

NOTES:

FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

GEOTECHNICAL ENGINEER

028893

**DOCUMENT NOT CONSIDERED FINAL** 

UNLESS ALL SIGNATURES COMPLETED

Michael H. Stephens

**ENGINEER** 

A FENCE IS REQUIRED ON TOP OF RETAINING WALL NO.1. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

A SIMULATED BRICK FORM LINER FINISH IS REQUIRED FOR THE CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO.1. SUBMIT BRICK FORM LINER SAMPLES FOR APPROVAL BEFORE BEGINNING SOIL NAIL WALL CONSTRUCTION. SEE SIMULATED BRICK FORM LINER FINISH SPECIAL PROVISION.

BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO.1, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO.1 FOR THE FOLLOWING:

1) H = DESIGN HEIGHT + EMBEDMENT 2) DESIGN LIFE = 100 YEARS

3) MINIMUM EMBEDMENT ELEVATION = 1 FT

4) IN-SITU ASSUMED MATERIAL PARAMETERS FOR RESIDUAL SOIL:

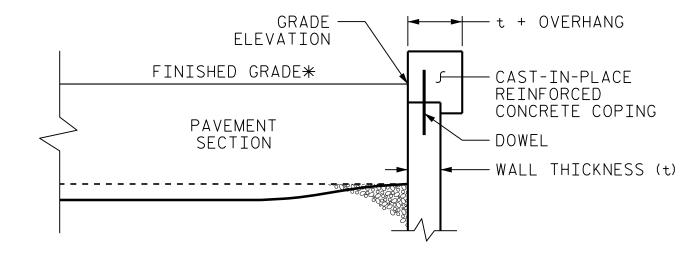
UNIT WEIGHT,  $\gamma$  = 120 LB/CF FRICTION ANGLE,  $\phi$  = 30 DEGREES

5) IN-SITU ASSUMED MATERIAL PARAMETERS FOR PARTIALLY WEATHER ROCK:

UNIT WEIGHT, γ = 135 LB/CF FRICTION ANGLE, φ = 36 DEGREES

DESIGN RETAINING WALL NO.1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 1.



## COPING DETAILS

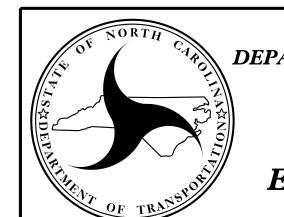
\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PROJECT NO.: 39010.1.R2 (U-3440)

CABARRUS COUNTY

STATION: 132+00 -L- TO 136+25 -L-

SHEET 2 OF 9



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

## RETAINING WALL NO. 1 SOIL NAIL WALL

 REVISIONS

 D.
 BY
 DATE
 NO.
 BY
 DATE
 NO.

 1
 3
 W2
 W2

PREPARED BY: MHS

DATE: 7/25/2016

REVIEWED BY: SCC

DATE: 7/25/2016