



DocuSigned by:
Scott A. Hidden 6/26/2019

SIGNATURE DATE SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| 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' > 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' > 10 FOR H ≥ 20' | CLASS V OR CLASS VI SELECT MATERIAL | 6 | 6 | 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.

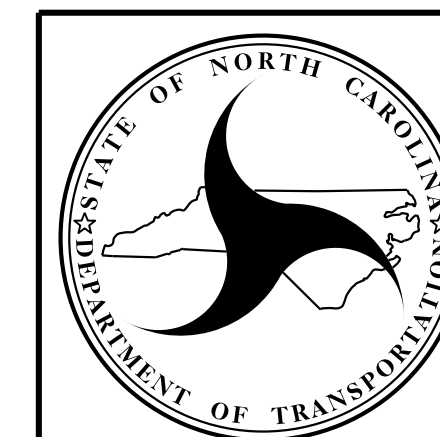
| REINFORCEMENT LAYER NUMBER* | SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2) | | | | |
|-----------------------------|--|-------------------------|----------------|--|-------------------------|
| | SLOPE CASE | | SURCHARGE CASE | | |
| | CLASS II,TYPE I OR CLASS III SELECT MATERIAL | 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