


GEOTECHNICAL ENGINEER  SEAL 030943 ENGINEER THEIN TUN ZAN	ENGINEER
DocuSigned by: <i>Thein Tun Zan</i> 2/28/2019 <small>A4388808C19472</small>	
<small>SIGNATURE</small>	<small>DATE</small>
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 III REINFORCED BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY DETAIL DRAWING NO. 422D10.
 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 NO. 3, 4, 5 & 6.
 A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 3, 4, 5 & 6.
 A DRAIN IS NOT REQUIRED FOR RETAINING WALL NO. 3, 4, 5 & 6.
 PILE SLEEVES ARE REQUIRED AROUND PILES FOR END BENT NO.1 LOCATED AT STATION 30+66.39 -YREV-, AND FOR END BENT NO.2 LOCATED AT STATION 32+07.06 -YREV-.
 BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 3, 4, 5 & 6, 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. 3, 4, 5 & 6 FOR THE FOLLOWING:
 1) H = DESIGN HEIGHT + EMBEDMENT
 2) DESIGN LIFE = 100 YEARS
 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 7,150 SF
 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.9 H
 5) 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
BACKFILL	120	30	0
FOUNDATION	120	28	0

DESIGN RETAINING WALL NO. 3, 4, 5 & 6 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

FOUNDATIONS FOR SIGNS, LIGHTING OR SIGNALS WILL BE LOCATED BEHIND RETAINING WALL NO. 3, 4, 5 & 6 AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.

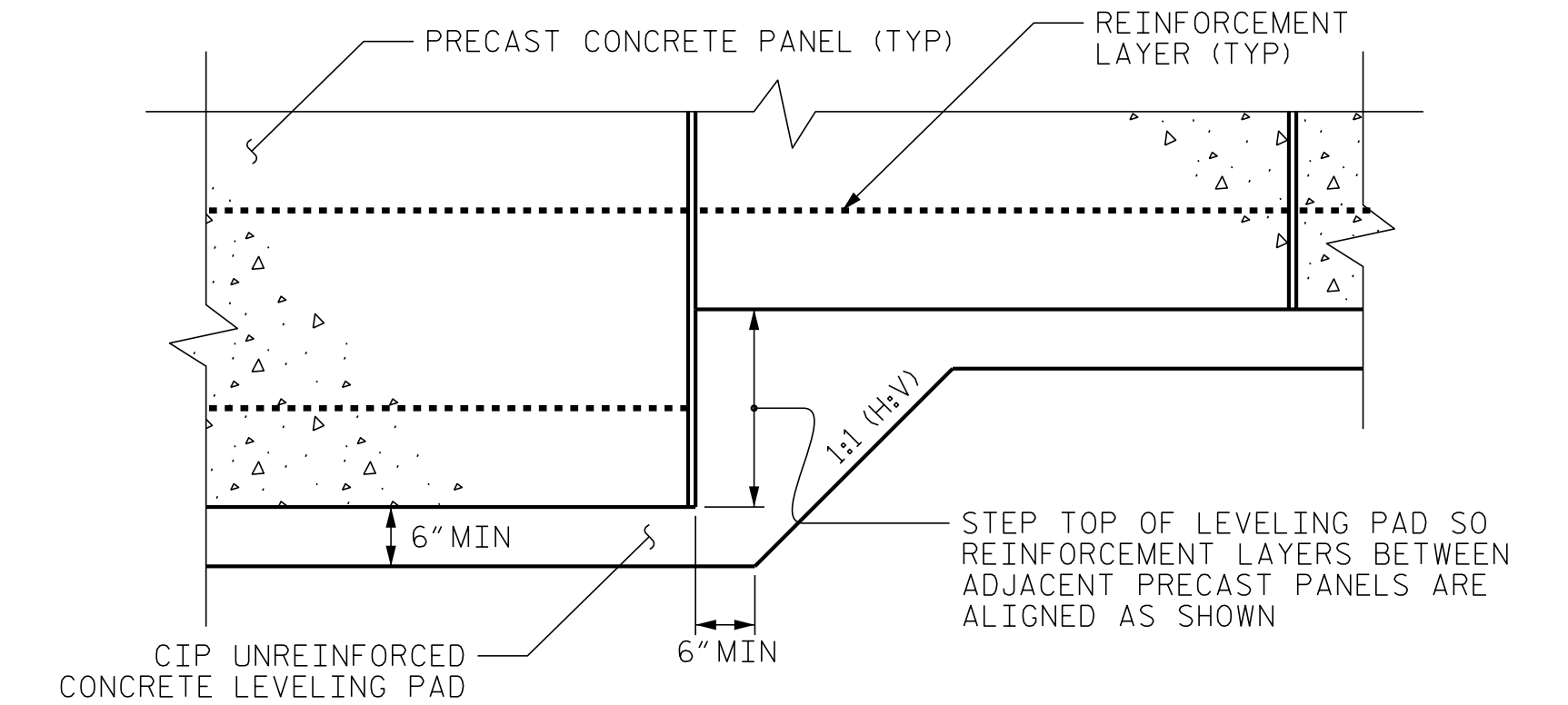
EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 3, 4, 5 & 6.

FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION 30+66.39 -YREV- AND END BENT NO.2 LOCATED AT STATION 32+07.06 -YREV- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 3, 4, 5 & 6. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

DESIGN RETAINING WALL NO. 3, 4, 5 & 6 FOR A LATERAL LOAD FROM FOUNDATIONS LOCATED BEHIND THE MSE WALL APPLIED AS A FACTORED UNIFORM PRESSURE OF 500 PSF TO THE BACK OF PANELS AT THE TOP 10 FT OF THE ABUTMENT WALLS .


INSTALL PILE SLEEVES FOR END BENT NO.1 LOCATED AT STATION 30+66.39 -YREV- AND END BENT NO.2 LOCATED AT STATION 32+07.06 -YREV- WHILE CONSTRUCTING RETAINING WALL NO. 3, 4, 5 & 6. OBSERVE A 1 MONTH WAITING PERIOD AFTER CONSTRUCTING THE MSE ABUTMENT WALL TO WITHIN 1 FT OF THE BOTTOM OF CAP ELEVATION. THEN, INSTALL PILES THROUGH THE CORRUGATED STEEL PIPES AND FILL PIPES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 3, 4, 5 & 6 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



**PRECAST PANELS
LEVELING PAD STEP DETAIL**

PROJECT NO.: R-5021
 BRUNSWICK COUNTY
 STATION: 31+30.81 -YREV- (79+32.24 -L-)
 SHEET 5 OF 5


**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

**MSE RETAINING WALL
WALL NO. 3, 4, 5 & 6
NOTES & DETAILS**

REVISIONS						SHEET NO. W-7
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	
2	-	-	4	-	-	

PREPARED BY: THEIN TUN ZAN	DATE: 01-2019
REVIEWED BY: JAMES BATTS	DATE: 01-2019