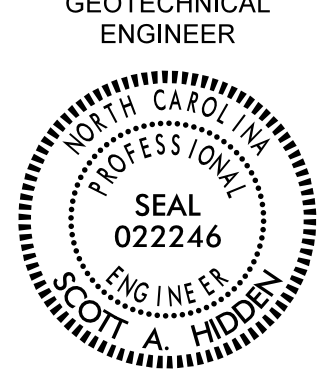


|  |                               |
|--|-------------------------------|
| <b>PROJECT REFERENCE NO.</b><br>BR-0011  | <b>SHEET NO.</b><br>2G-3      |
| GEOTECHNICAL ENGINEER<br><br>ENGINEER | ENGINEER                      |
| Digitized by:<br>Scott A. Hadden 2/5/2021<br><small>FT30CAE88F6C03 SIGNATURE DATE</small>                                | <small>SIGNATURE DATE</small> |
| <b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>   |                               |

| SLOPE OR SURCHARGE CASE | GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT) | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) | H - WALL HEIGHT (FT) |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|-------------------------|--|--|----------------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
|                         |  |  | < 4                  | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |  |
| SLOPE CASE              | > 0  | CLASS II, TYPE I, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL     | 6                    | 6 | 7 | 8 | 9 | 11 | 12 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | 25 | 26 | 27 | 27 |  |
| SURCHARGE CASE          | > 0 TO 7 FOR H < 20'<br>> 0 TO 10 FOR H ≥ 20'                                  | ALL SHORING BACKFILL TYPES   | 6                    | 7 | 7 | 8 | 8 | 9  | 9  | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 19 | 20 | 21 | 22 |  |
|                         |  | A-2-4 SOIL   | 6                    | 6 | 7 | 8 | 8 | 9  | 9  | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 14 | 15 | 16 | 16 | 17 | 18 | 18 | 19 | 20 | 20 | 21 |  |
|                         |  | CLASS II, TYPE I OR CLASS III SELECT MATERIAL                        | 6                    | 6 | 7 | 7 | 8 | 8  | 9  | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 20 |  |
|                         | > 7 FOR H < 20'<br>> 10 FOR H ≥ 20'  | CLASS V OR CLASS VI SELECT MATERIAL                                  | 6                    | 6 | 7 | 7 | 7 | 8  | 8  | 9  | 9  | 10 | 10 | 11 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 17 | 17 | 18 | 19 | 19 |  |

**L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)**  
(FOR ALL REINFORCEMENT TYPES)

| WALL HEIGHT (H) + EMBEDMENT (FT) | NUMBER OF REINFORCEMENT LAYERS* |
|----------------------------------|---------------------------------|
| 2.5 - 4                          | 3                               |
| 4 - 5.5                          | 4                               |
| 5.5 - 7                          | 5                               |
| 7 - 8.5                          | 6                               |
| 8.5 - 10                         | 7                               |
| 10 - 11.5                        | 8                               |
| 11.5 - 13                        | 9                               |
| 13 - 14.5                        | 10                              |
| 14.5 - 16                        | 11                              |
| 16 - 17.5                        | 12                              |
| 17.5 - 19                        | 13                              |
| 19 - 20.5                        | 14                              |
| 20.5 - 22                        | 15                              |
| 22 - 23.5                        | 16                              |
| 23.5 - 25                        | 17                              |
| 25 - 26.5                        | 18                              |
| 26.5 - 28                        | 19                              |
| 28 - 29.5                        | 20                              |

\*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.


