

MSE WALL NOTES:

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- THIS NOTE INTENTIONALLY DELETED.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 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 NO. 2.
- AN ASHLAR STONE ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO.1 AND NO.2. SEE ARCHITECTURAL CONCRETE SURFACE TREATMENT SPECIAL PROVISION.
- AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO.1 AND NO. 2.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO.1 AND NO. 2.
- A DRAIN IS REQUIRED FOR RETAINING WALL NO.1 AND NO. 2.
- BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO.1 AND NO. 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 NO.1 AND NO. 2 FOR THE FOLLOWING:
 - DESIGN HEIGHT (H) = WALL HEIGHT + EMBEDMENT
 - DESIGN LIFE = 100 YEARS
 - MINIMUM EMBEDMENT DEPTH FOR ABUTMENT FRONT FACE = H/10 OR 2 FT BELOW PROPOSED GRADE, WHICHEVER IS GREATER.
 - MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL SHALL BE AS SHOWN BELOW.
 - MINIMUM REINFORCEMENT LENGTH (L) SHALL BE AS SHOWN BELOW OR 6 FT, WHICHEVER IS LONGER.

- DESIGN RETAINING WALL NO.1 AND 2. FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- FOUNDATIONS FOR SIGNS, LIGHTING OR SIGNALS MAY BE LOCATED BEHIND WALL NO.1 AND NO. 2. AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.
- 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 NO. 2.
- FOUNDATIONS FOR END BENTS 1 AND 2, LOCATED AT STATIONS 35+83.00 -Y1- AND 38+04.00 -Y1-, RESPECTIVELY, MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1 AND NO. 2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.
- INSTALL PILES AT END BENTS 1 AND 2 BEFORE CONSTRUCTING MSE RETAINING WALLS.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO.1 AND NO. 2. UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIALS ARE APPROVED.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L_a) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENTS 1 AND 2 LOCATED AT STATION 35+83.00 -Y1- AND 38+04.00 -Y1-, RESPECTIVELY. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.
- TEMPORARY SHORING IS REQUIRED FOR RETAINING WALL NO.1 AND NO. 2. IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE TRAFFIC CONTROL PLANS.

RETAINING WALL	-L- STATION	REINFORCEMENT LENGTH	MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL (KSF)
1	54+32.53 TO 55+02.53	0.8H	4.3
	55+02.53 TO 55+43.53	0.9H	7.2
	55+43.53 TO 56+70.83	0.7H	5.5
	56+70.83 TO 58+00.83	0.7H	6.0
2	55+72.99 TO 56+69.99	0.7H	6.0
	56+69.99 TO 57+97.29	0.7H	5.6
	57+97.29 TO 58+29.22	0.9H	7.0
	58+29.22 TO 58+98.29	0.8H	4.4

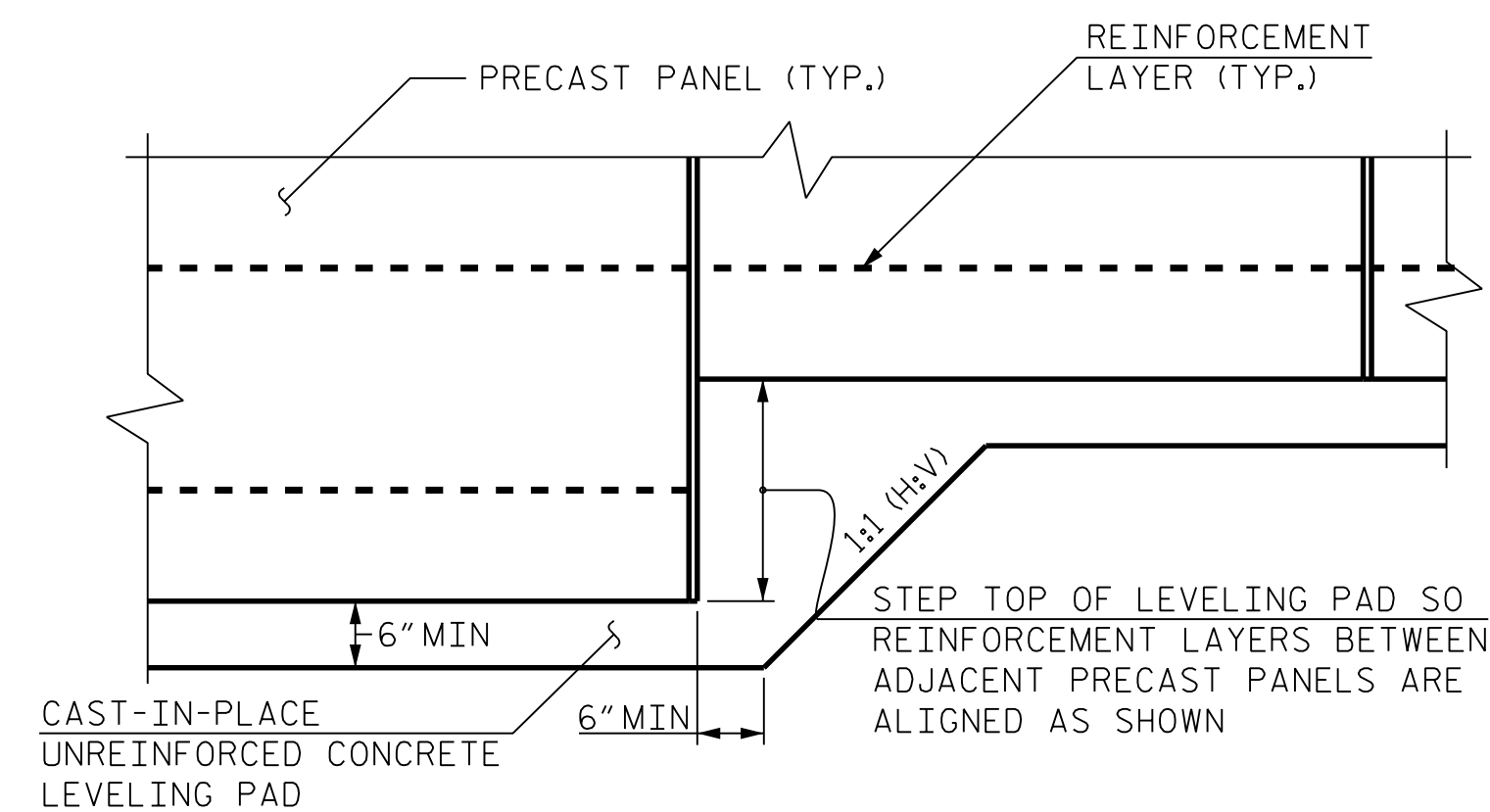
6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (Φ) 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 PROPERTIES:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (Φ) DEGREES	COHESION (c) LB/SF
RETAINED BACKFILL	120	30	0
FOUNDATION AT MSE WALL NO. 1	120	30	0
FOUNDATION AT MSE WALL NO. 2	120	30	0



**PRECAST CONCRETE PANELS
LEVELING PAD STEP DETAILS**

PROJECT NO. I-5972
JOHNSTON COUNTY
 STATION: 36+93.50 -Y1-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**MSE RETAINING WALL
 NOTES AND
 LEVELING PAD
 DETAILS**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	W-5
1			3			TOTAL SHEETS
2			4			5

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 ENGINEER
 BRUCE D. KLAPPENBACH
 9/8/2023

DRAWN BY : B. A. HAAG DATE : JUN 2021
 CHECKED BY : B. D. KLAPPENBACH DATE : JUN 2021
 DESIGN ENGINEER OF RECORD : B. D. KLAPPENBACH DATE : JUN 2021

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

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