

TEMPORARY SHORING DATA

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| PROJ. REFERENCE NO. B-3186 / B-5898 | SHEET NO. TMP-2B |
| HDR Engineering, Inc. of the Carolinas 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601 N.C.B.E.L.S. License Number: F-0116 | |

SHORING LOCATION NO. 7

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.

DESIGN TEMPORARY SHORING FROM -DET01EBEXT- STATION 44+83, 7.2' LT, TO -DET01EBEXT- STATION 45+08, 7.2' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2620 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -DET01EBEXT- STATION 44+83, 7.2' LT, TO -DET01EBEXT- STATION 45+08, 7.2' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -DET01EBEXT- STATION 44+83, 7.2' LT, TO -DET01EBEXT- STATION 45+08, 7.2' LT MAY NOT PENETRATE BELOW ELEVATION 2605 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

SHORING LOCATION NO. 8

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.

DESIGN TEMPORARY SHORING FROM -DET01EBEXT- STATION 46+81, 7.2' LT, TO -DET01EBEXT- STA. 47+06, 7.2' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2620 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -DET01EBEXT- STATION 46+81, 7.2' LT, TO -DET01EBEXT- STA. 47+06, 7.2' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -DET01EBEXT- STATION 46+81, 7.2' LT, TO -DET01EBEXT- STA. 47+06, 7.2' LT MAY NOT PENETRATE BELOW ELEVATION 2605 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -DET01EBEXT- STATION 46+81, 7.2' LT, TO -DET01EBEXT- STA. 47+06, 7.2' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SHORING LOCATION NO. 9

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.

DESIGN TEMPORARY SHORING FROM -L- STATION 34+50, 5' RT, TO -L- STATION 41+54, 5' RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2580 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L- STATION 34+50, 5' RT, TO -L- STATION 41+54, 5' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L- STATION 34+50, 5' RT, TO -L- STATION 41+54, 5' RT, MAY NOT PENETRATE BELOW ELEVATION 2580 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- STATION 34+50, 5' RT, TO -L- STATION 41+54, 5' RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

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

SHORING LOCATION NO. 10

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.

DESIGN TEMPORARY SHORING FROM -L- STATION 43+84, 5' RT, TO -L-RT- STATION 51+61, 6' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2575 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L- STATION 43+84, 5' RT, TO -L-RT- STATION 51+61, 6' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L- STATION 43+84, 5' RT, TO -L-RT- STATION 51+61, 6' LT, MAY NOT PENETRATE BELOW ELEVATION 2550 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

SHORING LOCATION NO. 11

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.

DESIGN TEMPORARY SHORING FROM -L- LT- STATION 68+00, 33.9' LT, TO -L- LT- STATION 68+27, 33.9' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 28 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2610 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L- LT- STATION 68+00, 33.9' LT, TO -L- LT- STATION 68+27, 33.9' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L- LT- STATION 68+00, 33.9' LT, TO -L- LT- STATION 68+27, 33.9' LT MAY NOT PENETRATE BELOW ELEVATION 2590 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 -L- LT- STATION 68+00, 33.9' LT, TO -L- LT- STATION 68+27, 33.9' LT.

SHORING LOCATION NO. 12

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.

DESIGN TEMPORARY SHORING FROM -L- LT- STATION 69+83, 33.4' LT, TO -L- LT- STATION 70+12, 33.4' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
 FRICTION ANGLE (ϕ) = 30 DEGREES
 COHESION (c) = 0 PSF
 GROUNDWATER ELEVATION = 2610 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM -L- LT- STATION 69+83, 33.4' LT, TO -L- LT- STATION 70+12, 33.4' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM -L- LT- STATION 69+83, 33.4' LT, TO -L- LT- STATION 70+12, 33.4' LT MAY NOT PENETRATE BELOW ELEVATION 2590 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 -L- LT- STATION 69+83, 33.4' LT, TO -L- LT- STATION 70+12, 33.4' LT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM -L- LT- STATION 69+83, 33.4' LT, TO -L- LT- STATION 70+12, 33.4' LT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

PLOT DRIVER: NCD07.pdf_color_eng_50.pit
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 TIME: 3:57:21 PM
 DATE: 1/21/2022

REVISIONS

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| APPROVED: <i>Michael T. Rzepka</i> DATE: 3/17/2022 SEAL | | |
| TEMPORARY SHORING DATA | | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | | |