GEOTECHNICAL ENGINEER

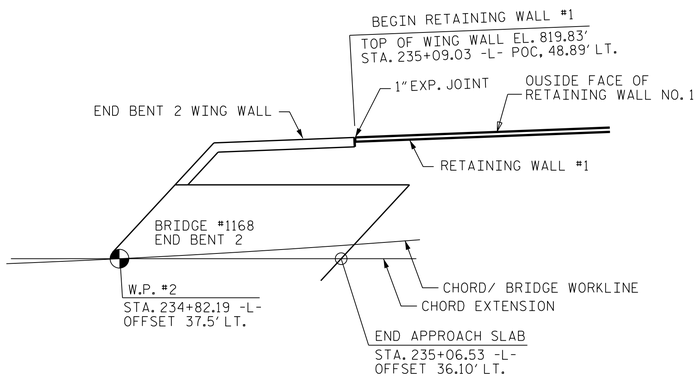
NORTH CAROLINA PROFESSIONAL SEAL 30943 ENGINEER THEIN TUN ZAN

DocuSigned by: Thein Tun Zan 1/3/2014

SIGNATURE DATE

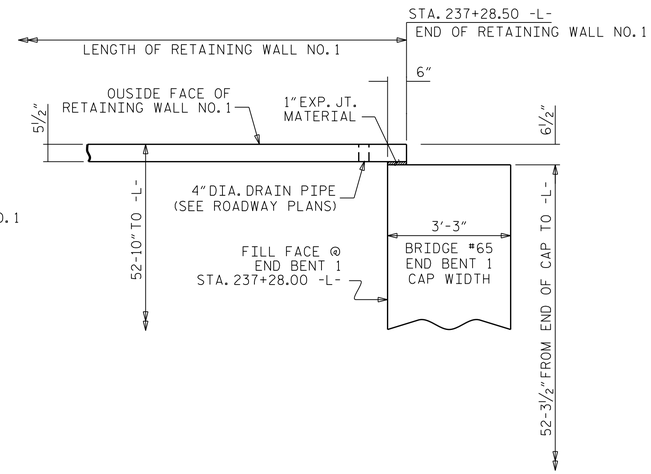
ENGINEER

SIGNATURE DATE



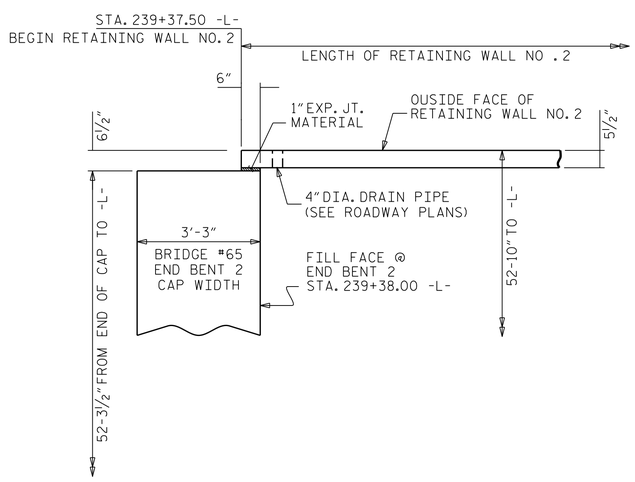
MSE RETAINING WALL NO. 1 ATTACHMENT AT WING WALL OF END BENT NO. 2 BRIDGE #1168

N.T.S.



MSE RETAINING WALL NO. 1 ATTACHMENT AT CAP OF END BENT NO. 1 BRIDGE #65

N.T.S.



MSE RETAINING WALL NO. 2 ATTACHMENT AT CAP OF END BENT NO. 2 BRIDGE #65

N.T.S.

NOTES:

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

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

USE AN MSE WALL SYSTEM WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1 AND RETAINING WALL NO. 2.

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 1 AND RETAINING WALL NO. 2.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 1 AND RETAINING WALL NO. 2, SURVEY WALL LOCATIONS 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 RETAINING WALL NO. 2 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 2,850 LB/SF

4) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	125	34	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

5) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

DESIGN RETAINING WALL NO. 1 AND RETAINING WALL 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 RETAINING WALL NO. 2.

FOUNDATIONS FOR BRIDGE NO. 1168 END BENT NO. 2 LOCATED AT STA. 234+82.19 -L- & BRIDGE NO. 65 END BENT NO. 1 AT STA. 237+28.00 -L- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

FOUNDATIONS FOR BRIDGE NO. 65 END BENT NO. 2 LOCATED AT STA. 239+38.00 -L- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

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

SPECIAL NOTES:

INSTALLING A 4" DIA. DRAIN PIPE FOR THE REINFORCED BRIDGE APPROACH FILL DETAIL THROUGH THE MSE WALL PANELS IS REQUIRED AT WALL NO. 1 AND WALL NO. 2. FOR THE LOCATION OF THE 4" DIA. DRAIN PIPE NEAR END BENTS OF BRIDGE NO. 65, SEE ROADWAY PLANS.

1" MIN. EXPANSION JOINTS ARE REQUIRED AS SHOWN IN PLANS AT BOTH BEGINNING AND END OF RETAINING WALL NO. 1 AND AT THE BEGINNING OF RETAINING WALL NO. 2.

WHEN BACKFILL FOR RETAINING WALLS OVERLAPS WITH REINFORCED BRIDGE APPROACH FILLS, USE BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS OR REINFORCED BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF THE MSE RETAINING WALLS.

PROJECT NO.: U-3615B

GUILFORD ***COUNTY***

STATION: -L- 235+10 & 239+40

SHEET 5 OF 7

GEOTECHNICAL ENGINEERING UNIT

☒ ***EASTERN REGIONAL OFFICE***

☐ ***WESTERN REGIONAL OFFICE***

☐ ***CONTRACT OFFICE***

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

RETAINING WALL NO. 1 & NO. 2 NOTES & DETAILS

REVISIONS							SHEET NO.
NO.	BY	DATE	NO.	BY	DATE		W5
1			3				TOTAL SHEETS
2			4				7

PREPARED BY: T. T. ZAN	DATE: 12/2013
REVIEWED BY: J. BATTS	DATE: 12/2013