STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Roy Cooper
Governor

James H. Trogdon, III
Secretary

MEMO TO: Mr. Tim Jordan, PE (Mott MacDonald)

FROM: Mr. Matthew Jones, PE

DocuSigned by:
Matthew Jones
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SUBJECT: Division 9 Final Pavement Design
N/A, 17BP.9.R.83
SR 1236 (N. Old US 52) Bridge No. 286 over Little Yadkin River
Stokes County, Division 9

DATE: 3/27/2018

The pavement designs for the above project are as follows:

Line	Surface	Intermed.	Base	ABC	Stab.	SN_{REQ}
SR 1236 (N. Old US 52)	3.0" S9.5C	4.0" I19.0C	4.0" B25.0C	-	No	2.95
SR 1236 Temporary Detour	2.0" S9.5B	-	-	8.0" w/ Prime Coat	No	1.96

Overlay the existing pavement with the following: 1.5" S9.5C
Mill existing pavement at project limits to provide adequate tie-ins.

The mix designations provided for the above designs are in accordance with the 2018 NCDOT QMS manual.
If any additional information is needed, please contact: Matthew Jones @ 336-747-7800

Design Information:

Initial Year:	2015	Projection Year:	2035
Initial Year ADT:	5,000	Proj. Yr. ADT:	6,700
% DUALS:	5.0	% TTST:	1.0
LANE/DIRECTION:	1	Des. Life (Years):	20
DIR %:	50	Subgrade M[r]:	8,043
Construction Year:	2021	Design TOT. 18K:	567,491
SN Required:	2.95	SN DESIGN:	4.28

MWJ/mwj
cc: pavementrequests@ncdot.gov

Mailing Address:	*Telephone: 336-747-7800*	Location:
NC DEPARTMENT OF TRANSPORTATION	*Fax: (336)703-6693*	375 Silas Creek Parkway
Divison 9	*Customer Service: 1-877-368-4968*	Winston Salem, NC 27127
375 Silas Creek Parkway		
Winston Salem, NC 27127	*Website: www.ncdot.gov*	

FOUNDATION RECOMMENDATIONS

WBS 17BP.9.R.83

T.I.P. NO. SF-840286

COUNTY Stokes

STATION 23+99.50 -L-

DESCRIPTION Bridge No. 286 on SR 1236 (N. Old US 52) over Little Yadkin River

	INITIALS	DATE
DESIGN	MHS	11/16/20
CHECK	SY	11/16/20
APPROVAL	SCC	11/16/20

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

DocuSigned by: C447682092314CC...

11/17/2020

BENT	STATION	FOUNDATION TYPE	FACTORED RESISTANCE	MISCELLANEOUS & DETAILS
END BENT 1	STA 23+03.21-L-	Cap on HP12x53 Steel Piles	75 tons/pile	Bottom of Cap El. = 851.3 ft ± Average Length of Pile = 30 ft Number of Piles =7
BENT 1	STA 23+44.43-L-	48 inch Diameter Drilled Pier	525 tons/pier	Bottom of Cap Elev. =850.8 ft ± Point of Fixity Elev. = 817.0 ft Tip No Higher Than Elev. =810.5 ft Number of Drilled Piers =3
BENT 2	STA 24+49.57-L-	48 inch Diameter Drilled Pier	525 tons/pier	Bottom of Cap Elev. =849.7 ft ± Point of Fixity Elev. = 816.5 ft Tip No Higher Than Elev. =809.5 ft Number of Drilled Piers =3
END BENT 2	STA 24+95.79-L-	Cap on HP12x53 Steel Piles	81 tons/pile	Bottom of Cap El. = 849.2 ft ± Estimated Length of Pile = 25 ft Number of Piles = 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS HIGHWAY BUILDING PO BOX 25201 RALEIGH, NORTH CAROLINA 27611	SUBJECT: Bridge No. 286 on SR 1236 (N. Old US 52) over Little Yadkin River	
	PREPARED BY: MHS	PROJECT: 17BP.9.R.83
	DATE: 11/16/20	TIP: SF-840286
	CHECKED BY: SY	COUNTY: Stokes
	DATE: 11/16/20	

FOUNDATION RECOMMENDATION NOTES ON PLANS

1) FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

2) PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 75 TONS PER PILE.

3) DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE.

4) FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

5) DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 525 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30 TSF.

6) INSTALL DRILLED PIERS AT BENT NO.1 TO A TIP ELEVATION NO HIGHER THAN 810.5 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 15 FT INTO WEATHERED ROCK AND ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

7) PERMANENT STEEL CASINGS MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. 1. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 825.5 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.

8) THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 823.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

9) DRILLED PIERS AT BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 525 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 30 TSF.

10) INSTALL DRILLED PIERS AT BENT NO.2 TO A TIP ELEVATION NO HIGHER THAN 809.5 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 15 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.

11) THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS ELEVATION 822.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

12) SPT MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SPT. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

13) CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

14) PILES AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 81 TONS PER PILE.

15) DRIVE PILES AT END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 135 TONS PER PILE.

16) OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT, END BENT AND REINFORCED BRIDGE APPROACH FILL, IF APPLICABLE, BEFORE BEGINNING APPROACH SLAB CONSTRUCTION AT END BENTS NO. 1 AND 2. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS HIGHWAY BUILDING PO BOX 25201 RALEIGH, NORTH CAROLINA 27611	SUBJECT: Bridge No. 286 on SR 1236 (N. Old US 52) over Little Yadkin River	
	PREPARED BY: MHS	PROJECT: 17BP.9.R.83
	DATE: 11/16/20	TIP: SF-840286
	CHECKED BY: SY	COUNTY: Stokes
	DATE: 11/16/20	

FOUNDATION RECOMMENDATION COMMENTS

1) Please advise Western Regional Office, if factored resistance is less than max. factored structure load.

2) PDA will not be used to monitor driving stresses.

3) No re-strikes are required.

4) End Bent slope of 1.5:1 is ok with slope protection to berm at End Bents

5) End Bent 1 Bridge approach Fill - Use Type II approach fill.

6) End Bent 2 Bridge approach Fill - Use Type II approach fill.

7) Scour elevation for Bent 1 is 825.5 ft.

8) Scour elevation for Bent 2 is 824.5 ft.

9) Scour adjusted from BSR to reflect rock elevation encountered in the field.

10) Drilled pier tip elevation for lateral fixity for Bent 1 is 814.5 ft.

11) Drilled pier tip elevation for lateral fixity for Bent 2 is 813.5 ft.

12) Limited subsurface information was available at the time of this design and pier design is based on weathered rock. If competant rock is encountered during construction, then the pier embedment depths may be shortened at the direction of the Operation Engineer.

13) Please send Western Regional Design Engineer a half size copy of the final general drawing sheets, including the location sketch, plan notes and quantities, at the time they are submitted to the plan checking & review squad.

DRILLED PIER PAY ITEMS

(For LRFD Projects - Revised 4/18/11)

WBS ELEMENT 17BP.9.R.83 DATE 11/16/2020

TIP NO. SF-840286 DESIGNED BY MHS

COUNTY Stokes CHECKED BY SY

STATION 23+99.50 -L-

DESCRIPTION Bridge No. 286 on SR 1236
(N. Old US 52) over Little Yadkin River

NUMBER OF BENTS WITH DRILLED PIERS 2
NUMBER OF DRILLED PIERS PER BENT 2
NUMBER OF END BENTS WITH DRILLED PIERS 0
NUMBER OF DRILLED PIERS PER END BENT 0

	DRILLED PIER PAY ITEM QUANTITIES				
Bent # or End Bent #	**__48__ Dia. Drilled Piers Not In Soil (per linear ft/m)**	**Permanent Steel Casing For _48_ Dia. Drilled Pier (yes/no/maybe)**	**SID Inspections (per each)**	**SPT Testing (per each)**	**CSL Testing (per each)**
Bent 1	39	Maybe			
Bent 2	35	No			
TOTALS	74		0	6	1

Notes:
Blanks or "no" represent quantity of zero.

If drilled piers not in soil are required, calculate quantity of "____ Dia. Drilled Piers in Soil" as the difference between the total drilled pier length and the "____ Dia. Drilled Piers Not in Soil" from the table above. If there is none or zero quantity for drilled piers not in soil in the table above, calculate quantity of "____ Dia. Drilled Piers" as the total drilled pier length and do not use the "____ Dia. Drilled Piers in Soil" pay item.

If permanent steel casing is or may be required, calculate quantity of "Permanent Steel Casing for ____ Dia. Drilled Pier" as the difference between the ground line or top of drilled pier elevation, whichever is higher, and the elevation the permanent casing can not extend below from the foundation recommendations.

If "SID Inspections", "SPT Testing" or "CSL Testing" may be required, show quantities of these pay items on the substructure plans as totals only. If "SID Inspections", "SPT Testing" or "CSL Testing" is required, show quantities of these pay items on the substructure plans for each bent or end bent.

The number of CSL tubes required per drilled pier is equal to one tube per foot of design pier diameter with at least four tubes per pier. Calculate the length of each CSL tube as the total drilled pier length plus 1.5 ft.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

July 24, 2024

MEMORANDUM TO: Pat Ivey, PE
Division Engineer

ATTENTION: Jeremy Keaton, PE, PLS
Division Bridge Program Manager

FROM: Eric N. Williams, PE
Asst. State Geotechnical Engineer
Western Regional Office

DS SCC

DocuSigned by: Eric N. Williams A6B874F1197848B...

STATE PROJECT: 17BP.9.PE.83
COUNTY: Stokes
DESCRIPTION: Replace Bridge No. 286 on SR 1236 (Old US 52) over Little Yadkin River

SUBJECT: Geotechnical Report – Design and Construction Recommendations Revision

The Geotechnical Engineering Unit makes the following recommendations. This is an updated revision to the 2024 standards and supersedes the May 26, 2020 recommendations report. A subsurface inventory will not be submitted.

I. Slope and Embankment Stability

A. *Slope Design*
Recommend all roadway slopes be constructed no steeper than 2:1 (H:V).

B. *Undercut*
Recommend 1,000 cubic yards of Undercut be included in the contract as a contingency item to be used at the direction of the Engineer.

C. *Geotextile for Soil Stabilization*
Include 3,000 square yards of Geotextile for Soil Stabilization in the contract as a contingency item to be used at the discretion of the Engineer.

II. Subgrade Stability

A. *Undercut for Subgrade Stability*
Recommend a contingency quantity of 500 cubic yards of Undercut be included in the contract to be used at the discretion of the Engineer.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH, NC 27699-1589

Telephone: (980) 258-6400
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
5253 Z MAX BOULEVARD
HARRISBURG, NC 28075

B. *Grade Point Undercut*
For inclusion in the contract we recommend 100 cubic yards of grade point Undercut to be used at the discretion of the Engineer.

C. *Aggregate Subgrade*
Shallow Undercut
Include 100 cubic yards of 12" Shallow Undercut in the contract as a contingency item to be used at the discretion of the Engineer.

Geotextile for Subgrade Stabilization
Include a contingency quantity of 300 square yards of geotextile for subgrade stabilization in the contract to be used at the discretion of the Engineer.

Class IV Subgrade Stabilization Material
Recommend a contingency quantity of 200 tons of Class IV Select Material be included in the contract for use at the discretion of the Engineer.

D. *Subsurface Drainage- Subsurface Drains*
Recommend a contingency quantity of 500 linear feet of 6" perforated subdrain pipe per Roadway Standard Drawing 815.02 - Subsurface Drain be included in the contract to be used at the direction of the Engineer.

E. *Geotextile for Soil Stabilization*
Include a contingency quantity of 600 square yards of geotextile for soil stabilization in the contract for use with items in section II.A and II.C. to be used at the discretion of the Engineer.

III. Borrow Specifications

A. *Shrinkage Factor*
Recommend a shrinkage factor of 15% for calculation of earthwork quantities.

B. *Select Granular Material*
A quantity of 3,600 cubic yards of Select Granular Material should be included in the contract as a contingency to be used at the discretion of the Engineer in conjunction with section I.C. and II.E.

