

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	6

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

STRUCTURE
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 36052.58 F.A. PROJ. _____
COUNTY SWAIN
PROJECT DESCRIPTION RETAINING WALL ALONG US 19A
APPROX. 0.5 MILES WEST OF WHITTIER

SITE DESCRIPTION _____

CONTENTS

SHEET	DESCRIPTION
1	TITLE SHEET
2	LEGEND
3	SITE PLAN
4	PROFILE
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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 RALIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

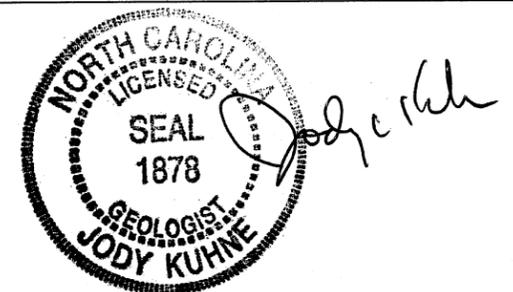
GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND 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 THIS 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.

PROJECT: ID: 36052.58

PERSONNEL
JC KUHNE
DC ELLIOTT
C COFFEY
DO CHEEK

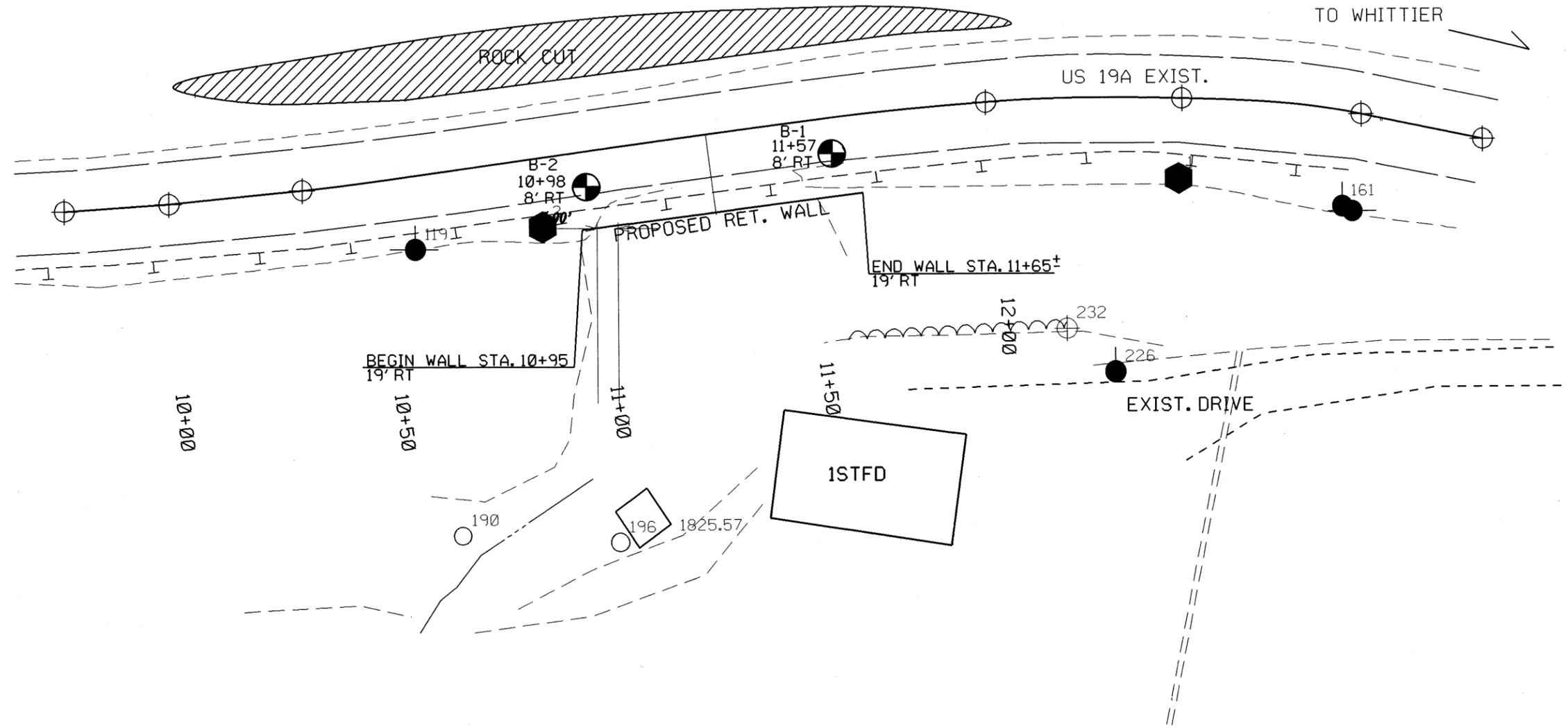
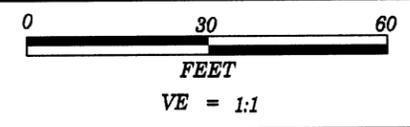
INVESTIGATED BY JC KUHNE
CHECKED BY SC CLARK
SUBMITTED BY JC KUHNE
DATE 5/22/2013

