| GEOTECHNICAL ENGINEER | ENGINEER |
|---|---|
| NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS<br>Michael H. Stephens<br>C44768209229/25/2014 | |
| SIGNATURE DATE | SIGNATURE DATE |

## NOTES:

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

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

USE AN MSE WALL SYSTEM WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL.

A DRAIN IS NOT REQUIRED FOR RETAINING WALL.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL, 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 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 5,000 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = H (DESIGN HEIGHT) FT
5) MINIMUM EMBEDMENT BELOW FINISHED GRADE = 2 FT (SEE TABLE FOR AREAS REQUIRING ADDITIONAL EMBEDMENT)
6) AGGREGATE PARAMETERS:

| AGGREGATE TYPE* | UNIT WEIGHT ($\gamma$) LB/CF | FRICTION ANGLE ($\phi$) DEGREES | COHESION (c) LB/SF |
|---|---|---|---|
| COARSE | 110 | 38 | 0 |
| FINE | 125 | 34 | 0 |
| *SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS. | | | |

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

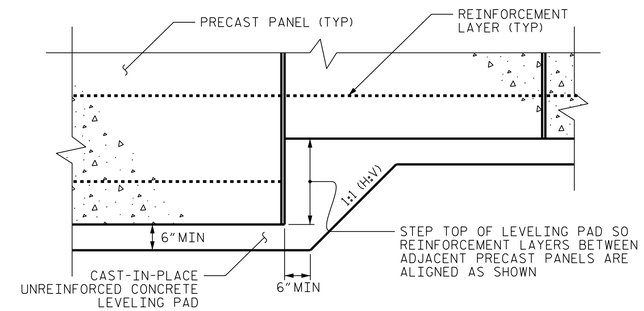
| MATERIAL TYPE | UNIT WEIGHT ($\gamma$) LB/CF | FRICTION ANGLE ($\phi$) DEGREES | COHESION (c) LB/SF |
|---|---|---|---|
| BACKFILL | 130 | 35 | 0 |
| FOUNDATION | 120 | 30 | 0 |

DESIGN RETAINING WALL AT MILE POST NO. 7 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL.

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

AT THE CONTRACTORS OPTION, TEMPORARY SHORING FOR WALL CONSTRUCTION MAY BE USED TO CONSTRUCT RETAINING WALL. SEE MSE RETAINING WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.




PRECAST CONCRETE PANELS

## LEVELING PAD STEP DETAILS

***PROJECT NO.:*** 55057.1.1 (I-5508)
HAYWOOD ***COUNTY***
***STATION:*** -EL- 341+22.29 TO -EL- 344+25
SHEET 03 OF 03

***GEOTECHNICAL ENGINEERING UNIT***

☐ *EASTERN REGIONAL OFFICE*
☒ *WESTERN REGIONAL OFFICE*
☐ *CONTRACT OFFICE*

***STATE OF NORTH CAROLINA***
***DEPARTMENT OF TRANSPORTATION***
***RALEIGH***

MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL

| REVISIONS | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|
| NO. | BY | DATE | NO. | BY | DATE | W3 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 3 |

| | |
|---|---|
| PREPARED BY: MHS | DATE: 9/25/14 |
| REVIEWED BY: SCC | DATE: 9/25/14 |