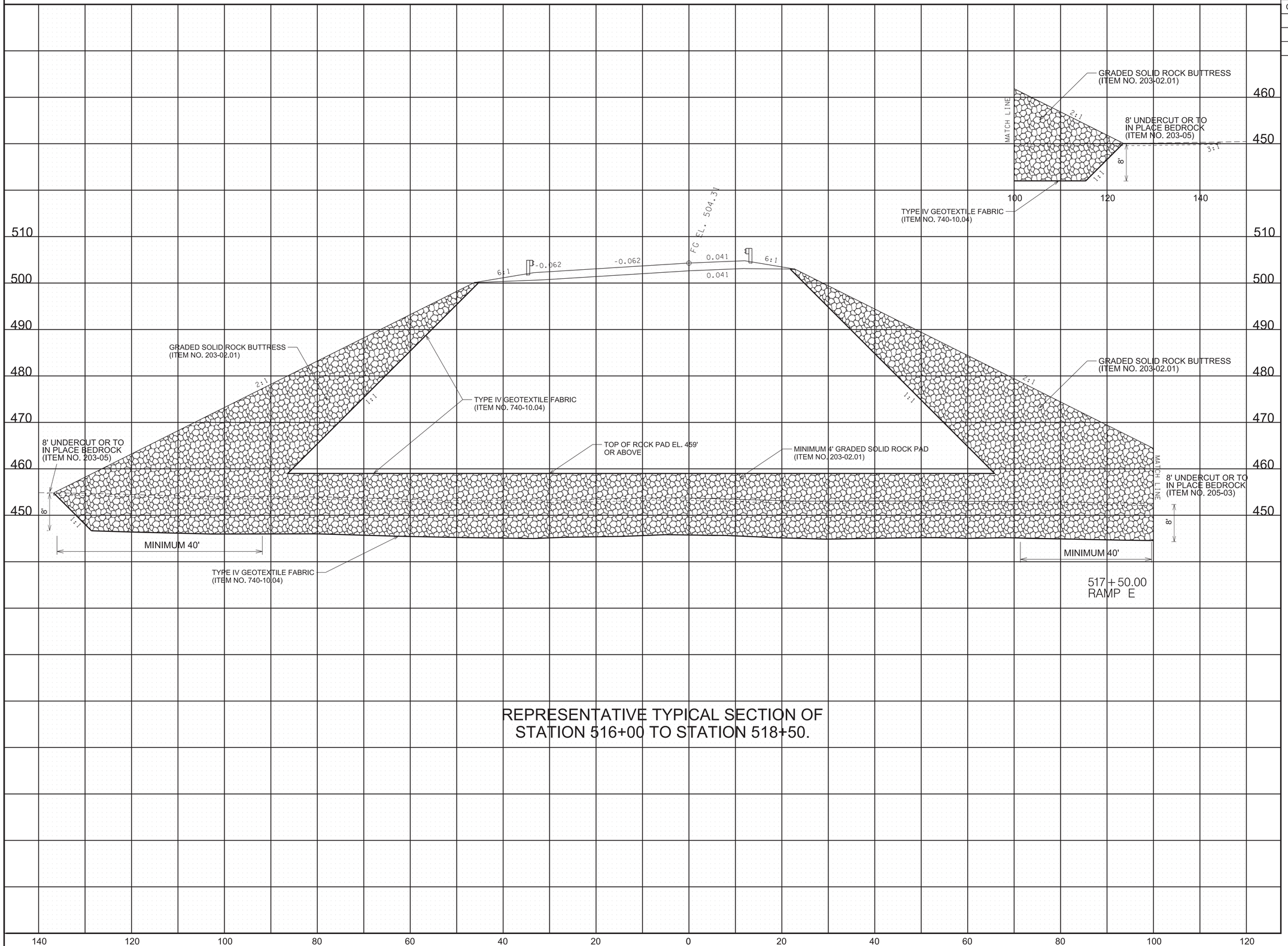
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

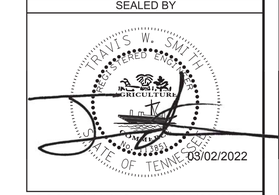
CELL MGRID

2/28/2022 10:25:04 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G53-Typ-RampCC - .sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G54



