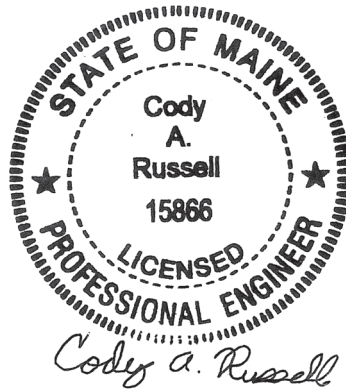


**MAINE DEPARTMENT OF TRANSPORTATION
HIGHWAY PROGRAM
GEOTECHNICAL SECTION
AUGUSTA, MAINE**

GEOTECHNICAL DATA REPORT

For Drainage Improvements on
**ROUTES 1B & 215
NEWCASTLE, MAINE**

Prepared by:
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Reviewed by:
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Senior Geotechnical Engineer

Lincoln County
WIN 24355.00

Soils Report 2023-13
May 24, 2023

INTRODUCTION

The purpose of this data report is to document subsurface information collected for drainage improvements on Route 1B and Route 215 in Newcastle. The project begins at Pump Street and extends northwest 0.09 of a mile, including the Route 1B ramp and 0.07 of a mile on Route 215 beginning at Route 1B, as shown on the attached Location Map. The project is needed to address the closed drainage system, which is in poor condition and cannot handle larger rainfall events. This report presents the results of a limited geotechnical investigation performed along the proposed drainage improvements project. Route 1B and Route 215 are Highway Corridor Priority 2 roads.

SUBSURFACE INVESTIGATION

Five (5) probes were drilled along Route 215 by the MaineDOT drill crew using a trailer mounted drill rig. The details and sampling methods used, field data obtained, soil conditions encountered, and exploration locations are presented in the attached Boring Location Plan and Boring Logs.

A Northeast Transportation Training and Certification Program (NETTCP) certified Subsurface Inspector logged the subsurface conditions encountered. The MaineDOT geotechnical engineer selected the probe locations and drilling methods, designated type and depth of sampling techniques, reviewed boring logs and identified field testing requirements. The probes were located in the field by taping to surveyed site features after completion of the drilling program.

CLOSURE

This Geotechnical Data Report has been prepared for the use of the MaineDOT Highway Program for specific application to the proposed Route 1B and Route 215 drainage improvements in Newcastle, Maine in accordance with generally accepted geotechnical and foundation engineering practices. No other intended use or warranty is expressed or implied.

MaineDOT conducted a limited number of soil explorations at discrete locations along the project alignment. No interpretations or conclusions have been derived from this geotechnical information. MaineDOT shall not be responsible for the Bidder's or Contractor's interpretations, estimates, or conclusions derived from the geotechnical information. Data provided may not be representative of the subsurface conditions between exploration locations.

In the event that any changes in the nature, design, or location of the proposed project are planned, this report should be reviewed by a geotechnical engineer to assess the appropriateness of the information presented and to modify the information as appropriate to reflect the changes in design. The information presented is based in part upon a limited subsurface investigation at discrete exploratory locations completed at the site. If variations from the conditions encountered during the investigation appear evident during construction, it may also become necessary to re-evaluate the information presented in this report.

It is recommended that a geotechnical engineer be provided the opportunity for a review of the design and specifications in order that information presented in this report is properly implemented in the design and specifications.

Attachments:

Location Map
Boring Location Plan
Key to Soil and Rock Descriptions and Terms
Boring Logs



