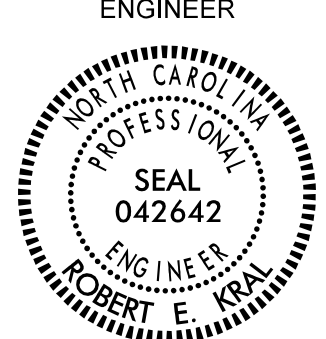
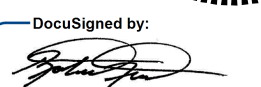
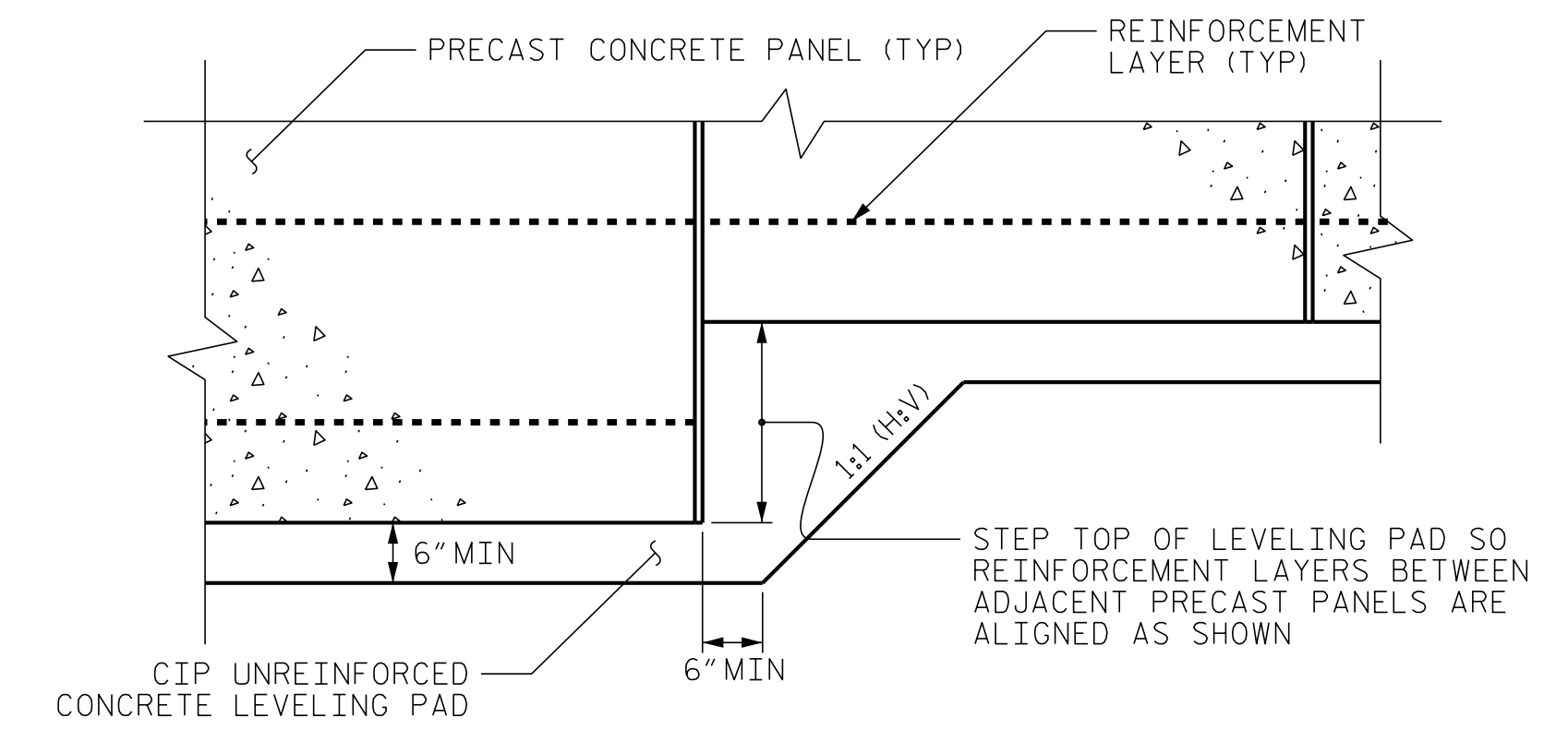


|   |                    |
|---|--------------------|
| GEOTECHNICAL ENGINEER<br><br>ROBERT E. KRAL | ENGINEER           |
| DocuSigned by:<br><br>SIGNATURE            | 08/01/2022<br>DATE |
| <b>DOCUMENT NOT CONSIDERED FINAL<br/>UNLESS ALL SIGNATURES COMPLETED</b>  |                    |

| SMSE RETAINING WALL #32 INFORMATION |                             |                |                |                             |                                       |                               |                       |                               |   |
|-------------------------------------|-----------------------------|----------------|----------------|-----------------------------|---------------------------------------|-------------------------------|-----------------------|-------------------------------|---|
| STA. -Y2-                           | OFFSET FROM CL TO WALL FACE | FINISHED GRADE | BOTTOM OF WALL | MINIMUM TOP OF LEVELING PAD | ESTIMATED MINIMUM SMSE WALL EMBEDMENT | * DESIGN SMSE WALL HEIGHT "H" | TOP OF SOIL NAIL WALL | APPROX. SOIL NAIL WALL HEIGHT | WALL REINFORCEMENT (MSE STRAP) LENGTH "L"                 |
| 58+90.00                            | 38.50                       | 2246.32        | 2222.27        | 2217.27                     | 5.00                                  | 29.05                         | 2246.32               | 29.05                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 59+00.00                            | 38.50                       | 2245.52        | 2222.14        | 2217.14                     | 5.00                                  | 28.38                         | 2240.48               | 23.34                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 59+50.00                            | 38.50                       | 2241.53        | 2215.95        | 2209.95                     | 6.00                                  | 31.58                         | 2237.05               | 27.10                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 60+00.00                            | 38.50                       | 2237.53        | 2208.66        | 2202.66                     | 6.00                                  | 34.87                         | 2233.89               | 31.23                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 60+50.00                            | 38.50                       | 2233.54        | 2202.78        | 2195.78                     | 7.00                                  | 37.76                         | 2227.47               | 31.69                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 61+00.00                            | 38.50                       | 2229.79        | 2199.42        | 2192.42                     | 7.00                                  | 37.37                         | 2223.79               | 31.37                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 61+50.00                            | 38.50                       | 2226.13        | 2199.74        | 2193.74                     | 6.00                                  | 32.39                         | 2220.79               | 27.05                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 62+00.00                            | 38.50                       | 2222.47        | 2195.45        | 2189.45                     | 6.00                                  | 33.02                         | 2218.01               | 28.56                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 62+50.00                            | 38.50                       | 2218.91        | 2189.60        | 2183.60                     | 6.00                                  | 35.31                         | 2211.54               | 27.94                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 63+00.00                            | 38.50                       | 2215.33        | 2187.80        | 2181.80                     | 6.00                                  | 33.53                         | 2210.37               | 28.57                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 63+50.00                            | 38.50                       | 2211.18        | 2185.83        | 2179.83                     | 6.00                                  | 31.35                         | 2205.82               | 25.99                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 64+00.00                            | 38.50                       | 2207.60        | 2182.56        | 2176.56                     | 6.00                                  | 31.04                         | 2203.04               | 26.48                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 64+50.00                            | 38.50                       | 2203.67        | 2177.07        | 2171.07                     | 6.00                                  | 32.60                         | 2200.08               | 29.01                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 65+00.00                            | 38.50                       | 2199.42        | 2173.80        | 2167.80                     | 6.00                                  | 31.62                         | 2195.38               | 27.58                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 65+50.00                            | 38.50                       | 2195.06        | 2172.91        | 2167.91                     | 5.00                                  | 27.15                         | 2191.60               | 23.69                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 66+00.00                            | 38.50                       | 2190.67        | 2171.52        | 2167.52                     | 4.00                                  | 22.41                         | 2188.47               | 20.21                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 66+50.00                            | 38.50                       | 2186.28        | 2173.70        | 2170.70                     | 3.00                                  | 15.58                         | 2184.87               | 14.17                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 66+68.08                            | 38.50                       | 2185.19        | 2174.23        | 2172.23                     | 2.00                                  | 12.96                         | 2185.19               | 12.96                         | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |
| 66+83.00                            | 38.50                       | 2183.38        | 2181.69        | 2179.69                     | 2.00                                  | 3.96                          | 2183.38               | 3.69                          | LOWER: 0.6XH OR 6 FT (MIN)<br>UPPER: 0.8XH OR 10 FT (MIN) |

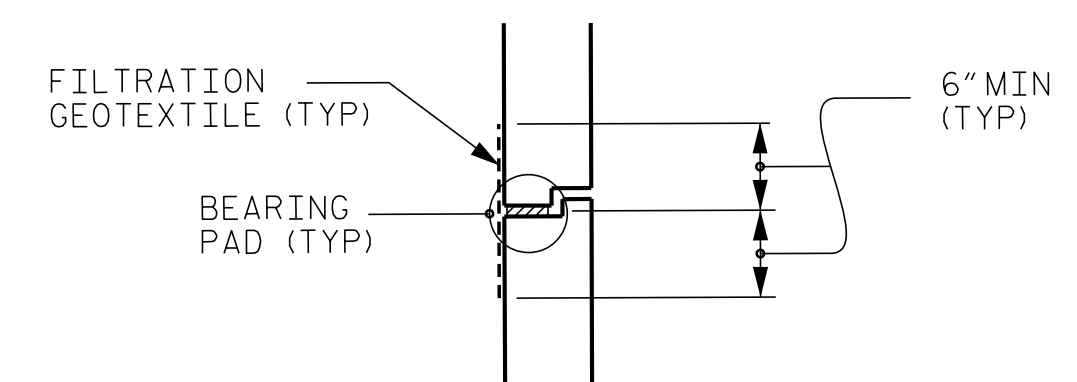
\* FOR DESIGN WALL HEIGHT "H" AND ADDITIONAL CONSTRUCTION DETAILS, SEE SHEETS 3 AND 4  
ALL TABLE DIMENSIONS ARE GIVEN IN FEET



PRECAST PANELS LEVELING PAD STEP DETAIL  
NOT TO SCALE

| FRONT SLOPE WALL EMBEDMENT   |               |                         |
|------------------------------|---------------|-------------------------|
| SLOPE IN FRONT OF STRUCTURES |               | MINIMUM EMBEDMENT DEPTH |
| HORIZONTAL                   | FOR WALLS     | H/20                    |
|                              | FOR ABUTMENTS | H/10                    |
| 3.0H:1.0V                    | WALLS         | H/10                    |
| 2.5H:1.0V                    | WALLS         | H/8.5                   |
| 2.0H:1.0V                    | WALLS         | H/7                     |
| 1.5H:1.0V                    | WALLS         | H/5                     |
| 1.25H:1.0V                   | WALLS         | H/4                     |
| 1.0H:1.0V                    | WALLS         | H/3                     |

- NOTE:
- 1) MAINTAIN A MINIMUM BENCH WIDTH OF 10.0 FT IN FRONT OF THE WALL FOR ITS ENTIRE LENGTH.
  - 2) MINIMUM EMBEDMENT DEPTH OF 2 FT, UNLESS LARGER DEPTHS DICTATED BY ABOVE TABLE.
  - 3) MAXIMUM SLOPE OF 1H:1V WILL BE MAINTAINED ON FRONT SLOPES FOR THE ENTIRE LENGTH OF THE WALL.
  - 4) SUBMIT WITH THE WALL DESIGN INTERNAL, EXTERNAL, AND GLOBAL STABILITY ANALYSES. REFERENCE SPECIAL PROVISION GT-12 FOR SMSE WALL.



PRECAST PANEL JOINT DETAILS  
NOT TO SCALE

| ESTIMATED SMSE WALL #32 QUANTITIES |                |
|------------------------------------|----------------|
| SHORED MSE RETAINING WALL #32      | 24,390 SQ. FT. |

| ESTIMATED SOIL NAIL WALL QUANTITIES |   |                              |                       |
|-------------------------------------|---|------------------------------|-----------------------|
| RETAINING WALL #                    | SOIL NAIL RETAINING WALLS (SQUARE FEET) | SOIL NAIL VERIFICATION TESTS | SOIL NAIL PROOF TESTS |
| 32                                  | 20,880*                                 | 2                            | 45                    |

\* INCLUDES RETAINING WALL EMBEDMENT

PROJECT NO.: A-0009CC  
GRAHAM COUNTY  
STATION: -Y2- 58+90, 39' LT TO 66+83, 39' LT  
SHEET 2 OF 7

Prepared in the Office of:



**CAROLINAS GEOTECHNICAL GROUP**  
2400 CROWNPOINT EXECUTIVE DRIVE  
SUITE 800  
CHARLOTTE, NC 28227  
(980) 339-8684

| REVISIONS |    |      |     |    |      | SHEET NO.<br>W32-2 |
|-----------|----|------|-----|----|------|--------------------|
| NO.       | BY | DATE | NO. | BY | DATE |                    |
| 1         |    |      | 3   |    |      |                    |
| 2         |    |      | 4   |    |      |                    |

|                        |                 |
|------------------------|-----------------|
| PREPARED BY: R. KRAL   | DATE: 7/10/2022 |
| REVIEWED BY: M. BREWER | DATE: 7/10/2022 |