
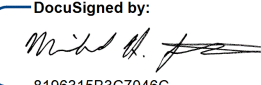
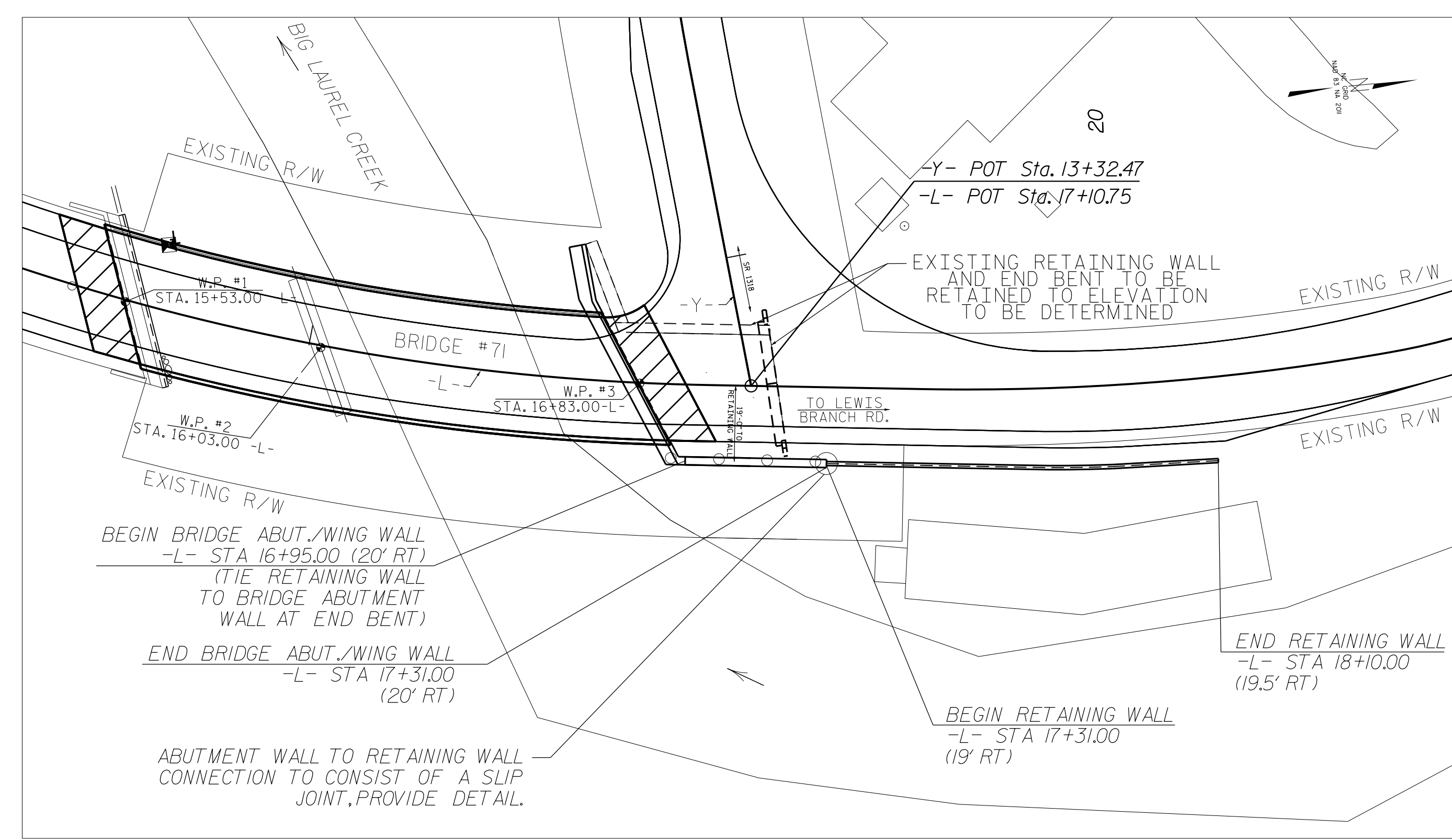
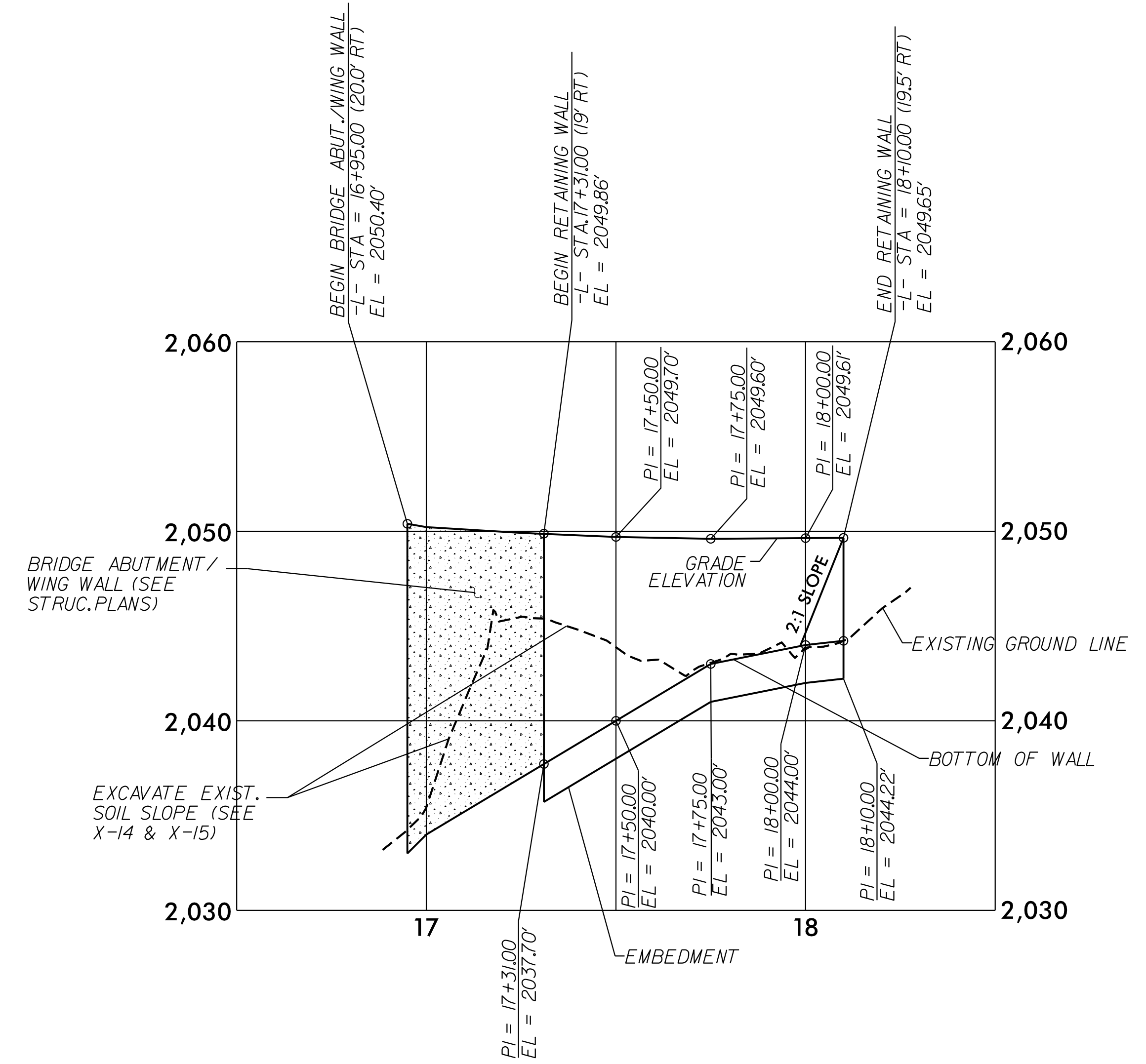


PROJECT REFERENCE NO. 47845.1.1 (B-5989)		SHEET NO. W-1	
GEOTECHNICAL ENGINEER  SEAL 028893 MICHAEL H. STEPHENS		ENGINEER	
DocuSigned by:  10/19/2022		DATE: 10/19/2022 SIGNATURE: _____ DATE: _____	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



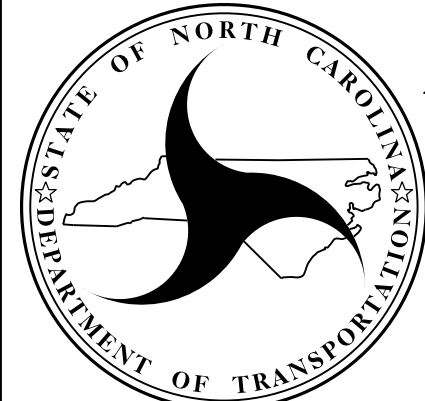
RETAINING WALL PLAN VIEW



RETAINING WALL ENVELOPE VIEW

ESTIMATED QUANTITIES	
SOLDIER PILE RETAINING WALL NO. 1	780 (SF)

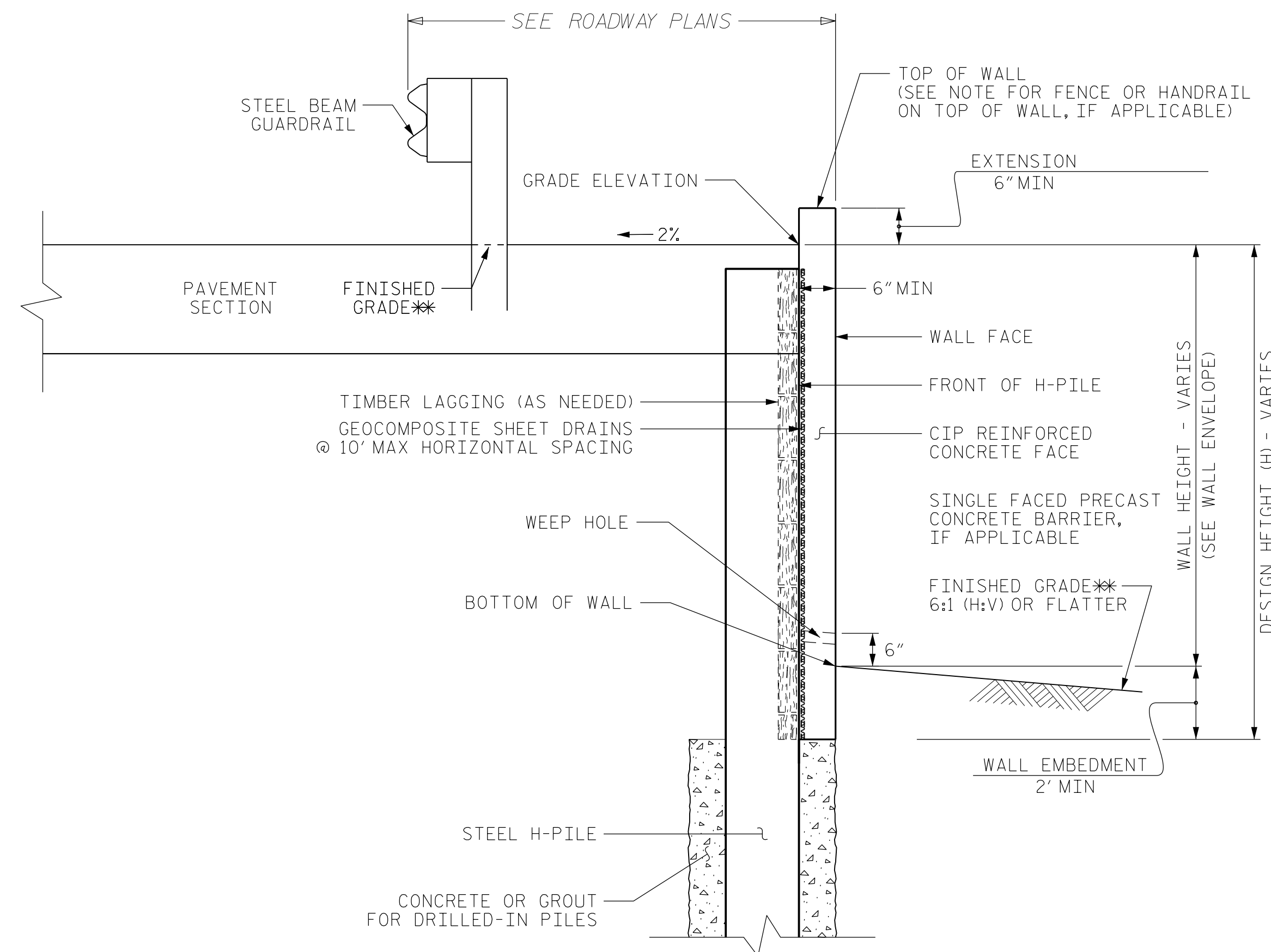
PREPARED BY: MHS	DATE: 10/19/22
REVIEWED BY: SCC	DATE: 10/19/22



**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		



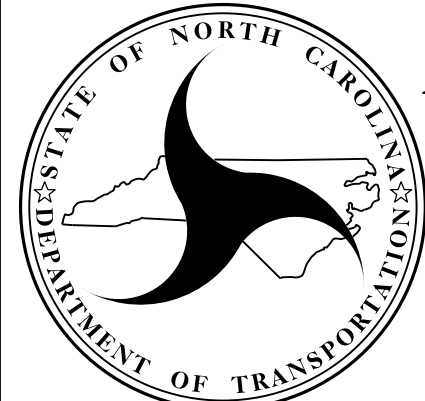
**CANTILEVERED
SOLDIER PILE WALL WITH
CIP FACE - TYPICAL SECTION**

*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, $\gamma = 120$ PCF
 - FRICTION ANGLE, $\phi = 29$ DEGREES
 - COHESION, $c = 0$ PSF
 - 6) IN-SITU ASSUMED MATERIAL PARAMETERS FOR WEATHERED ROCK:
 - UNIT WEIGHT, $\gamma = 135$ PCF
 - FRICTION ANGLE, $\phi = 36$ DEGREES
 - COHESION, $c = 500$ PSF
 - 7) IN-SITU ASSUMED MATERIAL PARAMETERS FOR ROCK:
 - UNIT WEIGHT, $\gamma = 155$ PCF
 - UNCONFINED COMPRESSIVE STRENGTH, $U_c = 1,500$ 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



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**GEOTECHNICAL
ENGINEERING UNIT**

RETAINING WALL NO. 1 SOLDIER PILE RETAINING WALL					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		