NEWCASTLE, MAINE

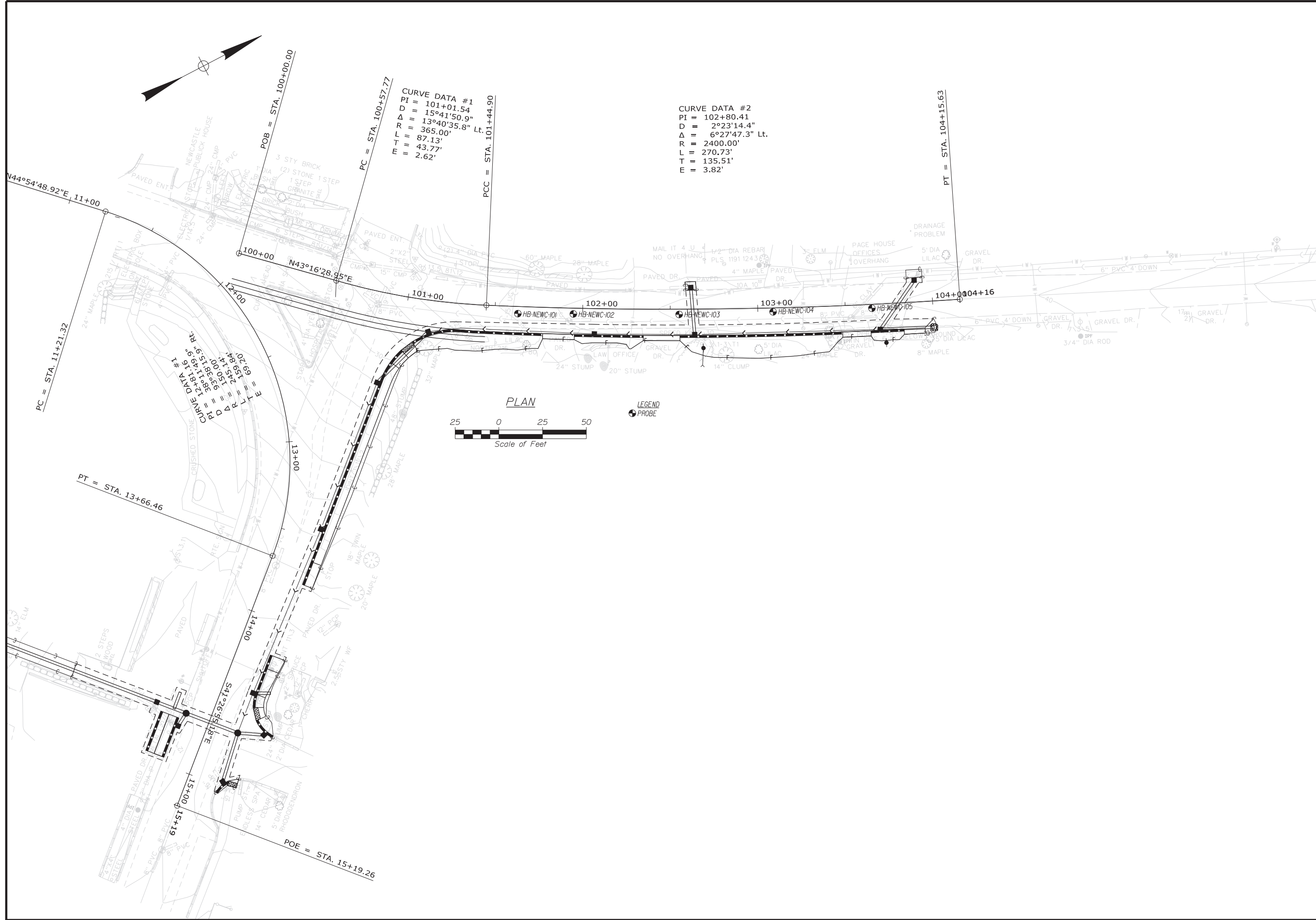


The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.1 Miles
1 inch = 0.11 miles

Date: 5/16/2023
Time: 9:50:20 AM

SHEET NUMBER	<h1>1</h1>	<h2>NEWCASTLE</h2> <h2>ROUTE 215</h2>		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
		<h2>LOCATION MAP</h2>		24355.00	
OF 2				WIN 24355.00	



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER	24355.00
WIN	24355.00
DATE	
BY	
DATE	
DESIGNED	
CHECKED	
DESIGNED-REVIEWED	
CHECKED-REVIEWED	
DESIGNED-DETAILED	C. RUSSELL
CHECKED-DETAILED	T. WHITE
DESIGNED-DETAILED	
CHECKED-DETAILED	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	
SIGNATURE	
P.E. NUMBER	
DATE	

NEWCASTLE
ROUTE 215
BORING LOCATION PLAN

SHEET NUMBER
2
OF 2

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS	Project: Route 215 Closed Drainage Improvements Location: Newcastle, Maine	Boring No.: HB-NEWC-104 WIN: 24355.00
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Drilling Contractor: MaineDOT	Elevation (ft.): 37.8	Auger ID/OD: 5" Dia.
Operator: Daggett/Westtrack	Datum: NAVD88	Sampler: N/A
Logged By: B.Wilder	Rig Type: CME 45C	Hammer Wt./Fall: N/A
Date Start/Finish: 1/22/2020-1/22/2020	Drilling Method: Solid Stem Auger	Core Barrel: N/A
Boring Location: 103+08.7, 2.2 ft Rt.	Casing ID/OD: N/A	Water Level*: None Observed

Definitions: D = Spill Spoon Sample MU = Unsuccessful Thin Wall Tube Sample Attempt WO1P = Weight of 1 Person
 S = Sample off Auger Flights R = Rock Core Sample S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
 B = Bucket Sample off Auger Flights HSA = Solid Stem Auger S_{u(lab)} = Lab Vane Undrained Shear Strength (psf) LL = Liquid Limit
 MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q_p = Unconfined Compressive Strength (ksf) PL = Plastic Limit
 U = Thin Wall Tube Sample RC = Roller Cone N-value = Raw Field SPT N-value PI = Plasticity Index
 MV = Unsuccessful Field Vane Shear Test Attempt WOH = Weight of 140lb. Hammer T_v = Pocket Torvane Shear Strength (psf) G = Grain Size Analysis
 V = Field Vane Shear Test PP= Pocket Penetrometer WOR/C = Weight of Rods or Casing WC = Water Content, percent ≅ = Similar or Equal too C = Consolidation Test

Depth (ft.)	Sample Information									Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log			
0						SSA				Probe, no material descriptions given.	
5											
10								27.8		Bottom of Exploration at 10.0 feet below ground surface. NO REFUSAL	10.0
15											
20											
25											

Remarks:

