

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WASHBURN SWITCH BUSINESS PARK	1	10

CROSS SECTIONS

LINE	STATION	SHEETS
-Y1-	19+50 - 22+00	4-5
-Y2-	20+00 - 21+50	6-8

APPENDICES

APPENDIX	TITLE	SHEETS
A	LABORATORY TEST RESULTS	9-10

**ROADWAY
SUBSURFACE INVESTIGATION**

COUNTY CLEVELAND
PROJECT DESCRIPTION WASHBURN SWITCH
BUSINESS PARK IN TOWN OF SHELBY

RECOMMENDATIONS

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

NOTES:

- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
- BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

ELLIS & ASSOCIATES

A. ROTH

Q. ESTEBAN

M. BREWER, P.E.

INVESTIGATED BY ECS SOUTHEAST, LLP

DRAWN BY M. BREWER, P.E.

CHECKED BY M. WALKO, P.E.

SUBMITTED BY ECS SOUTHEAST, LLP

DATE JUNE 2017

Prepared in the Office of:



ECS SOUTHEAST, LLP
1812 CENTER PARK DRIVE, SUITE D
CHARLOTTE, NC 28217
(704) 525-5152 [PHONE]
(704) 357-0023 [FAX]
NC REGISTERED
ENGINEERING
FIRM # F-1078



SIGNATURE

DATE

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

REFERENCE: N/A

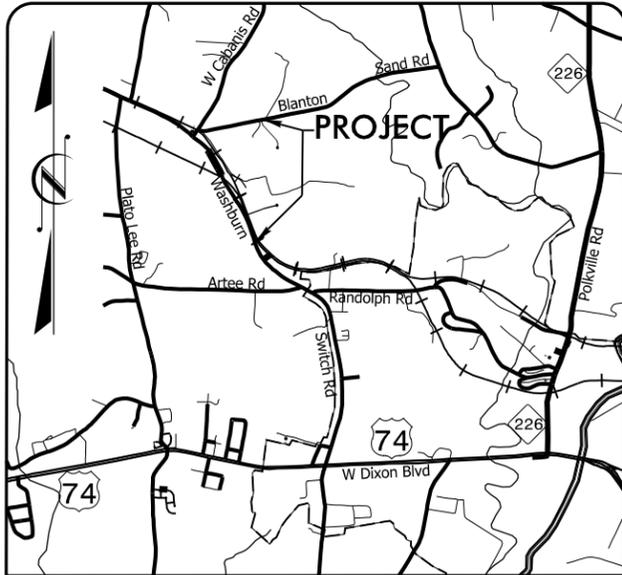
PROJECT: 47336

STATE OF NORTH CAROLINA

CLEVELAND COUNTY

LOCATION: WASHBURN SWITCH BUSINESS PARK
ADDITION OF TURN LANES ON SR 1313 (WASHBURN SWITCH RD) AND
NEW INDUSTRIAL ENTRANCES TO WASHBURN SWITCH BUSINESS PARK
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CURB & GUTTER

STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	Washburn Switch Business Park	3	10
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	