SEALED BY



03/02/2022

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

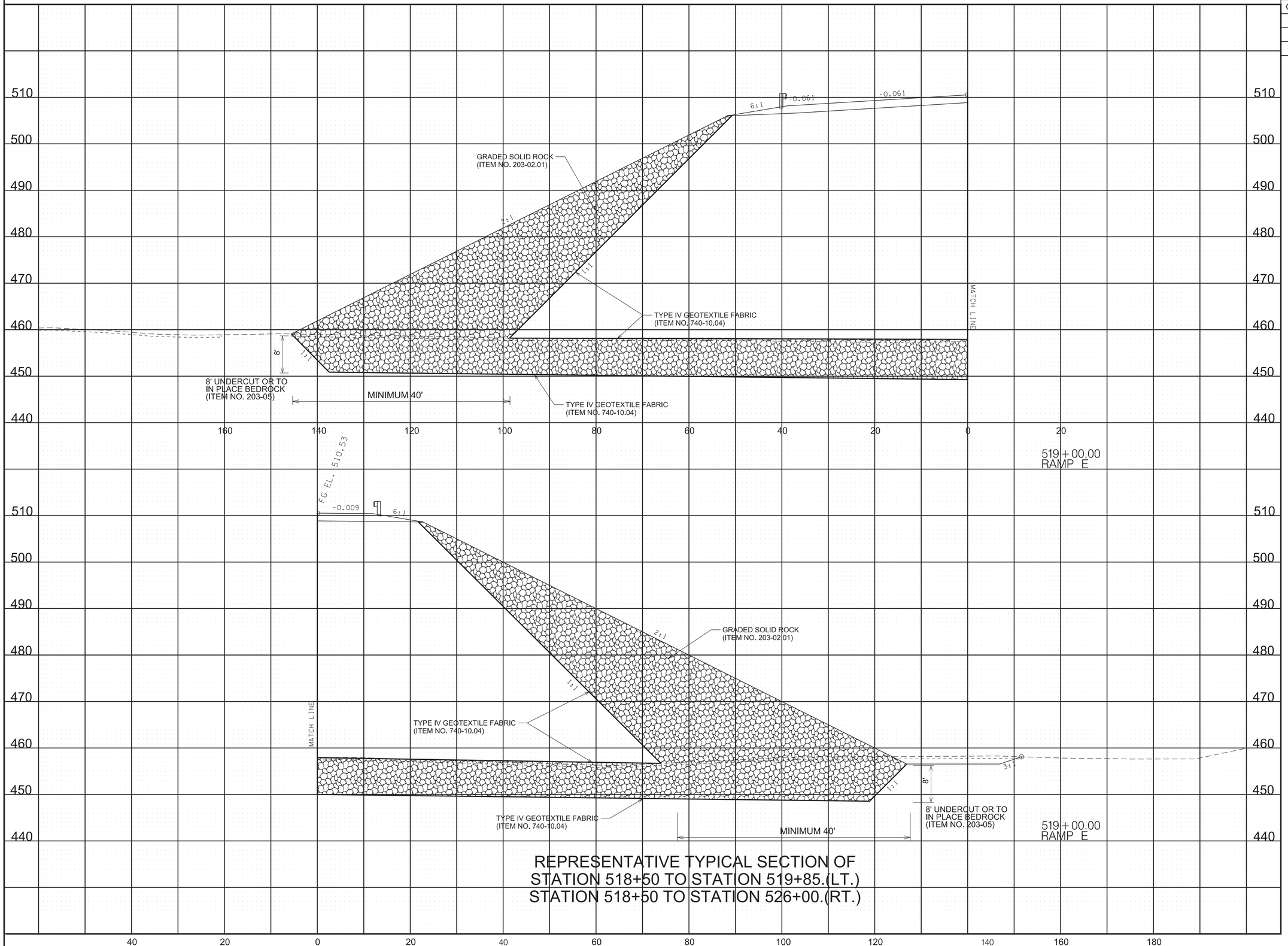
STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

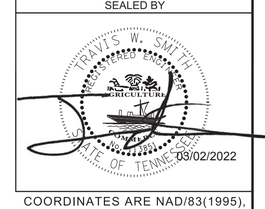
2/28/2022 10:25:14 AM
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G54-G55-Typ-RampE_sht
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G54-G55-Typ-RampE_sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G55



REPRESENTATIVE TYPICAL SECTION OF
STATION 518+50 TO STATION 519+85.(LT.)
STATION 518+50 TO STATION 526+00.(RT.)