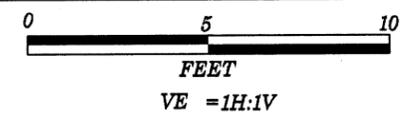


DRAWN BY: JC KUHNE JT WILLIAMS

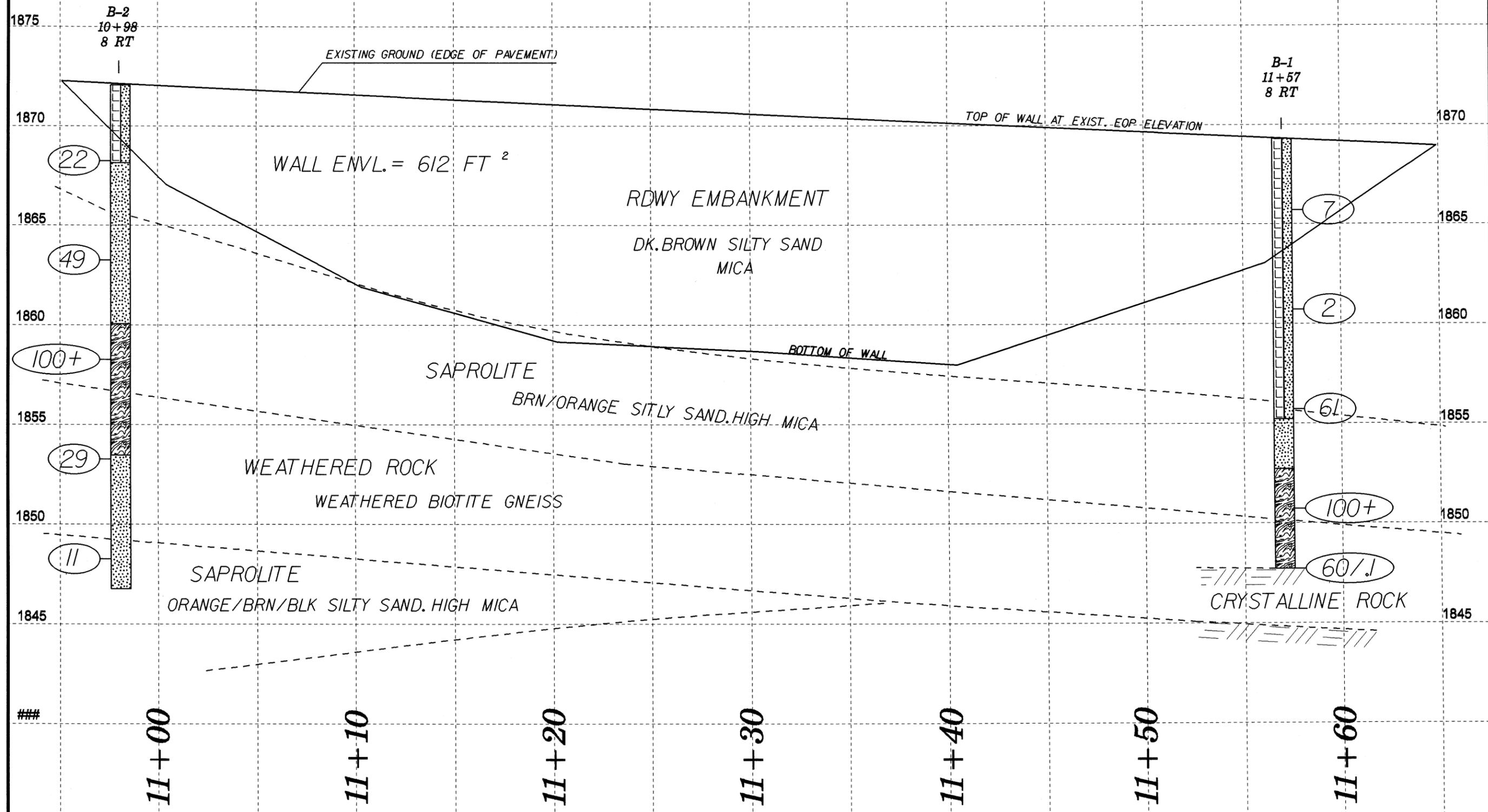
NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.





