

**NOTES:**

- FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO.1.
- USE A SOLDIER PILE RETAINING WALL WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1.
- PAINT GALVANIZED H-PILES GRAY IN ACCORDANCE WITH ARTICLE 442-12 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1.
- BEFORE BEGINNING SOLDIER PILE 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 + WALL EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MINIMUM WALL EMBEDMENT = 1.0 FT
  - 4) MINIMUM PILE PENETRATION INTO ROCK = 5 FT
  - 5) IN-SITU ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 278± FT:
    - UNIT WEIGHT,  $\gamma = 115$  LB/CF
    - FRICTION ANGLE,  $f = 28$  DEGREES
    - COHESION,  $c = 0$  LB/SF
  - 6) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 278± FT:
    - UNIT WEIGHT,  $\gamma = 120$  LB/CF
    - FRICTION ANGLE,  $f = 30$  DEGREES
    - COHESION,  $c = 0$  LB/SF
  - 7) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 269± FT:
    - ROCK MASS SHEAR STRENGTH,  $S_m = 3,000$  LB/SF
- DESIGN RETAINING WALL NO.1 FOR A PIPE EXTENDING UNDER OR THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING SOLDIER PILE WALL DESIGN OR CONSTRUCTION.

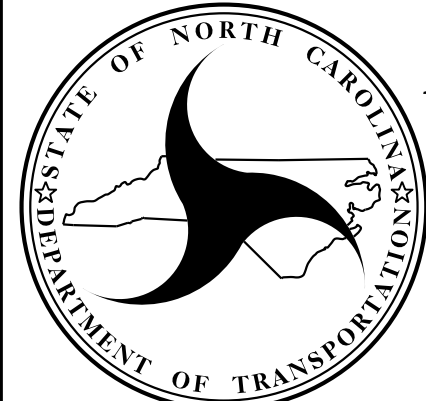
**SOLDIER PILE WALL WITH PRECAST PANEL - TYPICAL SECTION**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS AND PILES.  
 \*SEE CONCRETE DITCH BEHIND WALL DETAILS.  
 \*\*SEE PLANS FOR FINISHED GRADE.

FROM -WALL1- STA.10+00.00 TO -WALL1- STA.13+13.84

PROJECT NO.: B-5121 / B-5317  
 WAKE COUNTY  
 STATION: SEE WALL NO. 1  
 SHEET 4 OF 9

PREPARED BY: J. PARK      DATE: 03 / 2016  
 REVIEWED BY: J. BATTS      DATE: 03 / 2016



**NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS**

**GEOTECHNICAL  
 ENGINEERING UNIT**

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