

ENGINEER

SIGNATURE

DATE



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MSE	RETA] QUAN]	NING WALL Ities
AINING L NO.1	-WALL1-	* 5326 SQUARE FEET

***** WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"

ARCHITECTURAL SURFACE TREATMENT				
TAINING	-WALL1-	* 5326 SQUARE FEET		

PROJECT	NO.: <u>U-5899</u>

FORSYTH COUNTY STATION: STA. 30+73.06 TO 31+17.38 -L-

SHEET 1 OF 5

RETAINING WALL NO. 1 MSE RETAINING WALL PLAN AND ENVELOPE

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



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ENGINEER	

DATE



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MSE	RETAINING WALL Quantities		
RETAINING WALL NO. 2 -WALL2- * 4660 SQUARE FEET			

***** WALL AREA IS MEASURED USING THE DESIGN HEIGHT "H"

ARCHITECTURAL SURFACE					
RETAINING WALL NO.2	-WALL2-	* 4660 SQUARE FEET			

FORSYTH COUNTY STATION: STA. 33+61.06 TO 33+78.86 -L-

SHEET 2 OF 5

RETAINING WALL NO. 2 MSE RETAINING WALL PLAN AND ENVELOPE

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





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REVISIONS DATE NO. DATE ΒY ΒY

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4

SHEET NO.

W-4

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

RETAINING WALL NOS. 1&2 **TYPYCAL SECTION 2**

SHEET 4 OF 5

FORSYTH COUNTY STATION: SEE WALL ENVELOPES

PROJECT NO.: U-5899



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. FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS. 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. CIP REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NOS 1&2.

AN ASHLAR STONE ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NOS. 1&2. A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NOS. 1&2.

A DRAIN IS REQUIRED FOR RETAINING WALL NOS. 1&2.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NOS. 1&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 NOS. 1&2 FOR THE FOLLOWING: 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT

2) DESIGN LIFE = 100 YEARS

3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6800 PSF FOR RETAINING WALL NO. 1 AND 7750 PSF FOR RETAINING WALL NO. 2 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER 5) MINIMUM EMBEDMENT ELEVATION = 2 FT

6)	REINFORCED	ZONE	AGGREGATE	PARAMETE	RS:

AGGREGATE TYPE*	UNIT WEIGHT (Y) 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 (Y) PCF	FRICTION ANGLE (φ) DEGREES	COHESION (c) PSF
RETAINED	120	30	0
FOUNDATION	120	10	1500

THE WALL SITE FOR RETAINING WALL NO. 1 LOCATED AT END BENT NO. 1 IS CLASSIFIED AS AASHTO SITE CLASS D. THE WALL SITE FOR RETAINING WALL NO. 2 LOCATED AT END BENT NO. 2 IS CLASSIFIED AS AASHTO SITE CLASS D.

THE WALL SITE FOR RETAINING WALL NO. 2 LOCATED AT END BENT NO. 2 IS CLASSIFIE

DESIGN RETAINING WALL NOS. 1&2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (La) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NOS. 1&2 LOCATED AT STATION 31+71 AND 33+76.50 -L-, RESPECTIVELY. 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 NOS. 1&2.

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

PREPARED BY: SY	DATE: 2/2025
REVIEWED BY: ENW	DATE: 2/2025



CIP UNREINFOR CONCRETE LEVELING



	SEAL 031361 DocuSigned by Shipping Yang 02/25/2025 7A7310E67F76411 SIGNATURE DATE SIGNATURE DATE
	DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
PRECAST CONCRETE PANEL (TYP)	REINFORCEMENT LAYER (TYP)
	ELS DETAIL
PF 	ROJECT NO.: <u>U-5899</u> <u>FORSYTH</u> COUNTY TATION: <u>SEE WALL ENVELOPES</u> SHEET 5 OF 5
NORTH CAROLINA RTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	RETAINING WALL NOS. 1&2 NOTES AND LEVELING PAD STEP DETAIL
GEUTECHNICAL NGINEERING UNIT	REVISIONS SHEET D. BY DATE NO. BY DATE NO. L _ NO. _ _ _ _ _ _ _ _ _ _

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