



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

DANIEL H. JOHNSON
SECRETARY

February 12, 2026

MEMORANDUM TO: Brooks Braswell, P.E.
Division Project Development Engineer

ATTENTION: Justin Smith, P.E.
Project Engineer

FROM: Tom Santee, P.E.
Eastern Region Manager
Geotechnical Engineering Unit

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JYP

DocuSigned by:
Tom Santee
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STATE PROJECT: 46978.1.1 (R-5810)
F.A. PROJECT: N/A
COUNTY: Martin

DESCRIPTION: US 17 from North of SR 1205 (Holly Creek Blvd) to SR 1119
(Ralph Taylor Rd)

SUBJECT: Geotechnical Report - Design and Construction Recommendations

The Geotechnical Engineering Unit (GEU) has completed a subsurface investigation for this project and presents the following recommendations.

I. Slope/Embankment Stability

A. Slope/Embankment Stability

Recommend all roadway slopes be constructed no steeper than 3:1 (H:V).

B. Undercut

Recommend 100 cubic yards of Undercut Excavation for embankment stability be included in the contract as a contingency item to be used at the direction of the Engineer.

C. Geotextile for Soil Stabilization

Include 100 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

Include 200 cubic yards of Undercut Excavation in the contract as a contingency item to be used at the discretion of the Engineer.

B. Special Ditches

Special ditches are not recommended for this project.

C. Subsurface Drainage - Subsurface Drain

Recommend 200 linear feet of 6" Perforated Subdrain Pipe for subsurface drain (Roadway Standard Drawing 815.02) be included in the contract as a contingency item to be used at the discretion of the Engineer.

D. Geotextile for Soil Stabilization

Recommend 200 square yards of Geotextile for Soil Stabilization be included in the contract as a contingency item to be used in Section II A.

III. Borrow Specifications

A. Borrow Criteria

Common borrow for embankment construction to subgrade shall meet Coastal Plain specifications outlined in the Standard Specifications, Article 1018-2(B).

B. Select Granular Material

Recommend 300 cubic yards of Select Granular Material be included in the contract for backfill as a contingency item for Section I. B. and II. A.

Select granular material for embankment/backfill for geotextile for soil stabilization if required, or backfill in water shall meet the criteria outlined in the Standard Specifications, Article 1016-3, Class II and/or III and should be placed three feet above geotextile for soil stabilization.

C. Shrinkage Factor

A shrinkage factor of 25 percent is recommended for calculation of earthwork on this project.

D. Borrow Reconnaissance and Availability

Sandy soils with good to excellent engineering properties are available in nearby areas.

IV. Miscellaneous

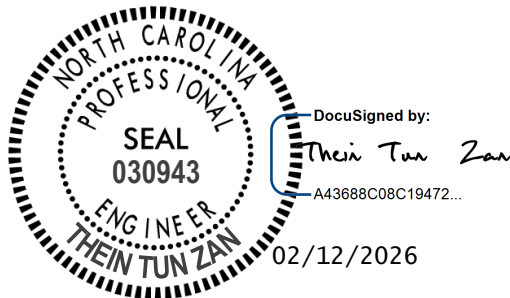
A. Reduction of Unclassified Excavation - Loss Due to Clearing and Grubbing

No significant loss of unclassified excavation is anticipated due to clearing and grubbing.

B. Reduction of Unsuitable Unclassified Excavation - Unsuitable Waste

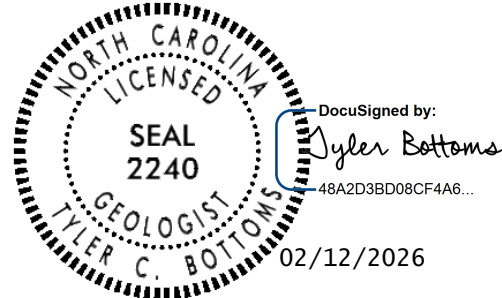
Based on the current roadway plans, unclassified excavation along this project will be primarily derived from shallow subgrade cuts and ditch excavation. These areas contain granular soils which are suitable for subgrade construction.

Prepared By:



Thein Tun Zan, P.E.
Geotechnical Design Engineer

Prepared By:



Tyler C. Bottoms, P.G.
Regional Geologist

TGS/JYP/TCB/TTZ

See Page 4 for Summary of Quantities
See Page 5 for Bore Logs



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

Summary of Quantities

WBS Number: 46978.1.1

TIP Number: R-5810

Description: US 17 from North of SR 1205 to SR 1119

County: Martin

Field Office / PEF: Greenville

Project Engineer: Thein Tun Zan

Project Geologist: Tyler Bottoms

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	100	CY
0036000000-E	Undercut Excavation	225 - Roadway Excavation	II. A	Contingency	N/A	N/A	200	CY
Total Quantity of Undercut Excavation =							300	CY
0195000000-E	Select Granular Material	265 - Select Granular Material	III. B	Contingency	N/A	N/A	300	CY
Total Quantity of Select Granular Material =							300	CY
0196000000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	I. C	Contingency	N/A	N/A	100	SY
0196000000-E	Geotextile for Soil Stabilization	270 - Geotextile for Soil Stabilization	II. D	Contingency	N/A	N/A	200	SY
Total Quantity of Geotextile for Soil Stabilization =							300	SY
2044000000-E	6" Perforated Subdrain Pipe	815 - Subsurface Drainage	II. C	Contingency	N/A	N/A	200	LF
Total Quantity of 6" Perforated Subdrain Pipe =							200	LF

These Items Only Impact Earthwork Totals								
N/A	Shrinkage Factor	235 - Embankments	III. C	N/A	N/A	N/A	25	%

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