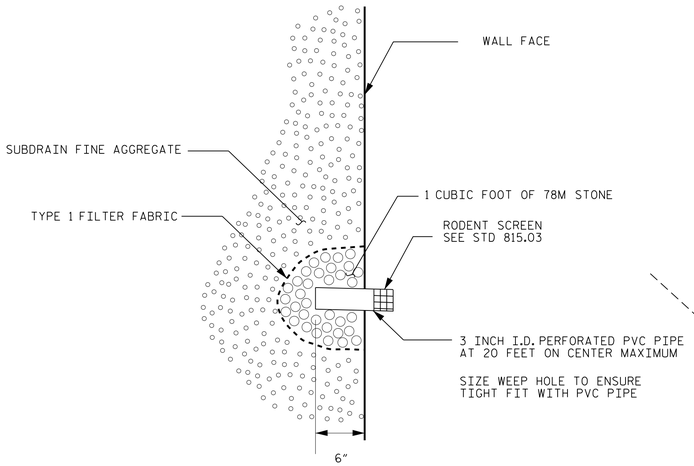
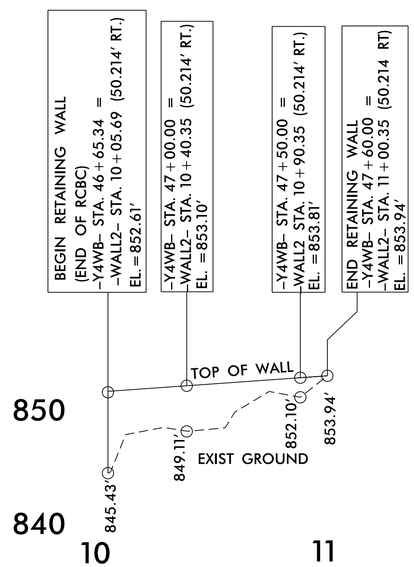
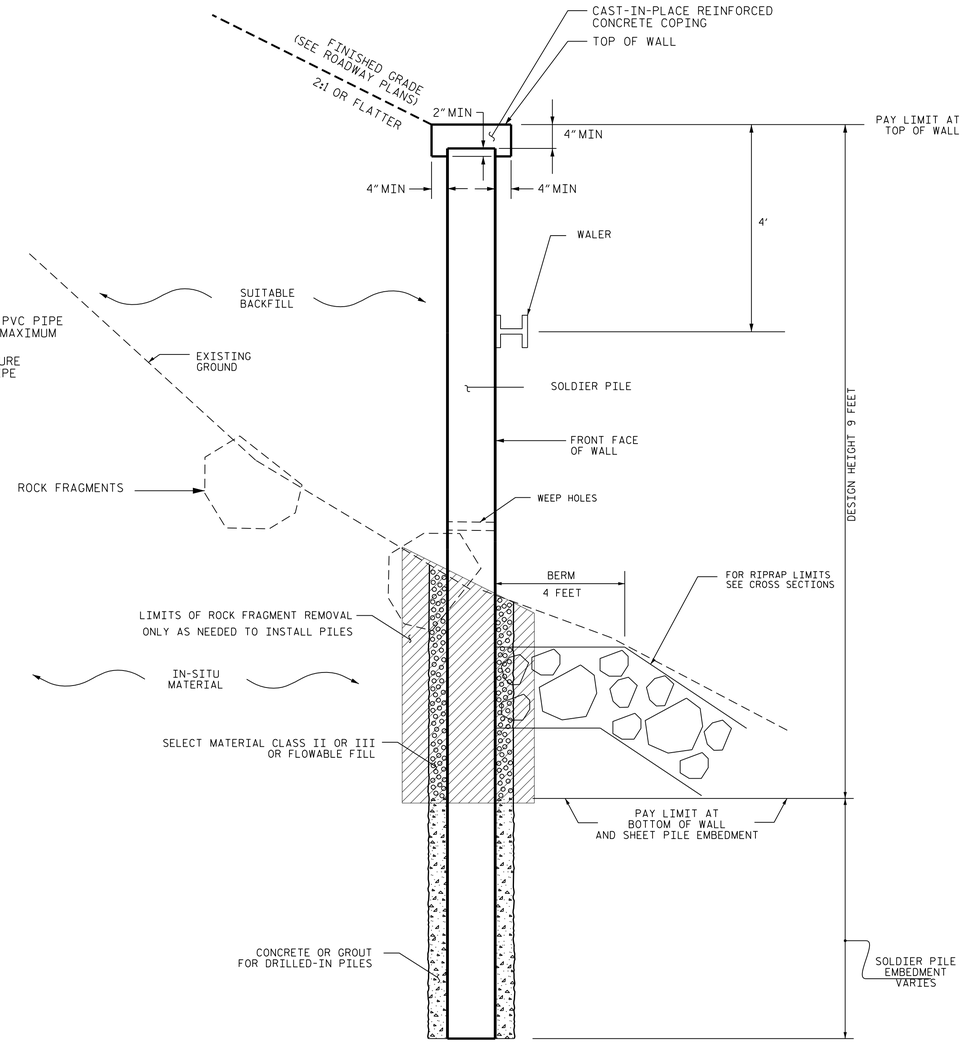
GEOTECHNICAL ENGINEER	ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 028669 ENGINEER RICHARD SCOTT WEBB — DocuSigned by: RICHARD SCOTT WEBB 8/5/2014 — SIGNATURE DATE	SIGNATURE DATE

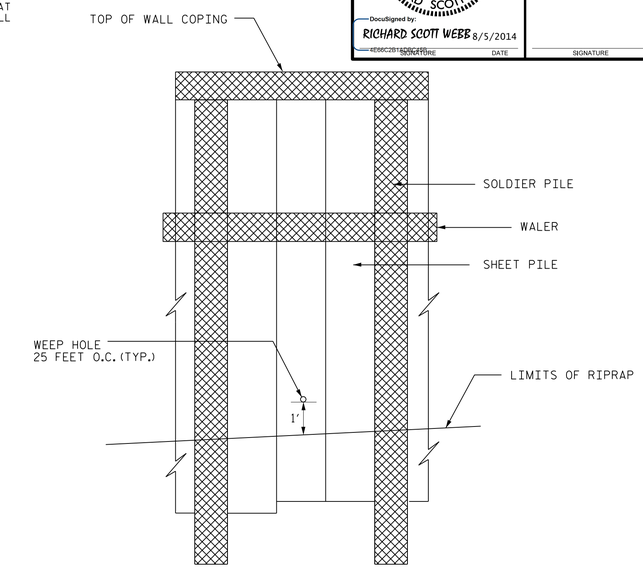


WEEP HOLE DETAIL





SOLDIER PILE WALL - TYPICAL SECTION FOR WALL 2



ELEVATION VIEW

NOTES:

FOR SOLDIER PILE WITH SHEET PILE WALLS, SEE SOLDIER PILE WITH SHEET PILE WALLS PROVISION.

BEFORE BEGINNING SOLDIER PILE WITH SHEET PILE WALL DESIGN FOR RETAINING WALL NO. 2, 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.

DRILLED-IN PILES ARE REQUIRED FOR RETAINING WALL NO. 2.

DESIGN RETAINING WALL NO. 2 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT
2) DESIGN LIFE = 100 YEARS
3) IN-SITU AND BACKFILL ASSUMED MATERIAL PARAMETERS:
UNIT WEIGHT, γ = 120 LB/CF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 0 LB/SF

THE SHEETPILE EMBEDMENT ELEVATION FOR RETAINING WALL NO. 2 INCLUDES EMBEDMENT FOR SCOUR.

DESIGN RETAINING WALL NO. 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

NOTE THAT ROCK FRAGMENTS ARE PRESENT WITHIN THE ROADWAY EMBANKMENT AT THE WALL LOCATION.

DESIGN FOR RAPID DRAWDOWN WITH THE WATER ELEVATION INSIDE THE WALL AT THE WEEP HOLE ELEVATION AND THE WATER SURFACE OUTSIDE THE WALL AT THE NORMAL WATER SURFACE ELEVATION.

FOR SUBSURFACE DRAINAGE AT WEEP HOLES FOR WALL 2 SEE ARTICLE 414-8.

FOR CULVERT WINGWALL SEE STRUCTURE PLANS.

DESIGN THE CONNECTION OF THE WALER TO SOLDIER PILES TO PREVENT EXCESSIVE MOVEMENT IN THE SHEET PILES.

GALVANIZE SHEET PILES, SOLDIER PILES AND WALERS ACCORDING TO SECTION 1076 OF THE STANDARD SPECIFICATIONS.

NORMAL WATER ELEVATION

RETAINING WALL NO.	STATION	ELEVATION
2	46+60	846.3
2	47+60	843.4

ESTIMATED WALL QUANTITIES

RETAINING WALL NO.	SOLDIER PILE WITH SHEET PILE WALLS (SQUARE FEET)
2	850

SEQUENCE OF CONSTRUCTION

THE CONSTRUCTION SEQUENCE OF THE ANCHORED SOLDIER PILE COMBINATION WALL SHALL BE AS FOLLOWS, UNLESS DIRECTED BY THE ENGINEER.

1. REMOVE THE ROCK FRAGMENTS AND REPLACE WITH SUITABLE SOIL WITHIN PROPER COMPACTION AS NEEDED TO INSTALL THE SOLDIER PILES AND THE SHEET PILES.
2. INSTALL SOLDIER PILES.
3. INSTALL SHEET PILES AND WALER.
4. BACKFILL TO GRADE AND COMPACT.
5. INSTALL COPING OR MOMENT SLAB.

PROJECT NO.: U-2579B

FORSYTH ***COUNTY***

STATION: Y4WB 46+50± to 47+60±

SHEET 1 OF 1

GEOTECHNICAL ENGINEERING UNIT

☐ *EASTERN REGIONAL OFFICE*
☐ *WESTERN REGIONAL OFFICE*
☒ *CONTRACT OFFICE*

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SOLDIER PILE WITH SHEET PILES RETAINING WALL FOR WALL 2

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-5
1			3			TOTAL SHEETS
2			4			

PREPARED BY: RSW	DATE: 5-28-14
REVIEWED BY:	DATE: