

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

November 21, 2014

MEMORANDUM TO: Gary R. Lovering, PE.

Roadway Design Project Engineer

Paul Atkinson, PE

Hydraulic Project Engineer

FROM: John L. Pilipchuk, LG, PE Docusigned by:

State Geotechnical Engineer

John L. Pilipchuk

- 52C44B94B8BE444...

STATE REFERENCE: R-5021 STATE PROJECT: 41582.1.1 COUNTY: Brunswick

DESCRIPTION: NC 211 from SR 500 (Midway Road) to NC 87

SUBJECT: Geotechnical Report

The Geotechnical Engineering Unit has reviewed and presents the following report prepared by Catlin Engineers and Scientists for the above referenced project.

X Preliminary Geotechnical Recommendations (2) pages

N/A Roadway Inventory () pages

<u>N/A</u> Roadway Recommendations () pages

Please call J. Lee Stone, PG (252) 355-9054 or Thein Tun Zan, PE at (919) 662-4710 if there are any questions concerning this memorandum.

Attachment

CC: Jamey Batts, P.E., Geotechnical Engineering Unit Jackson Provost, P.E., Division Construction Engineer

LOCATION:



Telephone: (910) 452-5861 Fax: (910) 452-7563

www.catlinusa.com

November 21, 2014

Memorandum To: John Pilipchuk, LG, PE

State Geotechnical Engineer

From: Steven V. Hudson, LG

CATLIN Project Geologist

State Project: 41582.1.1 (R-5021)

F.A. Number: STP-0211(21) County: Brunswick

Description: NC 211 from SR 500 (Midway Road) to NC 87

Subject: Preliminary Geotechnical Recommendations for Right-of-Way and

Hydraulic Design

CATLIN Engineers and Scientists has reviewed the roadway plans dated March 20, 2015 and provides the following recommendations for right-of-way (ROW) and hydraulic design.

Slopes

Recommend that all slopes be constructed at a ratio of 3:1 (H:V) or flatter.

Special Ditches

Due to seasonal high ground water and poor drainage conditions, a special ditch is recommended at the following locations:

LINE	STATION +/-	LOCATION
-L-	47+00 to 64+00	Left Side
-L-	47+00 to 57+21	Right Side
-L-	86+50 to 100+74	Left and Right Side
-L-	144+80 to 152+60	Left and Right Side
-L-	221+00 to 225+50	Left and Right Side
-L-	227+45 to 237+95	Left Side
-L-	226+45 to 242+20	Right Side

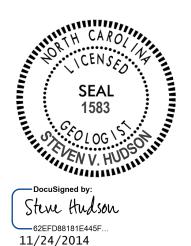
<u>LINE</u>	STATION +/-	LOCATION
-L-	401+00 to 419+69	Left and Right Side
-Y-	12+30 to 30+37	Left and Right Side
-Y3-	13+01 to 15+50	Left and Right Side
-Y4-	11+20 to 12+00	Left Side
-Y22-	14+00 to 23+20	Left or Right Side

The bottom of the ditch should be at least 5.0 feet below subgrade at the edge of the proposed pavement.

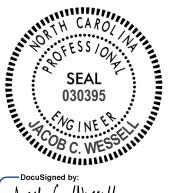
Underdrains may be used in lieu of special ditches in areas where ROW is a concern.

If you should have any questions or need additional information, please feel free to contact us at (910) 452-5861.

Sincerely,



Steven V. Hudson, LG CATLIN Project Manager



Jacob C. Wessell

7D9CE6DDE1D8462...
11/24/2014

Jacob C. Wessell, PE CATLIN Project Engineer

Cc: J. Lee Stone, LG, Project Geological Engineer Cheryl A. Youngblood, LG, Senior Project Geological Engineer Thein, T. Zan, PE, Geotechnical Engineer

R5021_Prerecs_Rev-2.docm