SEE CROSS SECTIONS FOR STRATA INTERPRETATION



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11+00

11+10

11+20

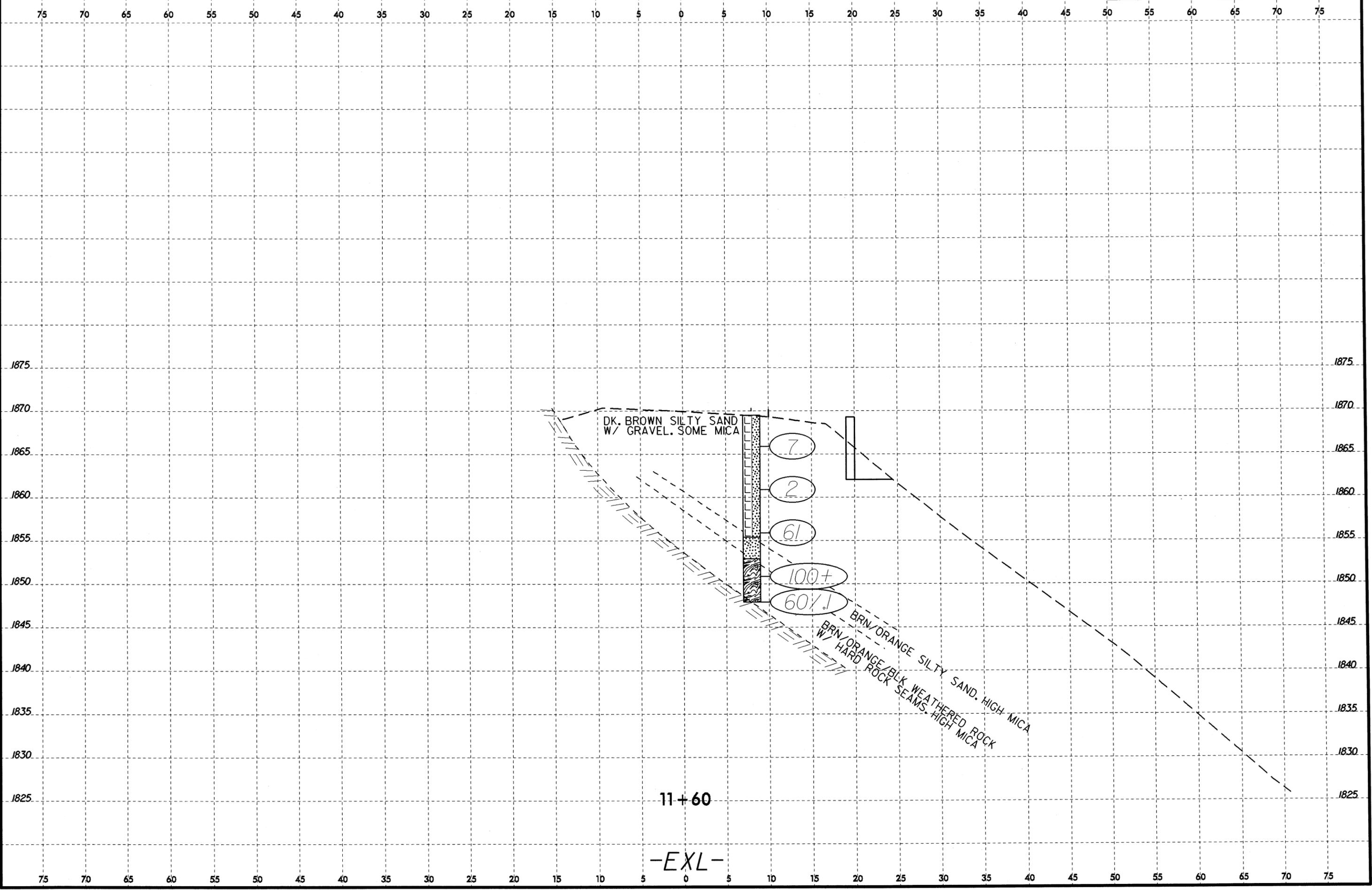
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11+40

