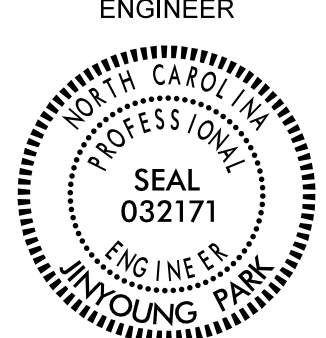


GEOTECHNICAL ENGINEER

ENGINEER



DocuSigned by:  
*J. Park*  
8/2/2019

DATE SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**NOTES:**

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR HANDRAILS BEHIND THE TOP OF WALL NO.1, SEE ROADWAY PLANS FOR HANDRAIL DETAILS.

FOR STEEL BEAM GUARDRAIL ON TOP OF WALL NO.2, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1 AND NO.2.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO.1 AND NO.2.

CIP REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NO.1 AND NO.2.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO.1 AND NO.2 WHEN COARSE AGGREGATE IS USED IN THE REINFORCED ZONE OF RETAINING WALL NO.1 AND NO.2.

A DRAIN IS NOT REQUIRED FOR RETAINING WALL NO.1 AND NO.2.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO.1 AND 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.

- DESIGN RETAINING WALL NO.1 AND NO.2 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 2,600 PSF (WALL NO.1), 2,150 PSF (WALL NO.2)
  - 4) MINIMUM REINFORCEMENT LENGTH (L) = 6 FT MIN. OR 0.85H (WALL NO.1), 6 FT (WALL NO.2)
  - 5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT ( $\gamma$ ) LB/CF	FRICTION ANGLE ( $\phi$ ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0

\* SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.

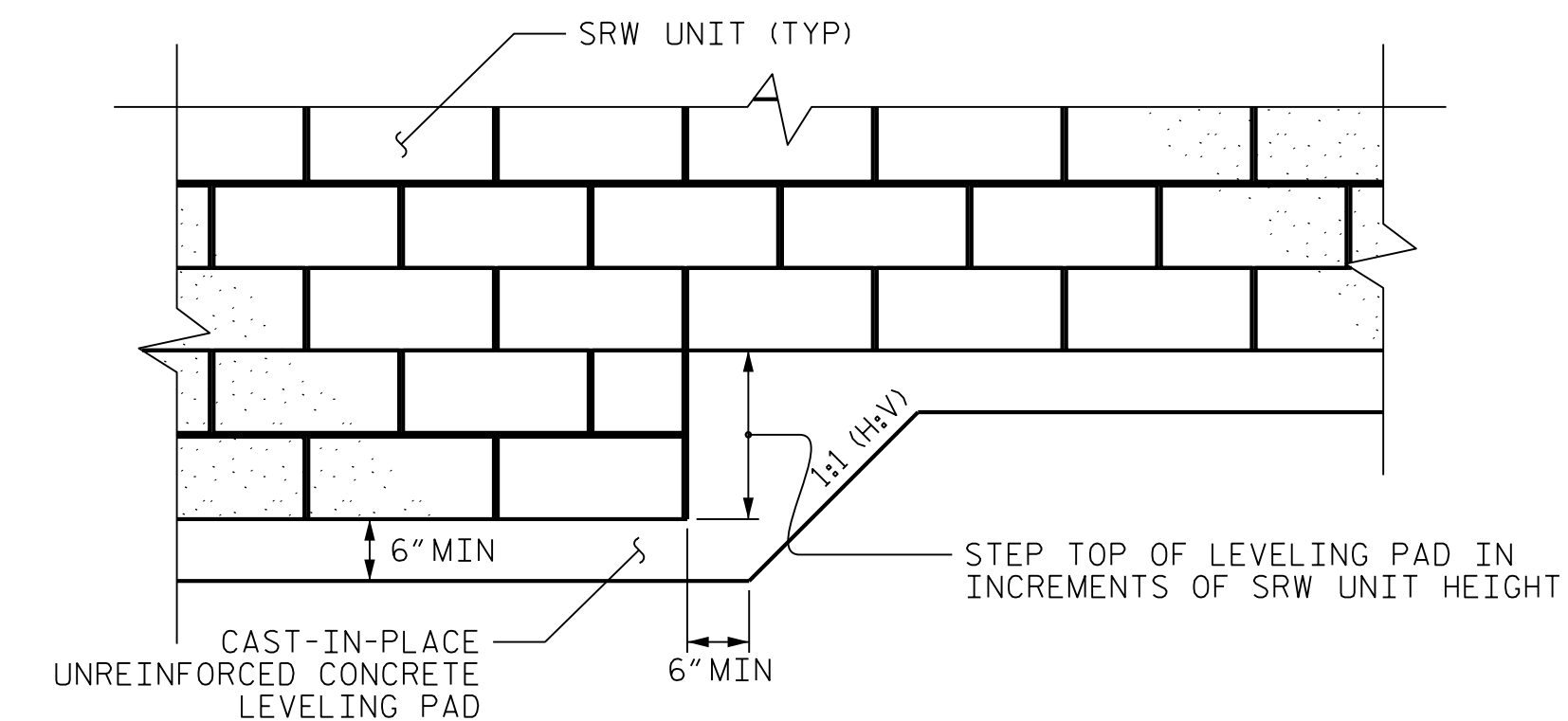
6) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT ( $\gamma$ ) LB/CF	FRICTION ANGLE ( $\phi$ ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

DESIGN RETAINING WALL NO.1 AND NO.2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

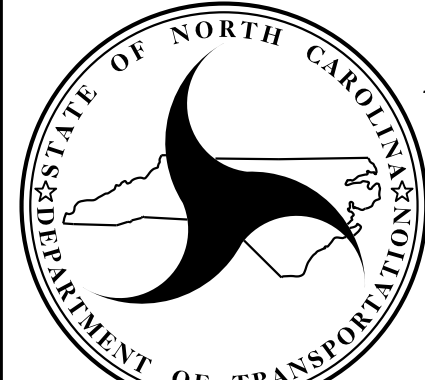
EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1 AND NO.2.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO.1 AND NO.2 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



LEVELING PAD STEP DETAILS FOR  
SEGMENTAL RETAINING WALL (SRW) UNITS

PROJECT NO.: 41499.1.3 (R-5020B)  
COLUMBUS COUNTY  
STATION: -L- 247+50.00 / -L- 251+50.00  
SHEET 3 OF 3



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

**GEOTECHNICAL  
ENGINEERING UNIT**

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

PREPARED BY: J. PARK	DATE: 08 / 2019
REVIEWED BY: J. BATTS	DATE: 08 / 2019