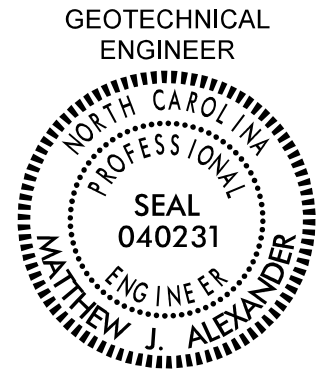


GEOTECHNICAL ENGINEER  SEAL 040231 MATTHEW J. ALEXANDER ENGINEER	ENGINEER
Digitized by: <i>Matthew J. Alexander</i> SIGNATURE	8/23/2017 DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NOTES:

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

FOR 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 WALLS NO. 3 AND NO. 4.

WALL CONTRACTOR SHALL VERIFY THAT AN ARCHITECTURAL FINISH IS OR IS NOT REQUIRED FOR PRECAST CONCRETE PANELS.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALLS NO. 3 AND NO. 4.

A DRAIN IS NOT REQUIRED FOR RETAINING WALLS NO. 3 AND NO. 4.

PILE SLEEVES ARE REQUIRED AROUND THE HP 14X89 PILES FOR END BENT NO. 1 OF THE BRIDGE ON -RP_F- OVER -EL- LOCATED AT STATION 20+52.09 -RP_E-.

PILE SLEEVES ARE REQUIRED AROUND THE HP 14X89 PILES FOR END BENT NO. 2 OF THE BRIDGE ON -RP_F- OVER -EL- LOCATED AT STATION 22+46.75 -RP_F-.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS NO. 3 AND NO. 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 WALLS NO. 3 AND NO. 4 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,550 LB/SF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 1.1H OR 6 FT, WHICHEVER IS LONGER
- 5) MINIMUM EMBEDMENT DEPTH BELOW FINISHED GRADE AT FRONT FACE OF WALL = 2 FT
- 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 PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	115	0	2,000

DESIGN RETAINING WALLS NO. 3 AND NO. 4 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 20+52.09 -RP_F- AND END BENT NO. 2 LOCATED AT STATION 22+46.75 -RP_F-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO. 3 AND NO. 4.

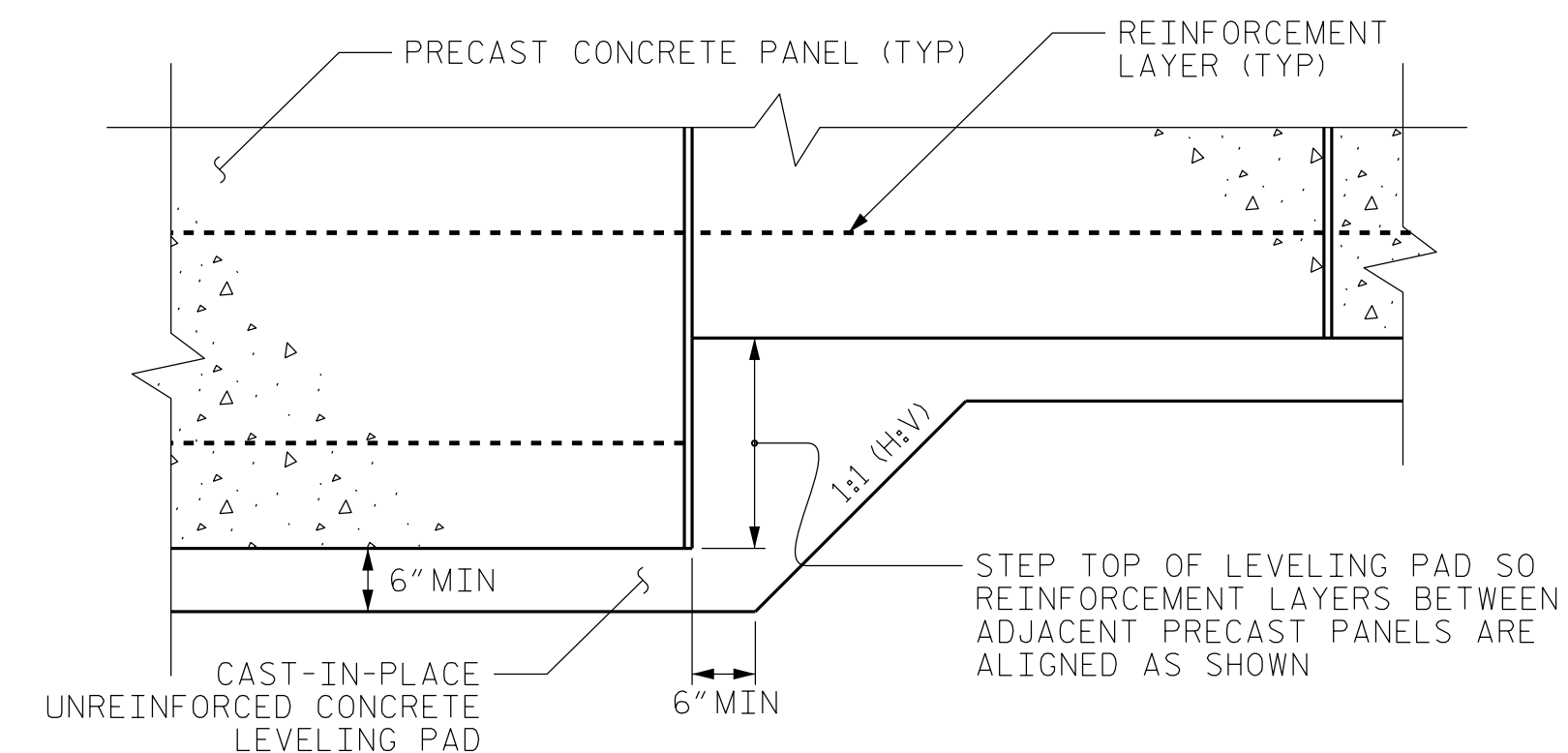
FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 20+52.09 -RP_F- AND END BENT NO. 2 LOCATED AT STATION 22+46.75 -RP_F- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO. 3 AND 4, RESPECTIVELY. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

INSTALL PILE SLEEVES FOR END BENT NO. 1 LOCATED AT STATION 20+52.09 -RP_F- AND END BENT NO. 2 LOCATED AT STATION 22+46.75 -RP_F- WHILE CONSTRUCTING RETAINING WALLS NO. 3 AND NO. 4, RESPECTIVELY. FILL PILE SLEEVES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALLS NO. 3 AND NO. 4 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

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**PRECAST PANELS
LEVELING PAD STEP DETAIL**

PROJECT NO.: 34243.1.4 (I-4729A)
 POLK COUNTY
 STATION: 21+44.22 -RP_F- / 53+95.89 -EL-
 SHEET 6 OF 8

Terracon
 Consulting Engineers & Scientists
 2401 BRENTWOOD ROAD, SUITE 107
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 PHONE: (919) 873-2211 FAX: (919) 873-9555
 NC REGISTERED FIRM: F-0869

**MSE RETAINING WALLS
NO. 3 AND NO. 4 NOTES**

REVISIONS

NO.	BY	DATE	NO.	BY	DATE	SHEET NO.
1	MJA	8/22/17	3			W-6
2			4			

PREPARED BY: M. J. ALEXANDER	DATE: 8/4/2017
REVIEWED BY: A. F. RIGGS	DATE: 8/4/2017