11+50

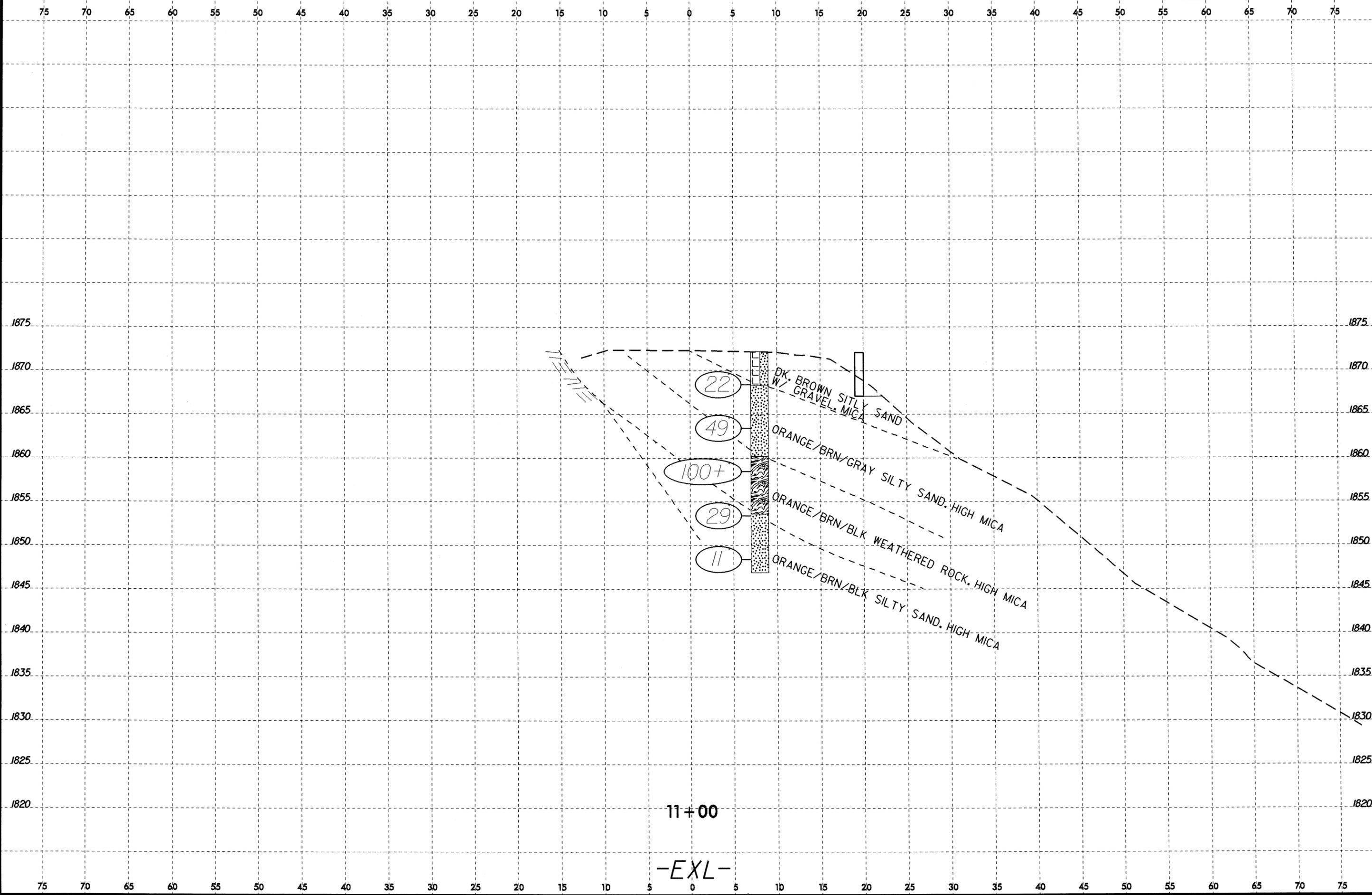
11+60

8/23/99



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B7/23/99



11+00

-EXL-

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GEOTECHNICAL ENGINEER

ENGINEER

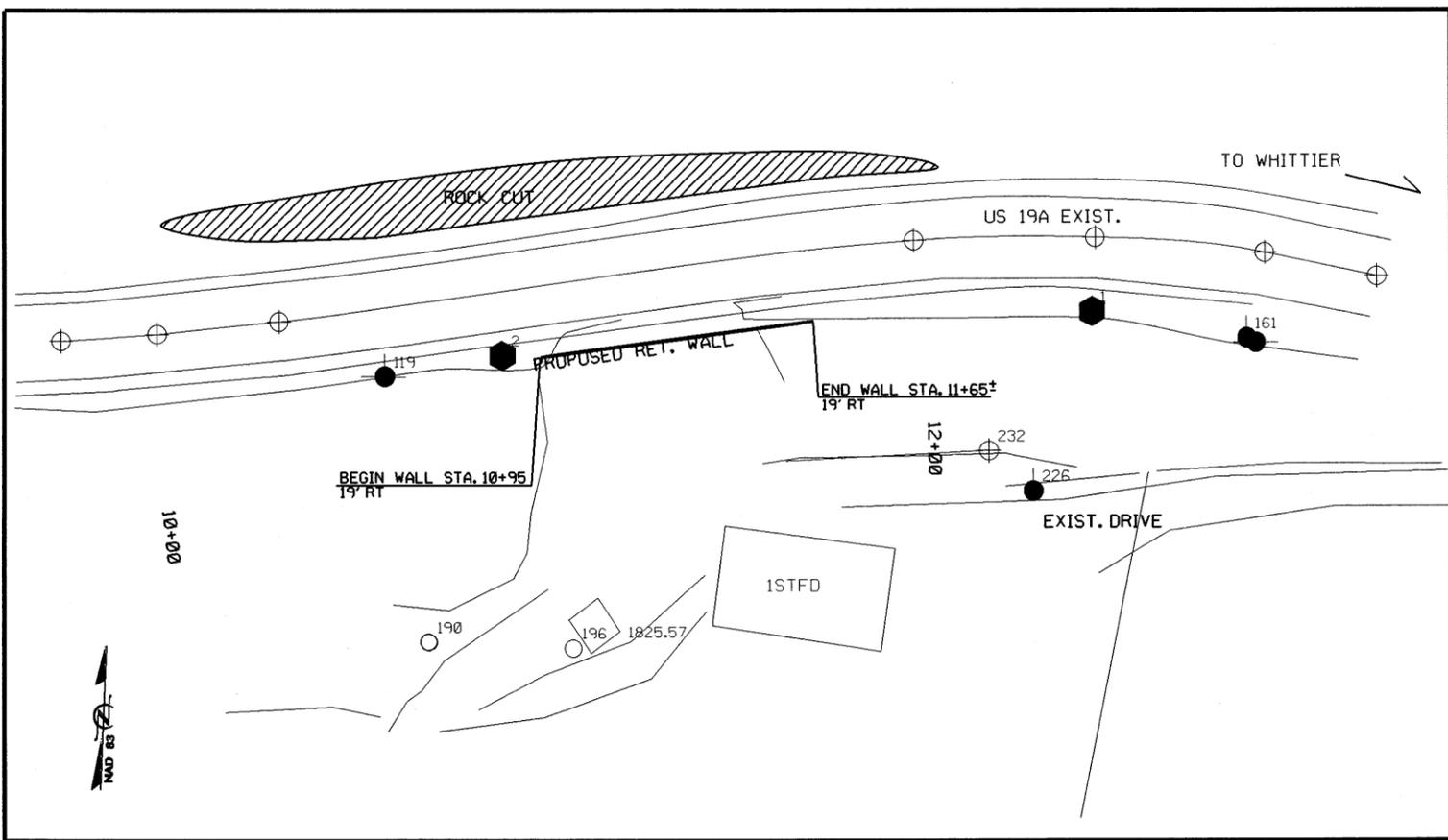
SEAL 29869

ENGINEER

WANE C. GLAUB

S.C. 5.11.13

SIGNATURE DATE SIGNATURE DATE

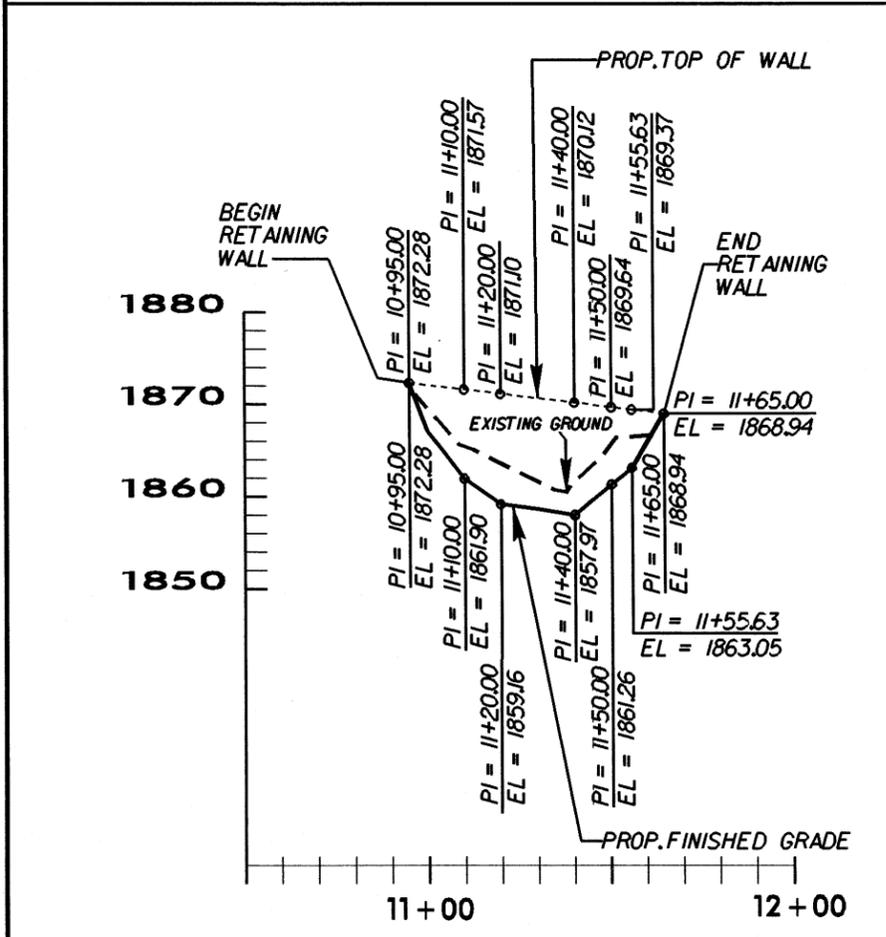


RETAINING WALL ELEVATIONS

-L- STA	OFFSET FROM C (RIGHT)	ELEV @ TOP OF WALL	* PROPOSED FINISHED GRADE	* DESIGN WALL HEIGHT "H"
10+95.00	19.00	1872.28	1872.28	0.00
11+10.00	19.00	1871.57	1861.90	9.67
11+20.00	19.00	1871.10	1859.16	11.94
11+40.00	19.00	1870.12	1857.97	12.15
11+50.00	19.00	1869.64	1861.26	8.38
11+55.63	19.00	1869.37	1863.05	6.32
11+65.00	19.00	1868.94	1868.94	0.00

* ELEVATION @ PROPOSED FINISHED GRADE AND EXPOSED WALL HEIGHT DO NOT INCLUDE EMBEDMENT DEPTH

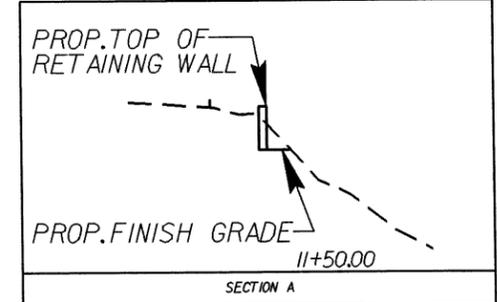
LOCATION SKETCH



ESTIMATED WALL QUANTITIES

PRECAST GRAVITY RETAINING WALL WITH GRAVEL FOOTING

612.0 SQ. FT.



PROJECT NO.: 36052.58

SWAIN COUNTY

STATION: 10+95.00 -L- TO 11+65.00 -L-

SHEET 1 OF 2

PREPARED BY: J.T.W. DATE: 5.13

REVIEWED BY: S.C.C. DATE: 5.13

GEOTECHNICAL ENGINEERING UNIT

EASTERN REGIONAL OFFICE

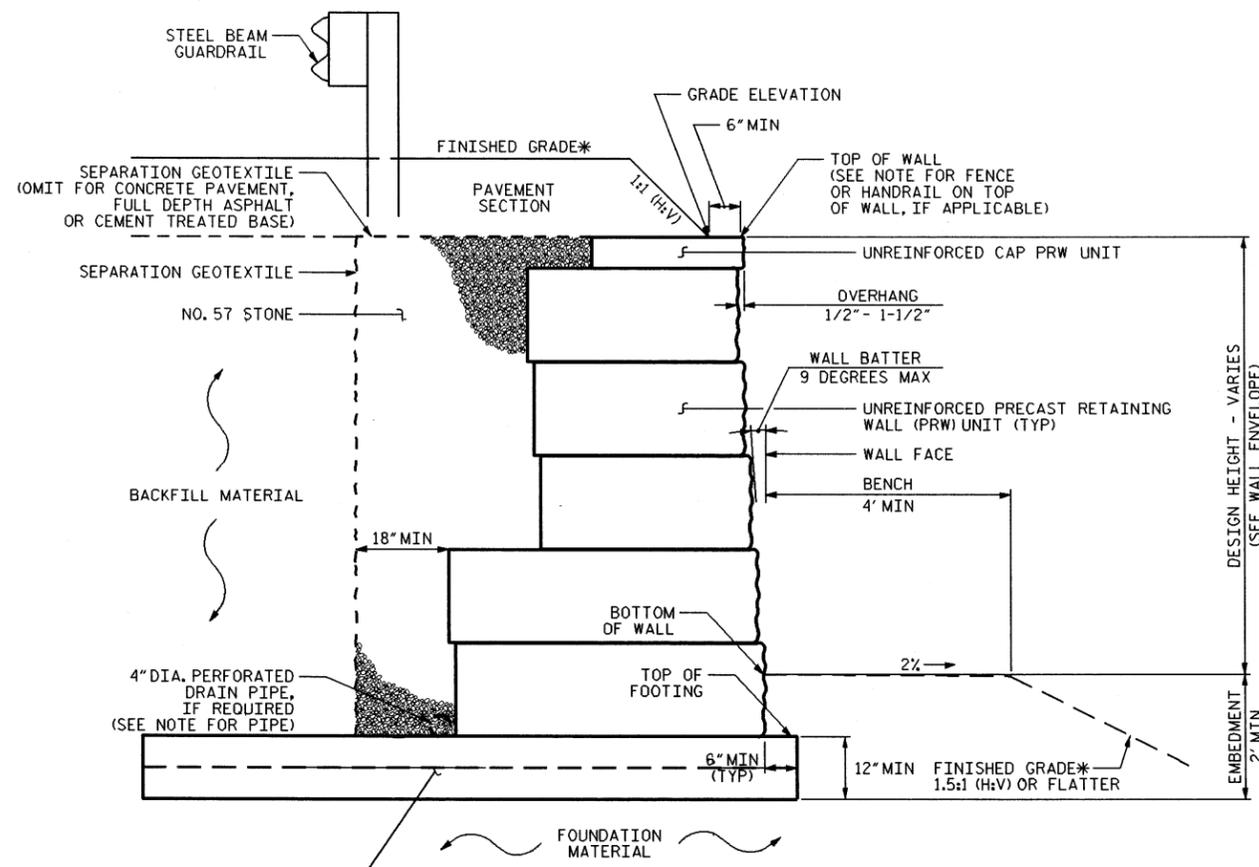
WESTERN REGIONAL OFFICE

CONTRACT OFFICE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

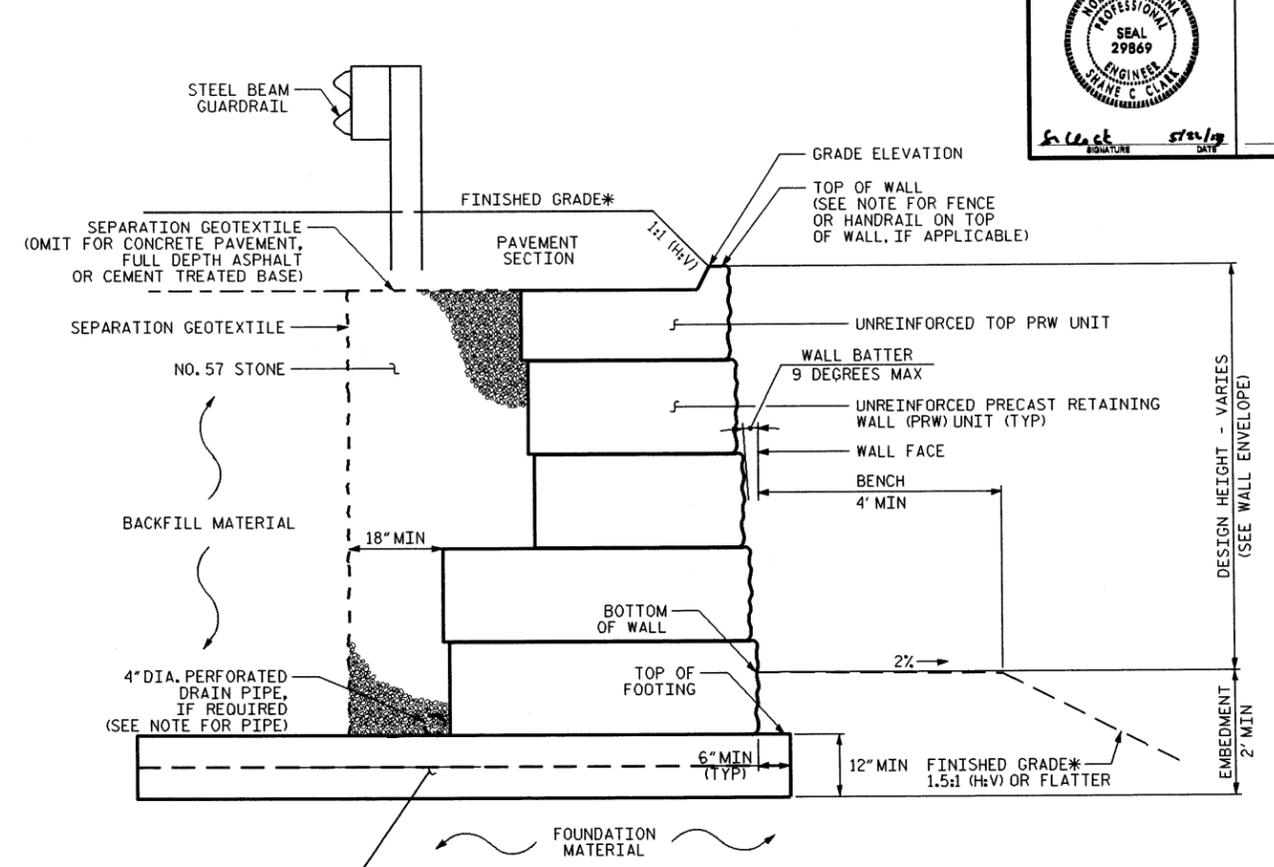
PRECAST GRAVITY RETAINING WALL WITH GRAVEL FOOTING

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS
2			4			



PRECAST GRAVITY WALL WITH CAP PRW UNIT - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



PRECAST GRAVITY WALL WITH TOP PRW UNIT - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

NOTES:

- FOR PRECAST GRAVITY RETAINING WALLS, SEE PRECAST GRAVITY RETAINING WALLS WITH GRAVEL FOOTING SPECIAL PROVISION.
- FOR GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- USE PRW UNITS WITH A COBBLESTONE FACE FOR RETAINING WALLS.
- USE PRW UNITS WITH A PLAIN GRAY COLOR FOR RETAINING WALLS.
- A SUBDRAIN PIPE IS REQUIRED FOR RETAINING WALLS.
- BEFORE BEGINNING PRECAST GRAVITY WALL DESIGN FOR RETAINING WALLS, SURVEY EXISTING GROUND ELEVATIONS SHOWN ON THE WALL PROFILE VIEW (WALL ENVELOPE) AND SUBMIT A REVISED WALL ENVELOPE FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THIS ENVELOPE IS ACCEPTED.
- DESIGN RETAINING WALLS FOR WALL HEIGHTS EQUAL TO THE DESIGN HEIGHT PLUS DEPTH TO TOP OF FOOTING (DIFFERENCE BETWEEN GRADE ELEVATION AND TOP OF FOOTING ELEVATION).
- DESIGN RETAINING WALLS FOR THE FOLLOWING:
 - 1) MINIMUM SERVICE LIFE = 75 YEARS
 - 2) ALLOWABLE BEARING CAPACITY = 2000 PSF
 - 3) MINIMUM EMBEDMENT ELEVATION = 2.0 FT
 - 4) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (gamma) PCF	FRICTION ANGLE (phi) DEGREES	COHESION (c) PSF
BACKFILL	120	32	0
FOUNDATION	120	28	0

DESIGN RETAINING WALLS FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN RETAINING WALLS FOR A PIPES EXTENDING THROUGH THE WALL AS NEEDED. VERIFY PIPE LOCATIONS AND ELEVATIONS BEFORE BEGINNING PRECAST GRAVITY WALL DESIGN OR CONSTRUCTION.

ADJUST PAVED DITCH WIDTH OR BACK SLOPE FOR VARYING GRADE SEPARATIONS ALONG TOP OF RETAINING WALL AND SUBMIT A CAST-IN-PLACE CONCRETE DITCH DETAIL FOR STEPS AT TOP OF WALL, IF REQUIRED.

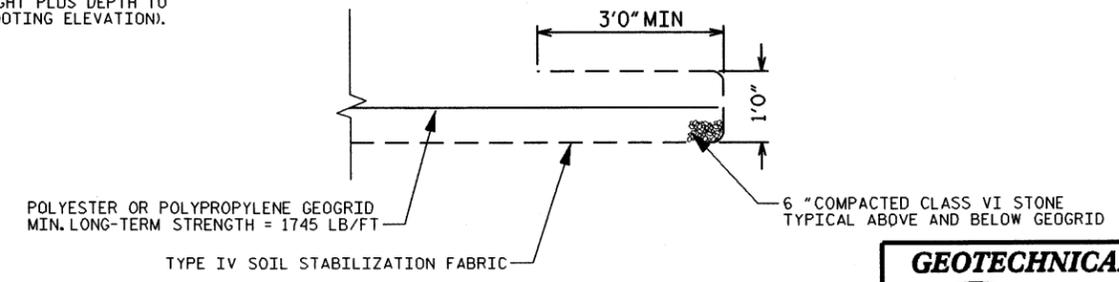
DO NOT PLACE STONE FOR LEVELING PADS FOR RETAINING WALLS UNTIL OBTAINING APPROVAL OF THE EXCAVATION DEPTH AND FOUNDATION MATERIAL.

AT THE CONTRACTOR'S OPTION, "TEMPORARY SHORING FOR WALL CONSTRUCTION" MAY BE USED TO CONSTRUCT THE RETAINING WALL. SEE PRECAST GRAVITY WALL WITH GRAVEL FOOTING SPECIAL PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.

WRAP FILL SLOPES AROUND END OF WALLS AT A 2:1 (H:V) SLOPE OR AS DIRECTED BY THE ENGINEER.

ADDITIONAL REINFORCEMENT OR BLOCK SETBACKS MAY BE REQUIRED FOR INTERNAL OR EXTERNAL STABILITY. IF REQUIRED, INCLUDE SPECIFICATIONS IN DESIGN SUBMITTALS.

ADDITIONAL #57 STONE CAN BE USED TO IMPROVE BACKFILL QUALITIES; HOWEVER, NO SEPARATE OR ADDITIONAL PAYMENT WILL BE MADE BY THE DEPARTMENT. DESIGNER IS RESPONSIBLE FOR EVALUATING INTERNAL AND GLOBAL STABILITY.



LEVELING PAD DETAILS

NTS

PROJECT NO.: 36052.58
 SWAIN COUNTY
 STATION: 10+95.00 -L- TO 11+65.00 -L-
 SHEET 2 OF 2

GEOTECHNICAL ENGINEERING UNIT
 EASTERN REGIONAL OFFICE
 WESTERN REGIONAL OFFICE
 CONTRACT OFFICE
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PRECAST GRAVITY RETAINING WALL WITH GRAVEL FOOTING DETAILS

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS
1			3			
2			4			