GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEVENSON

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ENGINEER

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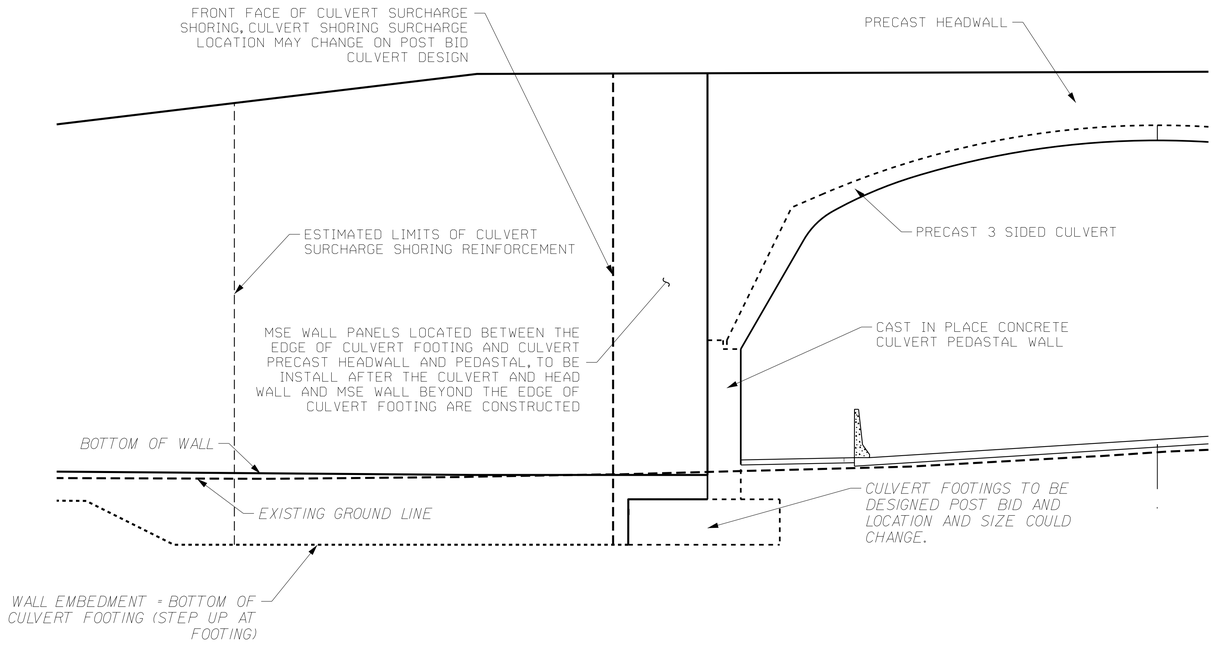

RETAINING WALLS NOS, 1, 2, 3, AND 4
CULVERT TO MSE WALL TYPICAL DETAIL

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 FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NOS. 1, 2, 3, AND 4.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NOS. 1, 2, 3, AND 4.

A DRAIN IS REQUIRED FOR RETAINING WALL NOS. 1, 2, 3, AND 4.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NOS. 1, 2, 3, AND 4, 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 NOS. 1, 2, 3, AND 4 FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,400 PSF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.8 H OR 6 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT ELEVATION = 2 FT
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE•	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
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 (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
RETAINED	115	30	0
FOUNDATION	115	30	0

DESIGN RETAINING WALL NOS. 1, 2, 3, AND 4 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 NOS. 1, 2, 3, AND 4.

FOR RETAINING WALL NOS. 1, 2, 3, AND 4 DESIGN VERTICAL COPING AT EACH EDGE OF THE CULVERT. SEE POST BID CULVERT DESIGN FOR CULVET LOCATION, FOOTING LOCATION, AND DEPTH.

FOR RETAINING WALL NOS. 1, 2, 3, AND 4 DESIGN TRANSITIONS BETWEEN CULVERT HEAD WALL AND MSE WALL AND AT THE STAGE CONSTRUCTION LOCATIONS. SEE POST BID CULVERT DESIGN FOR CULVERT LOCATION, FOOTING LOCATION, AND DEPTH.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NOS. 1, 2, 3, AND 4 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

SUBMIT TEMPORARY MSE WALL DESIGNS WITH RETAINING WALL DESIGNS FOR RETAINING WALL NOS. 1, 2, 3, AND 4.

PROJECT NO.: 55041.1.1 (HB-0002)
HAYWOOD COUNTY
STATION:
SHEET 4 OF 4

PREPARED BY: MHS	DATE: 12/23
REVIEWED BY: SCC	DATE: 12/23

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NOS. 1, 2, 3, AND 4 CULVERT TO MSE DETAIL AND NOTES

REVISIONS

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

SHEET NO. W-4