SEALED BY



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

STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

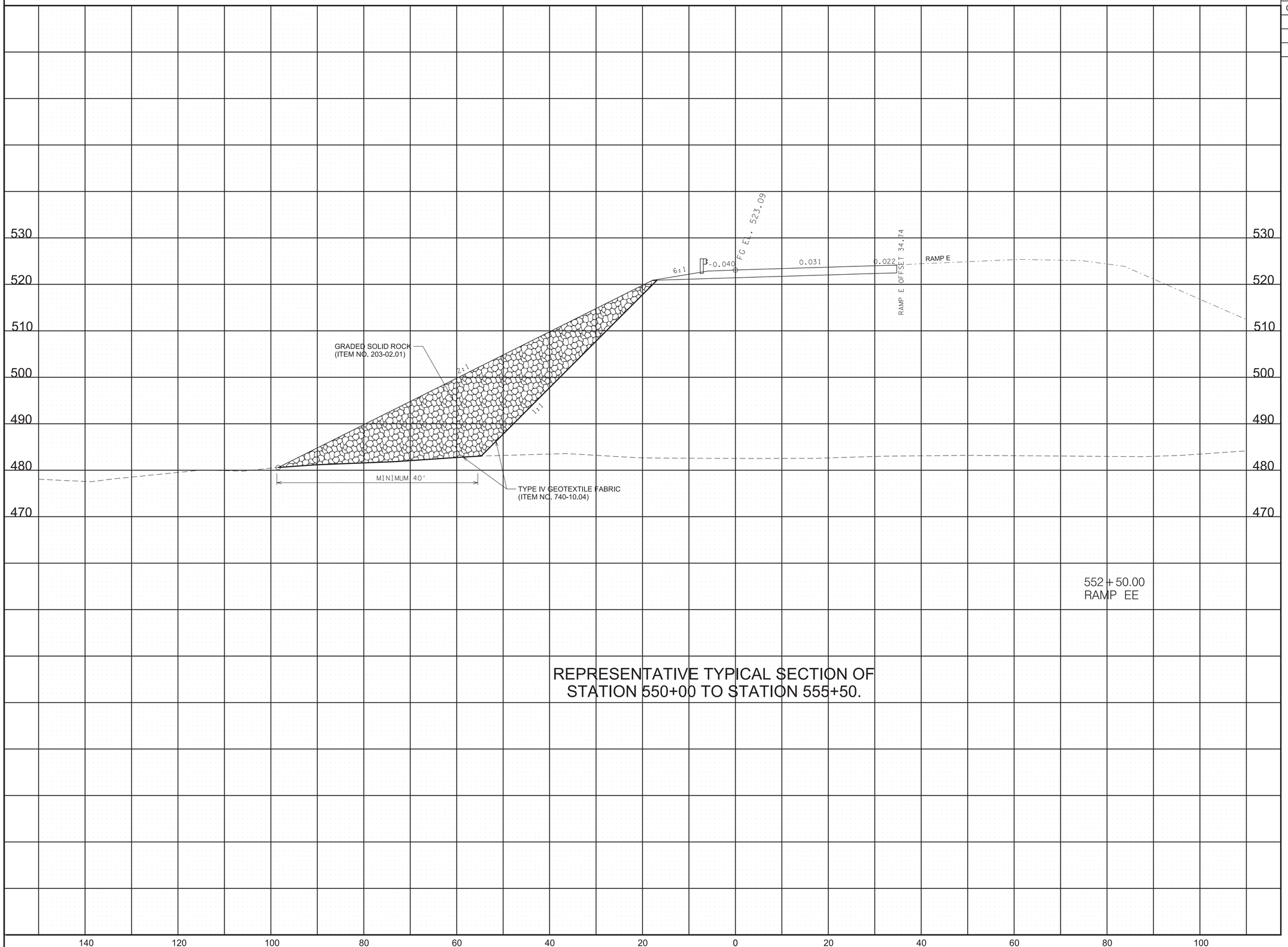
GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

2/28/2022 10:25:15 AM

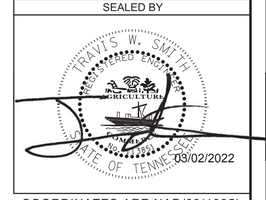
N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G54-G55-Typ-RampE.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G56



REPRESENTATIVE TYPICAL SECTION OF
STATION 550+00 TO STATION 555+50.