VICINITY MAP

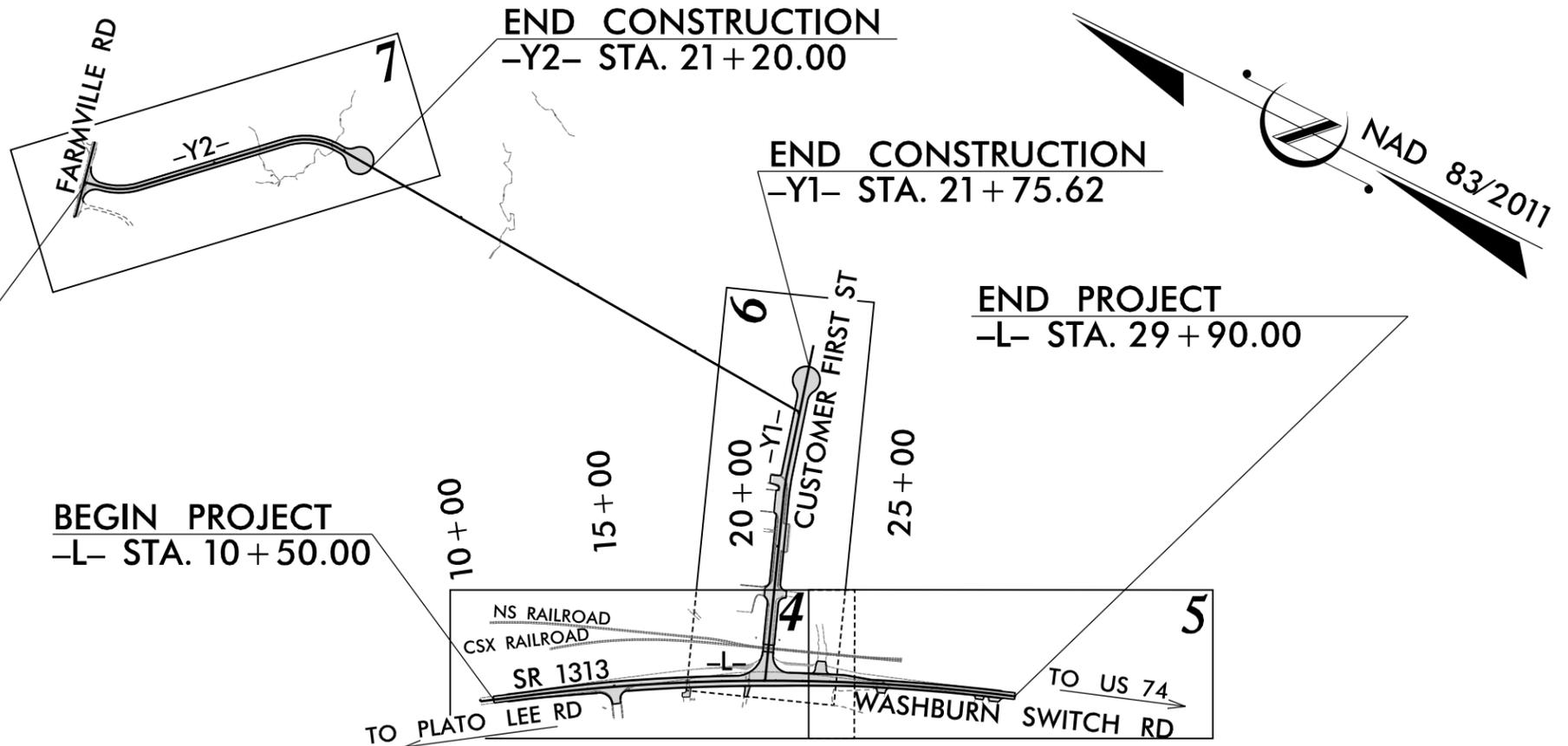
BEGIN CONSTRUCTION
 -Y2- STA. 10 + 08.85

BEGIN PROJECT
 -L- STA. 10 + 50.00

END CONSTRUCTION
 -Y2- STA. 21 + 20.00

END CONSTRUCTION
 -Y1- STA. 21 + 75.62

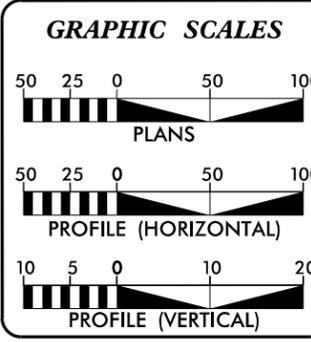
END PROJECT
 -L- STA. 29 + 90.00



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

INCOMPLETE PLANS
 DO NOT USE FOR R/W ACQUISITION
 DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2018 =	6200 (-L-)
K =	11 %
D =	55 %
T =	11 % *
* TTST =	5% DUAL=6%
V =	50 MPH (-L-)
V =	35 MPH (-Y- LINES)
FUNC CLASS =	RURAL COLLECTOR (-L-)
	RURAL LOCAL (Y-LINES)

PROJECT LENGTH

LENGTH ROADWAY PROJECT -L-	=	0.367 MILES
LENGTH ROADWAY PROJECT -Y1-	=	0.217 MILES
LENGTH ROADWAY PROJECT -Y2-	=	0.210 MILES
LENGTH TOTAL PROJECT	=	0.794 MILES

CONTACT: MATT BLACKWELL	
PLANS PREPARED BY:	PLANS PREPARED FOR:
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	CLEVELAND COUNTY NORTH CAROLINA 1800 E. Marlon St Shelby, NC 28152
RIGHT OF WAY DATE:	JIMMY L. TERRY, PE PROJECT ENGINEER
LETTING DATE:	SANDRA G. MELVIN PROJECT DESIGN ENGINEER
2012 STANDARD SPECIFICATIONS	

HYDRAULICS ENGINEER

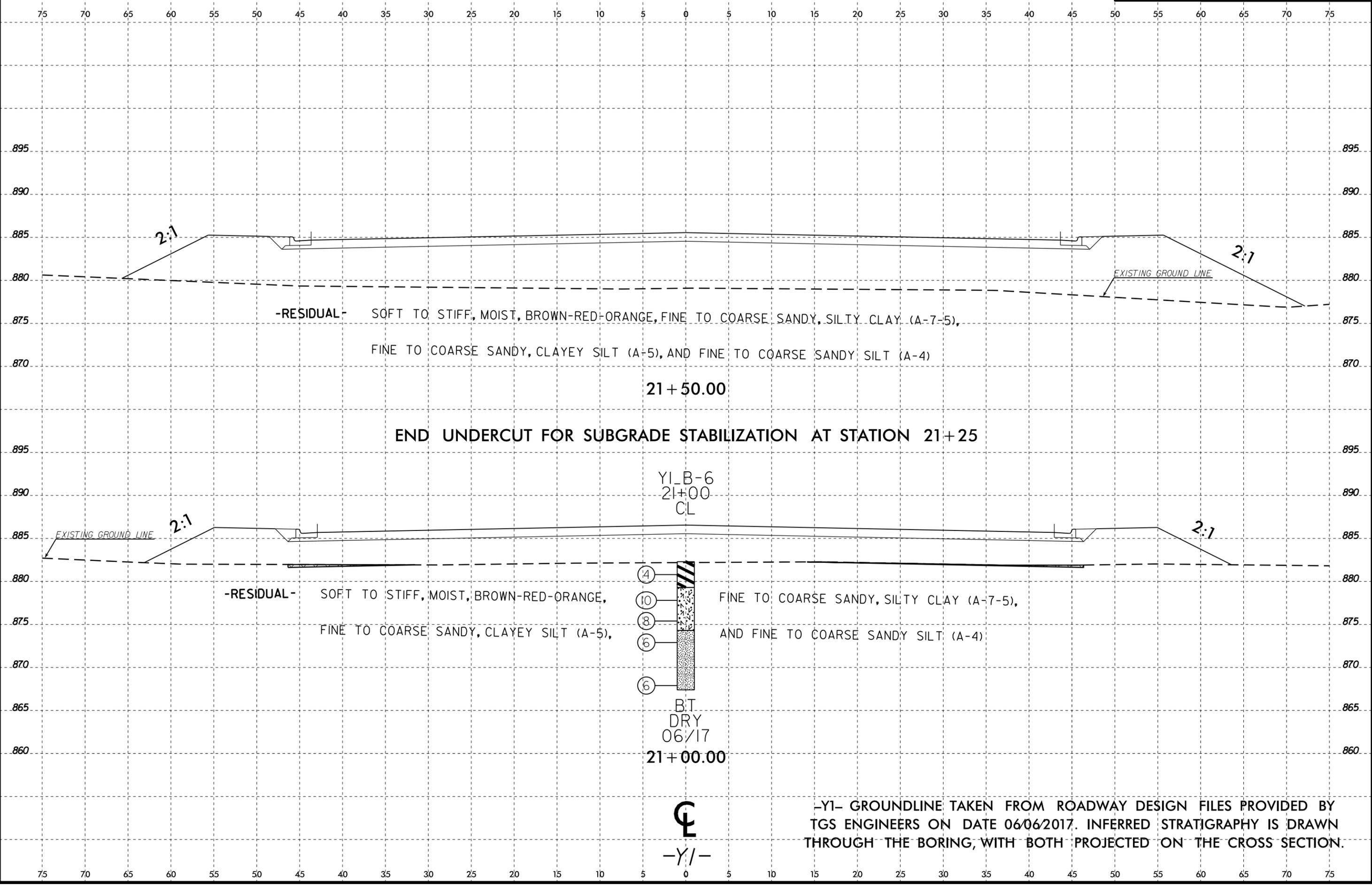
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



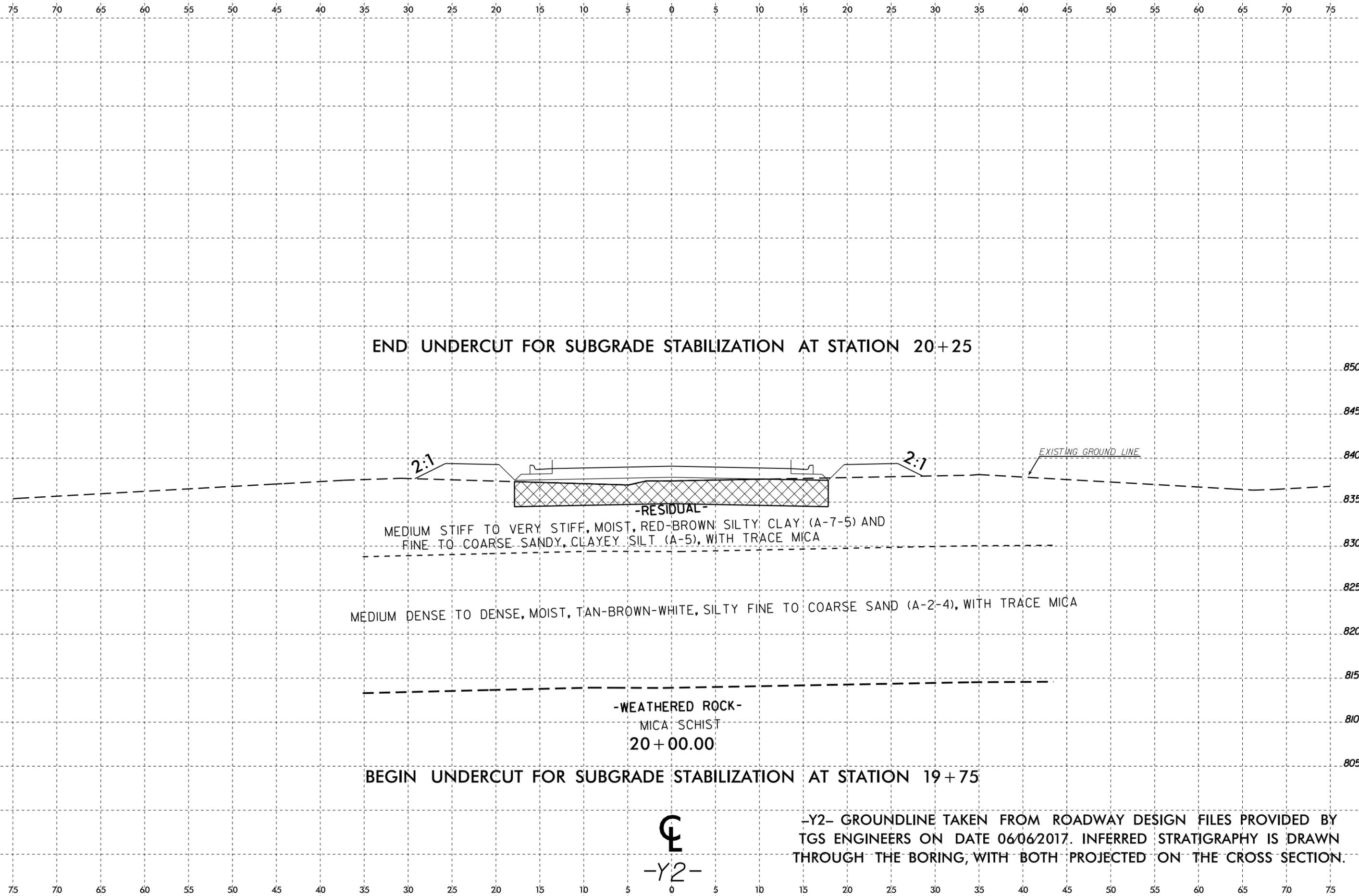
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6/23/16



PROJ. REFERENCE NO.	SHEET NO.
Washburn Switch Business Park	6

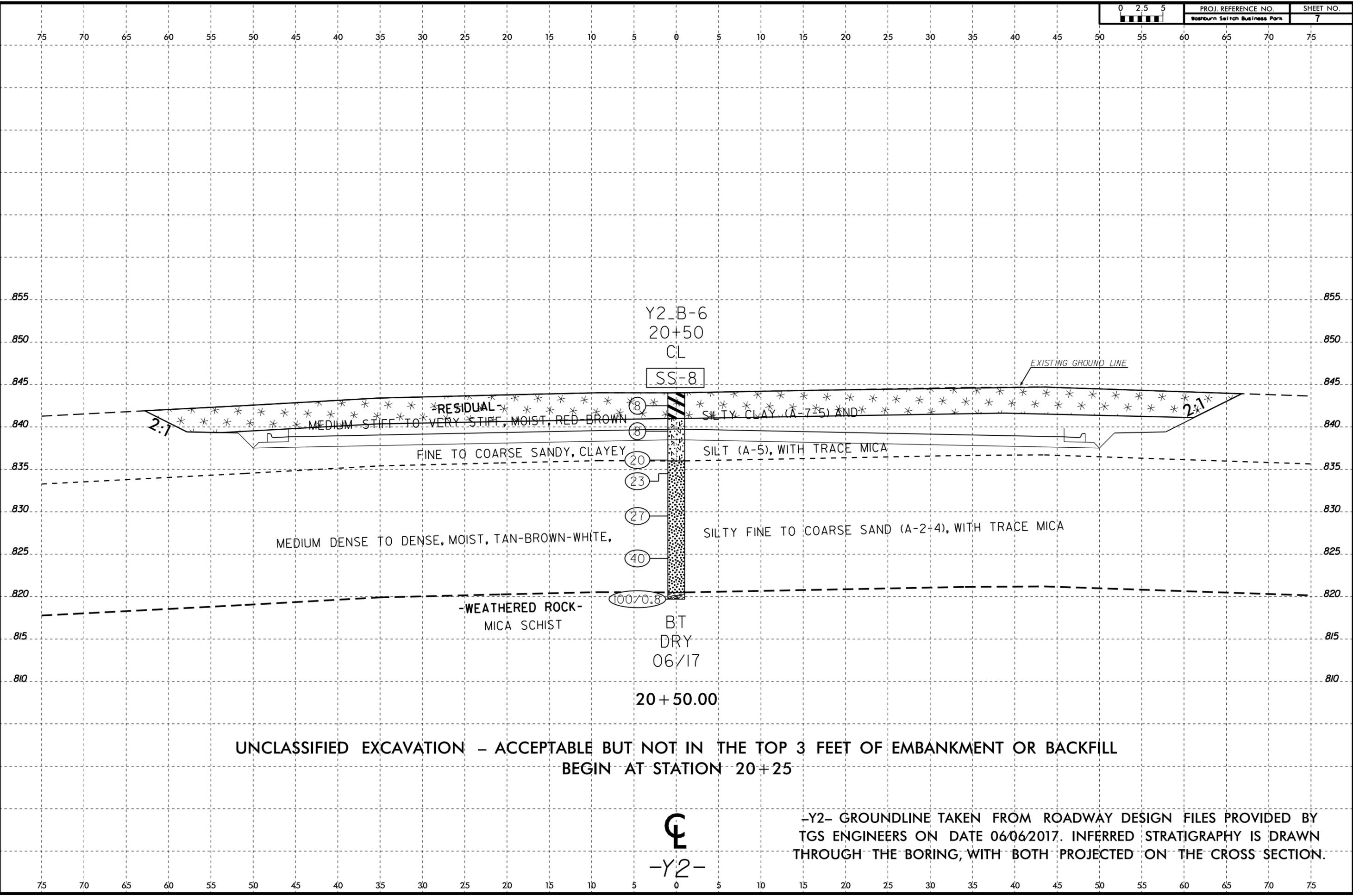


-Y2-

-Y2- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY TGS ENGINEERS ON DATE 06/06/2017. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

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30-JUN-2017 08:53
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

855 855

850 850

845 845

840 840

835 835

830 830

825 825

820 820

815 815

810 810

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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Y2_B-6
20+50
CL

SS-8

EXISTING GROUND LINE

RESIDUAL

MEDIUM STIFF TO VERY STIFF, MOIST, RED BROWN

SILTY CLAY (A-7-5) AND

FINE TO COARSE SANDY, CLAYEY

SILT (A-5), WITH TRACE MICA

MEDIUM DENSE TO DENSE, MOIST, TAN-BROWN-WHITE,

SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA

-WEATHERED ROCK-
MICA SCHIST

BT
DRY
06/17

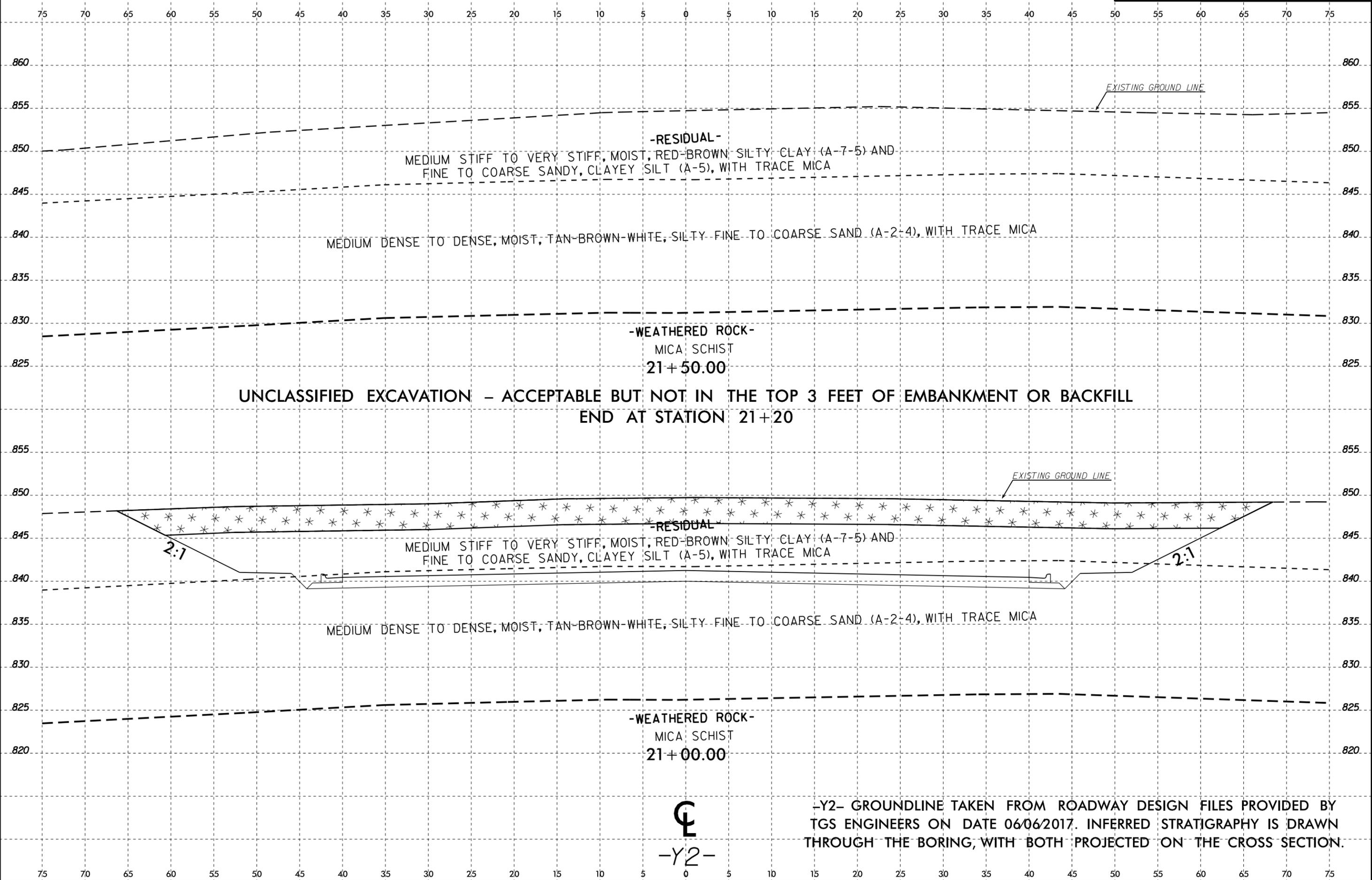
20+50.00

UNCLASSIFIED EXCAVATION - ACCEPTABLE BUT NOT IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL
BEGIN AT STATION 20+25

-Y2- GROUNDLINE TAKEN FROM ROADWAY DESIGN FILES PROVIDED BY
TGS ENGINEERS ON DATE 06/06/2017. INFERRED STRATIGRAPHY IS DRAWN
THROUGH THE BORING, WITH BOTH PROJECTED ON THE CROSS SECTION.

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-Y2-

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
APPENDIX A
LABORATORY TEST RESULTS

REFERENCE: U-6055

PROJECT: N/A

Prepared in the Office of:



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ASHEVILLE, NC 28803
(828) 665-2377 (PHONE)
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ENGINEERING
FIRM # F-1078

SOIL TEST RESULTS

BORING NO.	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10	40	200		
Y1 B-6	SS-5	CL	21+00 -Y1-	0.5 - 2.0'	A-7-5(8)	53	15	28.6	18.6	16.9	35.9	100.0	79.0	58.0	29.8	-
Y2 B-6	SS-8	CL	20+50 -Y2-	0.5 - 2.0'	A-7-5(28)	72	31	11.7	13.6	9.6	65.1	99.0	93.0	76.0	37.5	-

LAB TECHNICIAN: AMANDA ROTH

NCDOT CERTIFICATION NO. 112-09-1003

SIGNATURE: _____