| REINFORCEMENT LAYER NUMBER* | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) |                         |                |   |                         |
|-----------------------------|--|-------------------------|----------------|---|-------------------------|
|                             | SLOPE CASE   |                         | SURCHARGE CASE |   |                         |
|                             | CLASS II, TYPE I OR CLASS III SELECT MATERIAL                        | CLASS V SELECT MATERIAL | A-2-4 SOIL     | CLASS II, TYPE I OR CLASS III SELECT MATERIAL | CLASS V SELECT MATERIAL |
| 1                           | 2400   | 2400                    | 2400           | 2400  | 2400                    |
| 2                           | 2400   | 2400                    | 2400           | 2400  | 2400                    |
| 3                           | 2400   | 2400                    | 2400           | 2400  | 2400                    |
| 4                           | 2400   | 2400                    | 2500           | 2400  | 2400                    |
| 5                           | 2500   | 2400                    | 3000           | 2400  | 2400                    |
| 6                           | 3000   | 2400                    | 3500           | 2800  | 2400                    |
| 7                           | 3500   | 2700                    | 4000           | 3200  | 2600                    |
| 8                           | 4000   | 3100                    | 4500           | 3600  | 2900                    |
| 9                           | 4500   | 3500                    | 5000           | 4000  | 3200                    |
| 10                          | 5000   | 3900                    | 5500           | 4400  | 3500                    |
| 11                          | 5500   | 4300                    | 6000           | 4800  | 3800                    |
| 12                          | 6000   | 4700                    | 6500           | 5200  | 4100                    |
| 13                          | 6500   | 5100                    | 7000           | 5600  | 4400                    |
| 14                          | 7000   | 5400                    | 7500           | 6000  | 4700                    |
| 15                          | 7500   | 5800                    | 8000           | 6400  | 5000                    |
| 16                          | 8000   | 6200                    | 8500           | 6800  | 5300                    |
| 17                          | 8500   | 6600                    | 9000           | 7200  | 5600                    |
| 18                          | 9000   | 7000                    | 9500           | 7600  | 5900                    |
| 19                          | 9500   | 7400                    | 10000          | 8000  | 6200                    |
| 20                          | 10000  | 7800                    | 10500          | 8400  | 6500                    |

**GEOTEXTILE REINFORCEMENT**  
**ULTIMATE TENSILE STRENGTH (LB/FT)**

| REINFORCEMENT LAYER NUMBER* | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) |                                     |                |   |                                     |
|-----------------------------|--|-------------------------------------|----------------|---|-------------------------------------|
|                             | SLOPE CASE   |                                     | SURCHARGE CASE |   |                                     |
|                             | CLASS II, TYPE I OR CLASS III SELECT MATERIAL                        | CLASS V OR CLASS VI SELECT MATERIAL | A-2-4 SOIL     | CLASS II, TYPE I OR CLASS III SELECT MATERIAL | CLASS V OR CLASS VI SELECT MATERIAL |
| 1                           | 240  | 200                                 | 340            | 290   | 240                                 |
| 2                           | 380  | 310                                 | 520            | 430   | 350                                 |
| 3                           | 530  | 420                                 | 700            | 570   | 460                                 |
| 4                           | 690  | 550                                 | 870            | 720   | 570                                 |
| 5                           | 860  | 690                                 | 1050           | 860   | 680                                 |
| 6                           | 1030   | 830                                 | 1220           | 1000  | 790                                 |
| 7                           | 1200   | 970                                 | 1400           | 1150  | 900                                 |
| 8                           | 1370   | 1110                                | 1580           | 1290  | 1010                                |
| 9                           | 1550   | 1240                                | 1750           | 1430  | 1120                                |
| 10                          | 1720   | 1380                                | 1930           | 1580  | 1230                                |
| 11                          | 1890   | 1520                                | 2100           | 1720  | 1340                                |
| 12                          | 2060   | 1660                                | 2280           | 1860  | 1450                                |
| 13                          | 2240   | 1800                                | 2450           | 2010  | 1560                                |
| 14                          | 2410   | 1940                                | 2630           | 2150  | 1670                                |
| 15                          | 2580   | 2080                                | 2800           | 2290  | 1780                                |
| 16                          | 2750   | 2220                                | 2980           | 2440  | 1890                                |
| 17                          | 2930   | 2360                                | 3160           | 2580  | 2000                                |
| 18                          | 3100   | 2500                                | 3330           | 2720  | 2110                                |
| 19                          | 3270   | 2640                                | 3510           | 2860  | 2220                                |
| 20                          | 3440   | 2780                                | 3690           | 3000  | 2330                                |

**GEOGRID REINFORCEMENT**  
**SHORT-TERM DESIGN STRENGTH (LB/FT)**  
(SEE NOTE 10 ON SHEET 2.)

**MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD**  
(SEE NOTE 9 ON SHEET 2.)  
\*SEE PARTIAL ELEVATION ON SHEET 1 FOR REINFORCEMENT LAYER NUMBERING.



**NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
  
**GEOTECHNICAL**  
**ENGINEERING UNIT**

STANDARD DETAIL NO. 1801.02

STANDARD  
TEMPORARY WALL  
SHEET 3 OF 3