SEALED BY



03/02/2022

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL
TYPICAL SECTIONS

CELL MGRID

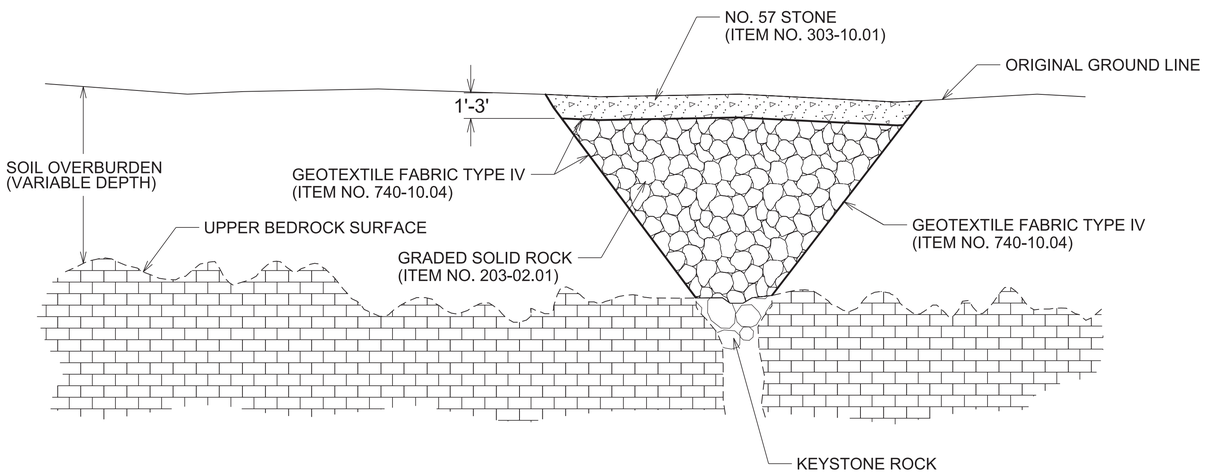
2/28/2022 10:25:21 AM

N:\Geotech\Files\Region 3\19-Davidson\FY2010-2019\FY 2018\1903718 (SCANNED)\02-CADD\02-Geo Drawing Sheets\116896-00-ROW-Rev-02-14-20-NEWCopy2020\Geo-Sheets\116896-00-ROW-Rev-5-6-20\116896-00-GeoShts-G56-Typ-RampEE - .sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2022	NH-I-40-5(146)	G57

