GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045672 ENGINEER THOMAS J. DAILY

DocuSigned by: Thomas J. Daily F29CA6BB83F449F...

6/16/2026

SIGNATURE DATE

ENGINEER

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 TYPE 2 BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY STANDARD DRAWING NO. 423.03.

A PROTECTIVE CONCRETE BARRIER IS REQUIRED FOR THE ABUMENT WALL AND PORTIONS OF THE WING WALLS, SEE SHEET 2B-6 OF THE ROADWAY PLANS.
FOR ALL OTHER MSE WALL AREAS, USE A STANDARD SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

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

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 10 AND RETAINING WALL NO. 11.

CIP REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NO 10 AND RETAINING WALL NO. 11.

A WEATHER CUT ASHLAR FORM LINER ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO. 10 AND RETAINING WALL NO. 11.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 10 RETAINING WALL NO. 11.

A DRAIN IS REQUIRED FOR RETAINING WALL NO. 10 AND RETAINING WALL NO. 11.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 10 AND RETAINING WALL NO. 11, 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. 10 AND RETAINING WALL NO. 11 FOR THE FOLLOWING:
1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,000 PSF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 10 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT DEPTH = 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	120	30	0
FOUNDATION	120	30	0

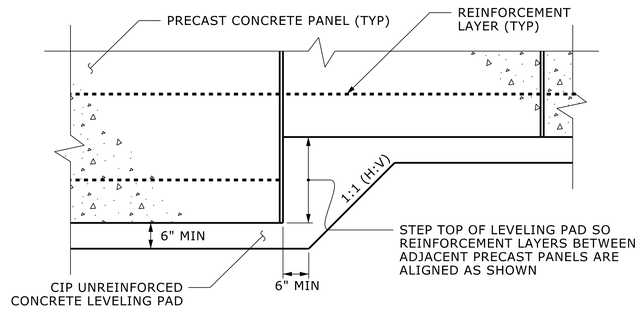
DESIGN RETAINING WALL NO. 10 AND RETAINING WALL NO. 11 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1 LOCATED AT STATION -L3- 83+05.06 AND END BENT NO. 2 LOCATED AT STATION -L3- 83+55.11. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

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. 10 AND RETAINING WALL NO. 11.

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION -L3- 83+05.06 AND END BENT NO. 2 LOCATED AT STATION -L3- 83+55.11 MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 10 AND RETAINING WALL NO. 11.
SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 10 AND RETAINING WAL NO. 11 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



PRECAST PANELS
LEVELING PAD STEP DETAIL

PROJECT NO.: U-5810

WATAUGA COUNTY

STATION: -WALL10- STA. 10+00.00 TO 17+68.74

-WALL11- STA. 10+00.00 TO 13+12.88

SHEET 6 OF 6 WALL ID RW-10-11

8848 RED OAK BLVD, SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

PREPARED BY: JOEY DAILY	DATE: 2/28/25
REVIEWED BY: KRISTEN HILL	DATE: 2/28/25

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 10 AND RETAINING WALL NO. 11 DETAIL AND NOTES

REVISIONS

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

SHEET NO. W-22