IV. Miscellaneous

A. *Reduction of Unclassified Excavation*
The estimated loss of unclassified excavation due to clearing and grubbing is considered to be insignificant.

Respectfully Submitted,

Docusigned by:
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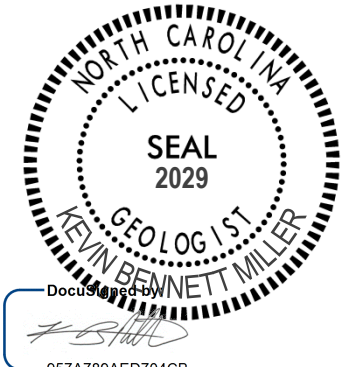
Michael H. Stephens, PE 07/24/2024
Geotechnical Engineer



Docusigned by:
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Kevin B. Miller, LG 07/24/2024
Regional Geological Engineer

Document Not Considered Final Unless All Signatures Are Completed

Cc: Mark Averette
Division Consultant 1

DS
JEB

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
Summary of Quantities

WBS Number: 17BP.9.PE.83 | County: Stokes | Project Engineer: Michael Stephens
TIP Number: N/A | Field Office / PEF: Harrisburg WRO | Project Geologist: Eddie Beverly
Description: Replace Bridge No. 286 on SR 1236 (Old US 52) over Little Yadkin River

Pay Item No.	Pay Item/ Quantity Adjustment	Spec Book Section No. or Special Provision (SP) Reference	Report Section	Alignment	Begin Station	End Station	Quantity	Units / %
0036000000-E	Undercut Excavation	225 - Roadway Excavation	I. B	Contingency	N/A	N/A	1,000	CY
0036000000-E	Undercut Excavation	225 - Roadway Excavation	II. A	Contingency	N/A	N/A	500	CY
0036000000-E	Undercut Excavation	225 - Roadway Excavation	II. B	Contingency	N/A	N/A	100	CY
						Total Quantity of Undercut Excavation =	**1,600**	**CY**
0195000000-E	Select Granular Material	265 - Select Granular Material	III. B	Contingency	N/A	N/A	3,600	CY
						Total Quantity of Select Granular Material =	**3,600**	**CY**
0196000000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	I. C	Contingency	N/A	N/A	3,000	SY
0196000000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	II. E	Contingency	N/A	N/A	600	SY
						Total Quantity of Geotextile for Soil Stabilization =	**3,600**	**SY**
1004500000-E	Geotextile for Subgrade Stabilization	505 - Aggregate Subgrade	II. C	Contingency	N/A	N/A	300	SY
						Total Quantity of Geotextile for Subgrade Stabilization =	**300**	**SY**
1099500000-E	Shallow Undercut	505 - Aggregate Subgrade	II. C	Contingency	N/A	N/A	100	CY
						Total Quantity of Shallow Undercut =	**100**	**CY**
1099700000-E	Class IV Subgrade Stabilization	505 - Aggregate Subgrade	II. C	Contingency	N/A	N/A	200	TON
						Total Quantity of Class IV Subgrade Stabilization =	**200**	**TON**
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. D	Contingency	N/A	N/A	500	LF
						Total Quantity of 6" Perforated Subdrain Pipe =	**500**	**LF**

These Items Only Impact Earthwork Totals								
N/A	Shrinkage Factor	235 - Embankments	III. A	N/A	N/A	N/A	15	%

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 16, 2022

MEMORANDUM TO: Daniel Dagenhart
Bridge Program Manager
NCDOT Division 9

ATTENTION: Tim Jordan
Principle Project Manager
Mott MacDonald

FROM: John L. Pilipchuk, L.G., P.E.
State Geotechnical Engineer

DocuSigned by:
John Pilipchuk
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STATE PROJECT: 17BP.9.R.83 (SF-840286)
COUNTY: STOKES
DESCRIPTION: Replace Bridge No. 286 on SR 1236 (Old US 52) over Little Yadkin River

SUBJECT: Standard Shoring Details

The Geotechnical Engineering Unit (GEU) has received the following proposed temporary shoring locations for the referenced project:

Shoring Location No.	Begin Station & Offset	End Station & Offset	Estimated Average Height	Estimated Maximum Height	Unit Requesting Temporary Shoring
No. 1	-L- STA. 22+75±, 28.0' RT	-L- STA. 23+25±, 28.0' RT	3 FT	5 FT	Structure
No. 2	-L- STA. 24+75±, 26.5' RT	-L- STA. 25+25±, 26.5' RT	3 FT	6 FT	Structure

The GEU recommends including Geotechnical Standard Detail No. 1801.01 in the contract for the proposed shoring locations. Hard copies of these details are not attached to this memorandum; current versions of standard shoring details are available from the geotechnical website at: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx

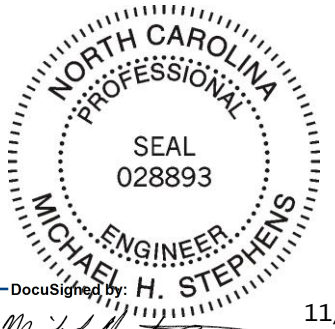
Secure sealed PDFs of the standard details recommended for this project will be placed on the Connect NCDOT Website at least 15 weeks before letting. Please contact Michael H. Stephens at (980) 258-6404 or Shane C. Clark at (828) 250-3390 if there are any questions concerning this memorandum.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

Telephone: 919-707-6850
Fax: 919-250-4237
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC



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11/18/2022

Michael H. Stephens, PE
Geotechnical Design Engineer
NCDOT Geotechnical Engineering Unit – Western Region

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 16, 2022

MEMORANDUM TO: Daniel Dagenhart
Bridge Program Manager
NCDOT Division 9

ATTENTION: Mike Rzepka, P.E.
HDR Inc. Project Manager

FROM: DS ENW John L. Pilipchuk, L.G., P.E.
State Geotechnical Engineer
DocuSigned by: John Pilipchuk 52C44B94B8BE444...

STATE PROJECT: 17BP.9.R.83 (SF-840286)
COUNTY: STOKES
DESCRIPTION: Replace Bridge No. 286 on SR 1236 (Old US 52) over Little Yadkin River

SUBJECT: Temporary Shoring Recommendations

The Geotechnical Engineering Unit (GEU) has received the following proposed temporary shoring locations for the referenced project:

Shoring Location No.	Begin Station & Offset	End Station & Offset	Estimated Average Height	Estimated Maximum Height	Shoring Location Type
No. 1	-L- STA. 22+75±, 28.0' RT	-L- STA. 23+25±, 28.0' RT	3 FT	5 FT	Structure
No. 2	-L- STA. 24+75±, 26.5' RT	-L- STA. 25+25±, 26.5' RT	3 FT	6 FT	Structure

Shoring Location No. 1

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.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
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Telephone: 919-707-6850
Fax: 919-250-4237
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

DESIGN TEMPORARY SHORING FROM STATION -L- STA. 22+75±, 28.0' RT, TO STATION -L- STA. 23+25±, 28.0' 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 = 831.5 FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- STA. 22+75±, 28.0' RT, TO STATION -L- STA. 23+25±, 28.0' RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- STA. 22+75±, 28.0' RT, TO STATION -L- STA. 23+25±, 28.0' RT. SEE GEOTECHNICAL STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

WHEN BACKFILL FOR 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.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- STA. 22+75±, 28.0' RT, TO STATION -L- STA. 23+25±, 28.0' RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

The GEU recommends including the Temporary Shoring provision, Standard Shoring provision, and Temporary Soil Nail Walls provision in the contract for the referenced project. Standard shoring details have been transmitted to the Roadway Design Unit under a separate cover. Please contact Michael H. Stephens at (980) 258-6404 or Shane C. Clark at (828) 250-3390 if there are any questions concerning this memorandum.

NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

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11/18/2022

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Michael H. Stephens, PE
Geotechnical Design Engineer
NCDOT Geotechnical Engineering Unit – Western Region

Attachments: Standard Shoring Provision (Optional)
Temporary Soil Nail Walls Provision (Optional)