

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

**SHORING LOCATION NO. 1**

DESIGN TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 7.9 FT LEFT TO STATION -L- 62+80 +/-, 7.9 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 138 FT +/-

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 7.9 FT LEFT TO STATION -L- 62+80 +/-, 7.9 FT LEFT MAY NOT PENETRATE BELOW ELEVATION 126.0 FT DUE TO OBSTRUCTIONS. VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 7.9 FT LEFT TO STATION -L- 62+80 +/-, 7.9 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 7.9 FT LEFT TO STATION -L- 62+80 +/-, 7.9 FT LEFT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

**SHORING LOCATION NO. 2**

DESIGN TEMPORARY SHORING FROM STATION -L- 65+65 +/-, 7.7 FT LEFT TO STATION -L- 66+33 +/-, 7.7 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 142 FT +/-

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L- 65+65 +/-, 7.7 FT LEFT TO STATION -L- 66+33 +/-, 7.7 FT LEFT MAY NOT PENETRATE BELOW ELEVATION 132.0 FT DUE TO OBSTRUCTIONS. VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 65+65 +/-, 7.7 FT LEFT TO STATION -L- 66+33 +/-, 7.7 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 65+65 +/-, 7.7 FT LEFT TO STATION -L- 66+33 +/-, 7.7 FT LEFT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

**SHORING LOCATION NO. 3**

DESIGN TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 0.0 FT LEFT TO STATION -L- 62+33 +/-, 0.0 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 138 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 0.0 FT LEFT TO STATION -L- 62+33 +/-, 0.0 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 62+07 +/-, 0.0 FT LEFT TO STATION -L- 62+33 +/-, 0.0 FT LEFT. SEE GEOTECHNICAL STANDARD DETAIL NO 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

**SHORING LOCATION NO. 4**

DESIGN TEMPORARY SHORING FROM STATION -L- 66+08 +/-, 4.0 FT LEFT TO STATION -L- 66+33 +/-, 4.0 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 142 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 66+08 +/-, 4.0 FT LEFT TO STATION -L- 66+33 +/-, 4.0 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 66+08 +/-, 4.0 FT LEFT TO STATION -L- 66+33 +/-, 4.0 FT LEFT. SEE GEOTECHNICAL STANDARD DETAIL NO 1801.02 FOR STANDARD TEMPORARY WALLS.

WHEN BACKFILL FOR BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

**SHORING LOCATION NO. 5**

DESIGN TEMPORARY SHORING FROM STATION -L- 114+05 +/-, 39.0 FT LEFT TO STATION -L- 114+30 +/-, 39.0 FT LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 158 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 114+05 +/-, 39.0 FT LEFT TO STATION -L- 114+30 +/-, 39.0 FT LEFT.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 114+05 +/-, 39.0 FT LEFT TO STATION -L- 114+30 +/-, 39.0 FT LEFT. SEE GEOTECHNICAL STANDARD DETAIL NO 1801.02 FOR STANDARD TEMPORARY WALLS.

**SHORING LOCATION NO. 6**

DESIGN TEMPORARY SHORING FROM STATION -L- 166+25 +/-, 4.5 FT RIGHT TO STATION -L- 167+75 +/-, 4.5 FT RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT ( $\gamma$ ) = 120 LB/CF  
 FRICTION ANGLE ( $\phi$ ) = 30 DEGREES  
 COHESION (C) = 0 LB/SF  
 GROUNDWATER ELEVATION = 148 FT +/-

DO NOT USE CANTILEVER, BRACED AND/OR ANCHORED SHORING FOR TEMPORARY SHORING FROM STATION -L- 166+25 +/-, 4.5 FT RIGHT TO STATION -L- 167+75 +/-, 4.5 FT RIGHT.

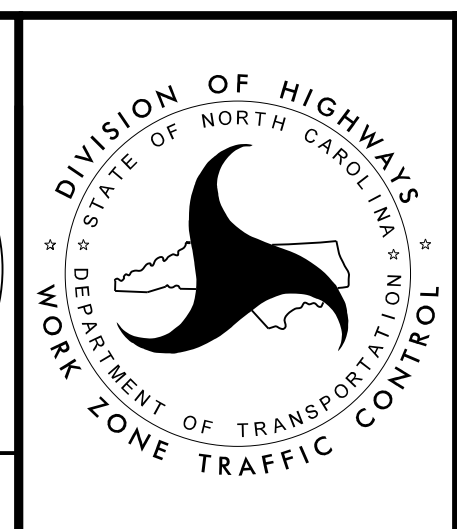
AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 166+25 +/-, 4.5 FT RIGHT TO STATION -L- 167+75 +/-, 4.5 FT RIGHT. SEE GEOTECHNICAL STANDARD DETAIL NO 1801.02 FOR STANDARD TEMPORARY WALLS.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH SEALED DOCUMENTS FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON 12/14/2017 AND SEALED BY A PROFESSIONAL ENGINEER, JINYOUNG PARK, LICENSE # 032171.

APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_

SEAL

**DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED**



**TEMPORARY SHORING NOTES**

PLOT DRIVER: NCDOT\_color\_eng\_50.plt  
 USER: BSCOTT  
 DATE: 6/5/2018  
 TIME: 3:14:11 PM  
 FILE: p:\pwhdr\users\01\HDR\_US\_East\_01\Documents\3322\10001376\10051231\6.0\_CAD\_BIM\6.2\_Work\_In\_Progress\TrafficControl\TCP\3825B\_TC\_TMP-02A.dgn

REVISIONS