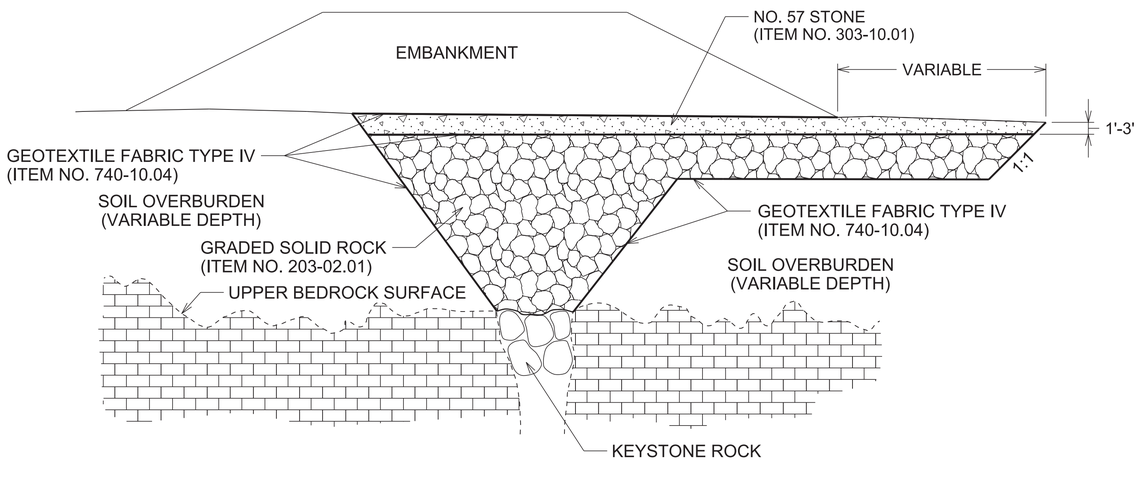
SINKHOLE TREATMENT 1

SNK-2 STATION 616+49 - 30' RIGHT



SINKHOLE TREATMENT 1A

SNK-1 STATION 749+96 - 24' RIGHT



SINKHOLE TREATMENT 1, ACTIVE

NOTE:
AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. THE TOP 1-3 FT. OF MATERIAL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOILS AND DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE. KEYSTONE ROCK TO CONSIST OF MATERIAL SELECTED FROM STOCKPILED GRADED SOLID ROCK.
3. PLACE THE GEOTEXTILE FABRIC TYPE IV ON EXCAVATED SLOPES AND BASE OF SINKHOLE.
4. BACKFILL TO WITHIN 1-3 FT. OF THE SPECIFIED GRADE WITH GRADED SOLID ROCK (CLASSIFICATION 203-02.01 BORROW EXCAVATION).
5. BACKFILL TO GRADE WITH A MINIMUM OF 1FT. OF NO. 57 STONE ON TOP OF THE GRADED SOLID ROCK AND GEOTEXTILE FABRIC TYPE IV.

SINKHOLE TREATMENT 1A, ACTIVE

NOTE:
AFTER EXCAVATION IS COMPLETE AND ROCK OPENING IS EXPOSED, THE SITE AND TREATMENT METHOD SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS. THE TOP 1-3 FT. OF MATERIAL SHALL BE APPROVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEERING SECTION OF THE DIVISION OF MATERIALS AND TESTS.

SEQUENCE OF CONSTRUCTION:

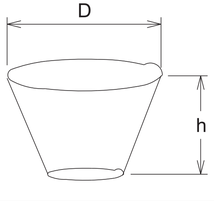
1. EXCAVATE SINKHOLE TO DEFINE OPENING IN BEDROCK MAKING SURE TO REMOVE ALL SOILS AND DEBRIS.
2. FIT THE OPENING WITH KEYSTONE ROCK, WHICH SHALL BE OF SUFFICIENT SIZE TO LOCK IN PLACE WITHOUT CREATING AN AIRBLOCK TO SUBSURFACE DRAINAGE. KEYSTONE ROCK TO CONSIST OF MATERIAL SELECTED FROM STOCKPILED GRADED SOLID ROCK.
3. PLACE THE GEOTEXTILE FABRIC TYPE IV ON EXCAVATED SLOPES AND BASE OF SINKHOLE.
4. BACKFILL TO WITHIN 1-3 FT. OF THE SPECIFIED GRADE WITH GRADED SOLID ROCK (CLASSIFICATION 203-02.01 BORROW EXCAVATION).
5. PLACE THE GEOTEXTILE FABRIC TYPE IV ON TOP OF GRADED SOLID ROCK.
6. BACKFILL TO GRADE WITH NO. 57 STONE.
7. PLACE THE GEOTEXTILE FABRIC TYPE IV ON TOP OF NO. 57 STONE.
8. CONSTRUCT EMBANKMENT IN ACCORDANCE WITH CONTRACT PLANS AND CROSS-SECTIONS.

EQUATION FOR ESTIMATING SINKHOLE VOLUME, WHERE THE SIDES OF THE SINKHOLE ARE AT 1:1 SLOPES.

VOL. 1:1 $\approx 0.13D^3 - (0.5D - h)^3$

FOR ESTIMATION PURPOSES, USE

$1.7636 \frac{\text{TONS}}{\text{C.Y.}}$



STATE OF TENNESSEE
DEPARTMENT OF
TRANSPORTATION

SINKHOLE STANDARD DRAWINGS
SINKHOLE TREATMENT ILLUSTRATIONS
1