PROJECT REFERENCE NO.	SHEET NO.
47845.1.1 (B-5989)	W-2

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

DocuSigned by: 10/19/2022
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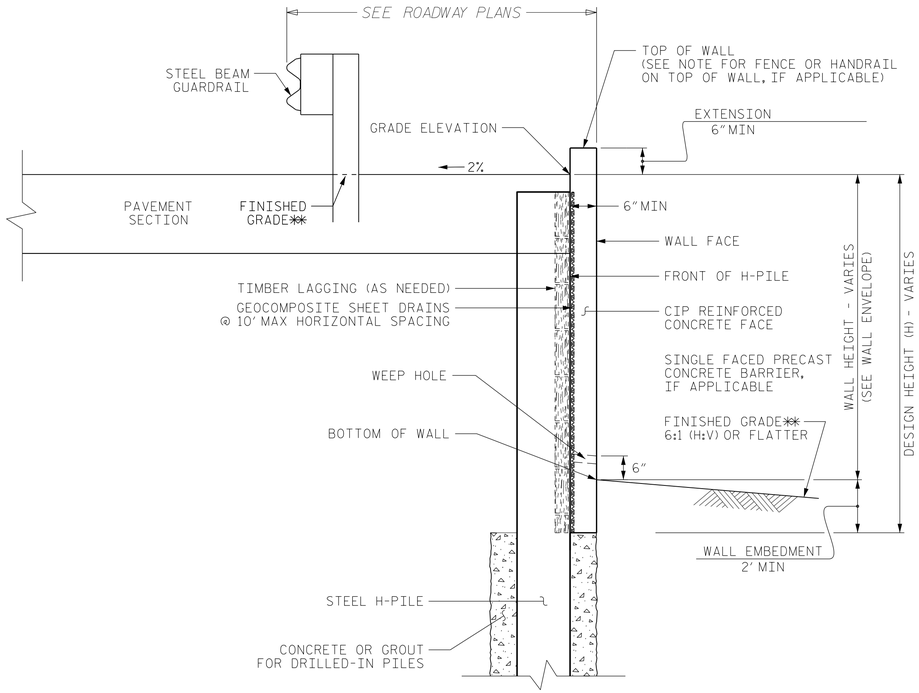
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



CANTILEVERED SOLDIER PILE WALL WITH CIP FACE - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

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.

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 = 75 YEARS
3) MINIMUM WALL EMBEDMENT DEPTH = 2 FT
4) MINIMUM PILE PENETRATION INTO ROCK = 5 FT
5) IN-SITU ASSUMED MATERIAL PARAMETERS FOR OVERBURDEN SOILS:
   UNIT WEIGHT, g = 120 PCF
   FRICTION ANGLE, f = 29 DEGREES
   COHESION, c = 0 PSF
6) IN-SITU ASSUMED MATERIAL PARAMETERS FOR WEATHERED ROCK:
   UNIT WEIGHT, g = 135 PCF
   FRICTION ANGLE, f = 36 DEGREES
   COHESION, c = 500 PSF
7) IN-SITU ASSUMED MATERIAL PARAMETERS FOR ROCK:
   UNIT WEIGHT, g = 155 PCF
   UNCONFINED COMPRESSVIE STRENGTH, Uc = 1,500 PSI

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

CONSTRUCT 3 INCH DIAMETER WEEP HOLES ON 10 FOOT CENTERS ALONG THE SOLDIER PILE WALL. EXIT WEEP HOLES JUST ABOVE FINISHED GRADE AND SLOPE HOLES AT 1 IN/FT THROUGH THE CIP FACING.

DESIGN/DETAIL SLIP JOINT BETWEEN RETAINING WALL NO. 1 AND WING WALL. REFER TO WING WALL PLANS FOR FACING AND DRILLED PIER LAYOUT.

PREPARED BY: MHS	DATE: 10/19/22
REVIEWED BY: SCC	DATE: 10/19/22

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 1 SOLDIER PILE RETAINING WALL

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		