

GEOTECHNICAL  
ENGINEER

NORTH CAROLINA  
PROFESSIONAL  
SEAL  
043535  
ENGINEER  
CHRISTOPHER B. JONES

DocuSign Envelope for  
Christopher B. Jones  
8/1/2016

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ENGINEER

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DATE

NOTES:

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

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1.

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

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BASE OF THE REINFORCED ZONE FOR RETAINING WALL NO.1.

CONSTRUCT WALL AT -Y2- END BENT 2 BEFORE INSTALLING FOUNDATIONS FOR END BENT NO.2 LOCATED AT STATION 51+60.08

A DRAIN IS REQUIRED FOR RETAINING WALL NO.1.

BEFORE BEGINNING MSE 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 + EMBEDMENT

2) DESIGN LIFE = 100 YEARS

3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 1,450 LB/SF

6) 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.			

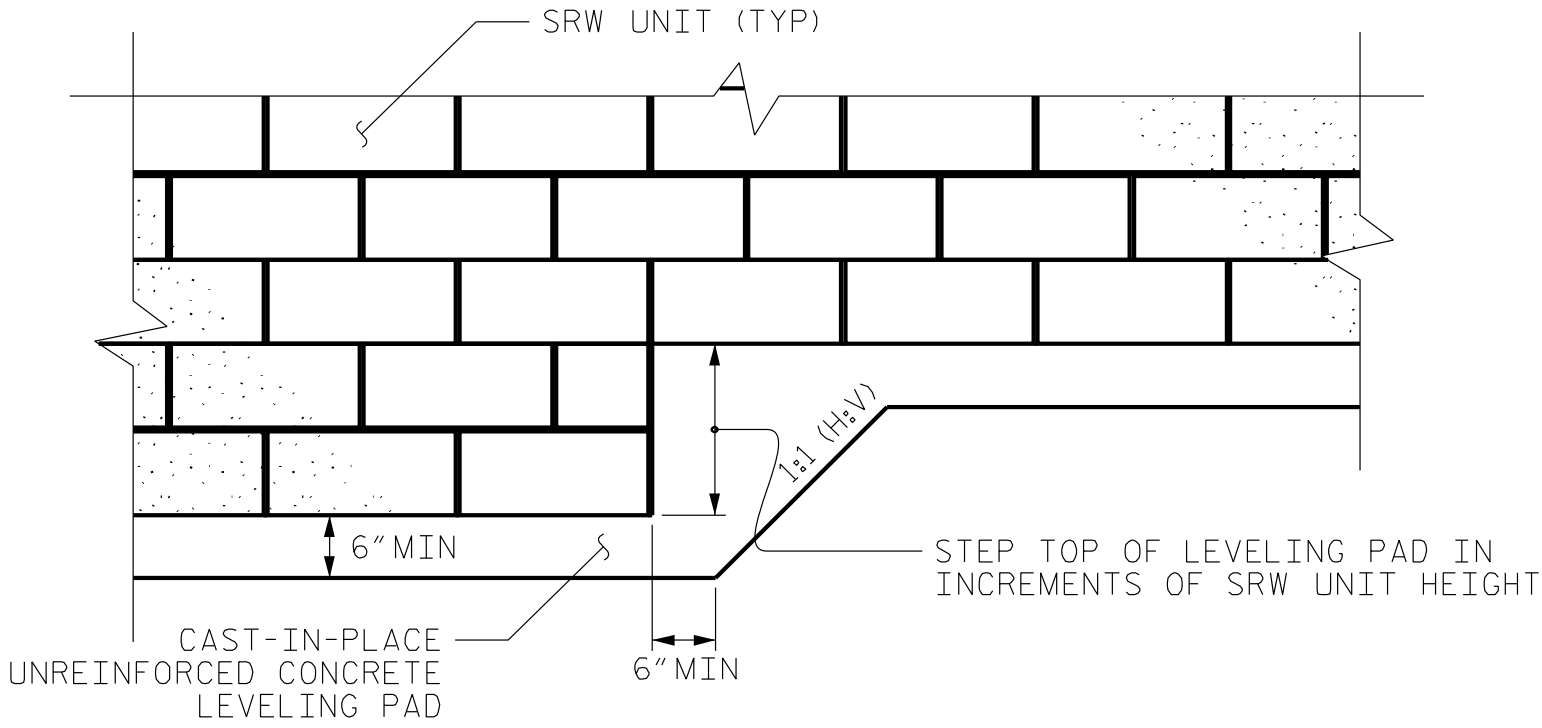
7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT ( $\gamma$ ) LB/CF	FRICTION ANGLE ( $\phi$ ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	29	0

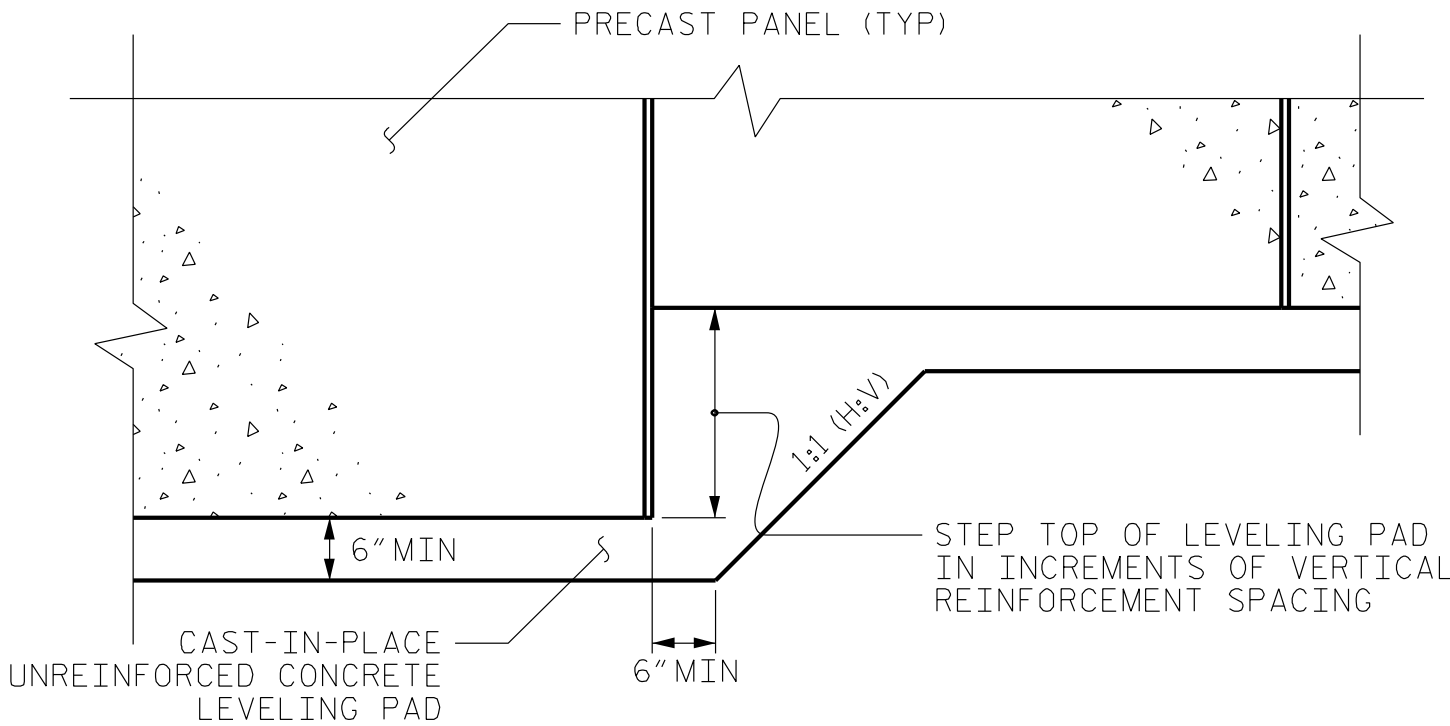
EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1.

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

CONSTRUCT COPING AFTER COMPLETION OF END BENT 2 EMBANKMENT WAITING PERIOD.



SEGMENTAL RETAINING WALL (SRW) UNITS



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.: R-5311A  
HERTFORD COUNTY  
STATION: 50+99.00 -Y2- = 16+90.62 -L2-  
SHEET 2 OF 4

PREPARED BY: CBJ	DATE: 8/2016
REVIEWED BY: ECH	DATE: 8/2016

GEOTECHNICAL ENGINEERING UNIT

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

☒ EASTERN REGIONAL OFFICE

☐ WESTERN REGIONAL OFFICE

☐ CONTRACT OFFICE

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

RETAINING WALL NO. 1  
NOTES & DETAIL

REVISIONS

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

SHEET NO.  
W-2  
TOTAL SHEETS  
4