



State of Delaware
Department of Natural Resources and Environmental Control
Delaware Division of Parks and Recreation
89 Kings Highway
Dover, Delaware 19901

ADDENDUM No. Three

Project Name: Auburn Heights State Park – Farm Lane Bridge & Snuff Mill Bridge Abutments

Project No.: NVF-11

Date of Issue: January 2, 2019

Notice No. 3: Attach this addendum to the Project Manual for this project. It modifies and becomes part of the Bidding Documents. Work or material not specifically mentioned herein is to be as described in the main body of the specification and as shown on the drawings.

Bids Due: **Wednesday, January 9, 2019 at 2:00 PM**

DNREC Division of Parks and Recreation
Richardson and Robbins Building, **Auditorium**
89 Kings Highway
Dover, DE 19901

QUESTIONS

1. Noted below we are in receipt of addendum #2. I am assuming an addendum #1 exists. I could not locate it on the website. Please advise.
 - [Addendum #1 was issued to revise the Pre-Bid Opening date from January 8th to January 9th at 2:00 PM. See the above for revised bid opening date.](#)
2. The plans require the contractor to design a support of excavation / cofferdam system for the piers. The plans also indicate rock at a high elevation. In order to properly evaluate our options, please provide any soil boring the Department may have.
 - [Borings for the Snuff Mill Bridge are in the Contract Plans, Sheet S706. Borings for the Farm Lane Bridge are included with this Addendum.](#)
3. The plans (Sheet S602 & S702) indicate details for excavation and backfill with support of excavation and an alternate detail for sloping of the excavation. Given that the work is in close proximity to stream / roads, and that the plan view indicates support of excavation is required, please explain what is the purpose of the alternate detail?

- Temporary excavation support is anticipated for both bridges and the Contractor must be aware of and account for the close proximity of the creek at both locations. The Alternate excavation method shall not be used.
4. Is it acceptable to install the pile and perform the load test prior to excavation given that trying to do these inside the excavation / cofferdam could be problematic.
- Yes, the testing of the piles may be performed before excavation for the footings.



JOHN D. HYNES & ASSOCIATES, INC.

*Geotechnical and Environmental Consultants
Monitoring Well Installation
Construction Inspection and Materials Testing*

February 15, 2018

Mr. Walter J. Hoey, III, P.E.
Century Engineering, Inc.
4134 North Dupont Highway
Dover, Delaware 19901

Re: Report of Subsurface Exploration and Laboratory Testing Services
Century – Auburn Heights State Park: Farm Lane Bridge
Project No.: JDH-10/17/506

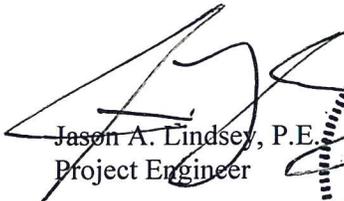
Dear Walt:

John D. Hynes & Associates, Inc. has completed the authorized subsurface exploration and laboratory testing for the proposed Auburn Heights State Park: Farm Lane Bridge project located in Yorklin, Delaware. Our services were performed, generally, in accordance with our proposal dated December 7, 2017.

We have attached the test boring logs and tables of the laboratory test results. The laboratory tests were performed on samples selected by Century Engineering, Inc.

We appreciate the opportunity to be of service to you. If you have any questions regarding the contents of this report or if we may be of further assistance, please contact our office.

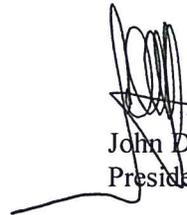
Respectfully,
JOHN D. HYNES & ASSOCIATES, INC.

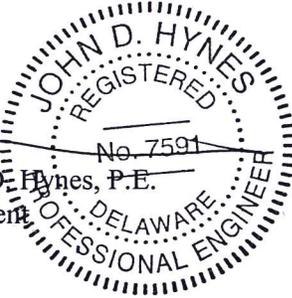

Jason A. Lindsey, P.E.
Project Engineer

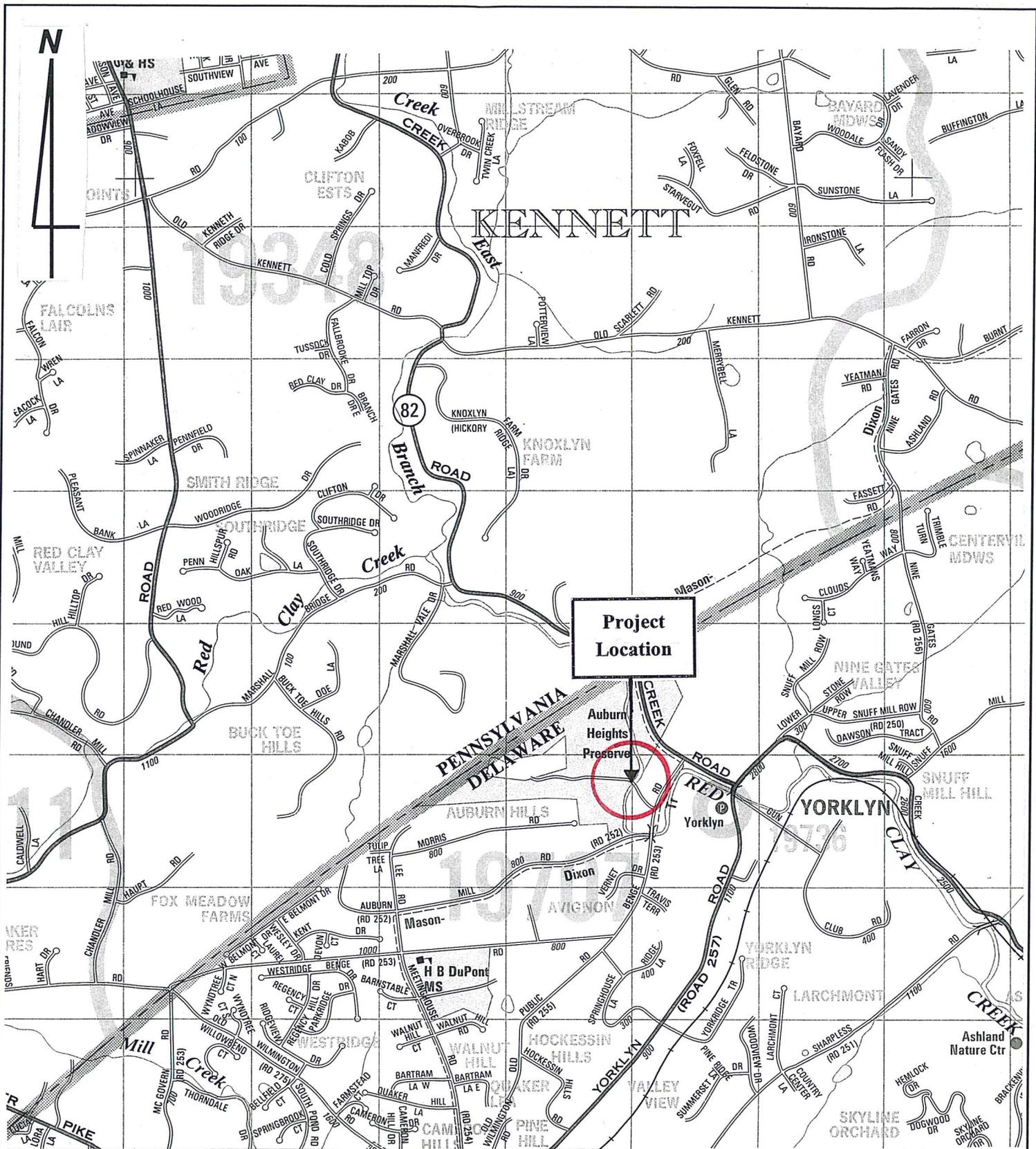


JAL: JDH/jsl

Attachments


John D. Hynes, P.E.
President





JOHN D. HYNES & ASSOCIATES, INC.

32185 Beaver Run Drive • Salisbury, Maryland 21804
410-546-6462 / Fax: 410-548-5346

Date: February 15, 2018

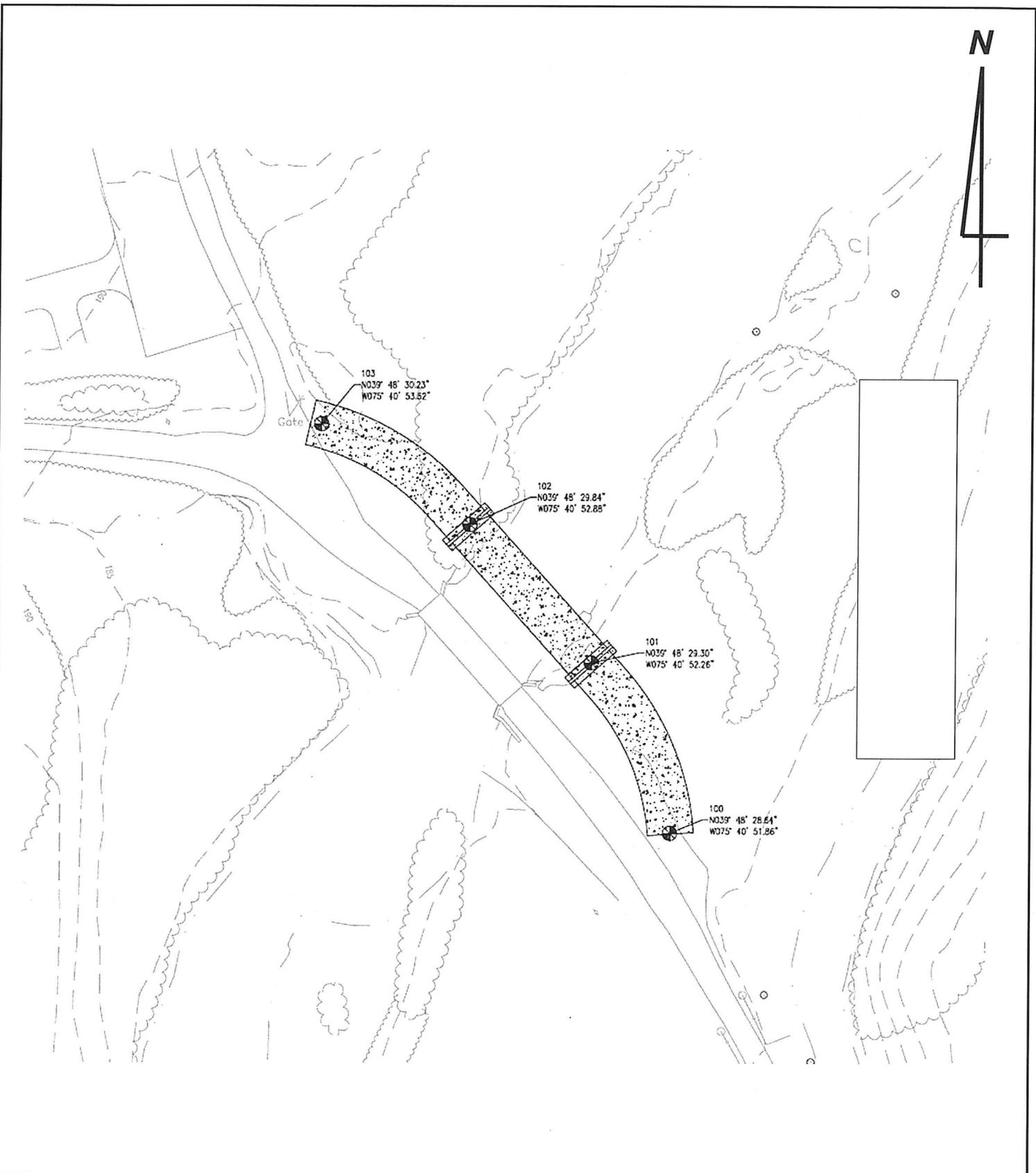
Scale: 1 in. = 2,000 ft.

Drawn: ADC Maps

Project Location Map
Century - Auburn Heights State Park Farm Lane Bridge
Yorklyn, Delaware

DWG. No.

JDH-10/17/506-A



JOHN D. HYNES & ASSOCIATES, INC.

32185 Beaver Run Drive • Salisbury, Maryland 21804
410-546-6462 / Fax: 410-548-5346

Date: February 15, 2018

Scale: 1 in. ≈ 45 ft.

Drawn: Century

Boring Location Plan
Century – Auburn Heights State Park Farm Lane Bridge
Yorklyn, Delaware

DWG. No.

JDH-10/17/506-B



**HYNES
&
ASSOCIATES**

LOG OF BORING B-100

(Page 1 of 1)

Century Engineering, Inc.
4134 North DuPont Highway
Dover, Delaware 19901

Date Completed: : January 16, 2018
 Logged By: : J. Lindsey
 Drilled By: : M. Hynes
 Drilling Method: : HSA (Geoprobe 3230)
 Total Depth: : 30 feet

Century-Auburn Heights-Farm Lane Bridge
 Project No.: JDH-10/17/506

Depth in Feet	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blow Count	REMARKS
0	Brown, wet, soft, clayey SILT, with little fine to medium sand, trace fine gravel		ML	1	2-2-3-4	Scale 1" ~ 5 feet
2	Brown, wet, soft, silty CLAY, with trace fine to medium sand (micaceous)		CL	2	1-2-3	Approximately 12 inches of organic bearing soil was encountered at the ground surface.
4	Brown, wet, medium stiff, SILT and fine SAND, with trace clay (micaceous)		ML/SM	3	1-2-4	Groundwater was encountered at 11 feet during drilling operations.
6	Gray, wet, medium dense, fine to medium SAND, with some silt (decomposed rock)		SM	4	2-13-14	
8	Brown, saturated, hard, clayey SILT, with little fine to medium sand (micaceous)		ML	5	31-23-22	
10	Dark brown, saturated, very dense, fine to medium SAND, with some silt (decomposed rock and rock-cobbles or boulders)		SM	6	14-22-30	
12				7	50/1"	
14	Gray, hard, slightly weathered, fine to medium grained GNEISS, close, subhorizontal to vertical fractures (Rec. = 100%, RQD = 69%)			8		
16	Auger refusal at 30 feet.					
18						
20						
22						
24						
26						
28						
30						
32						



**HYNES
&
ASSOCIATES**

LOG OF BORING B-101

(Page 1 of 1)

Century Engineering, Inc.
4134 North DuPont Highway
Dover, Delaware 19901

Date Completed: : January 15, 2018
 Logged By: : J. Lindsey
 Drilled By: : M. Hynes
 Drilling Method: : HSA (Geoprobe 3230)
 Total Depth: : 30 feet

Century-Auburn Heights-Farm Lane Bridge
 Project No.: JDH-10/17/506

Depth in Feet	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blow Count	REMARKS
0	Brown, wet, soft, clayey SILT, with trace fine to medium sand		ML	1	2-2-2-3	Scale 1" ~ 5 feet
2	Brown, wet, soft, clayey SILT, with little fine sand (micaceous)		ML	2	1-2-3	Approximately 6 inches of organic bearing soil was encountered at the ground surface.
4						Groundwater was encountered at 12 feet during drilling operations.
6	Brown, wet to saturated, medium dense to very dense, fine to coarse SAND, with trace to little silt, trace clay (decomposed rock, rock at 23 feet, cobbles or builders)			3	1-4-10	
8				4	21-40-50/4"	
10				5	12-21-33	
12			SP-SM	6	24-13-23	
14				7	50/1"	
16				8		
18						
20						
22						
24						
26	Gray, hard, slightly weathered, fine to medium grained GNEISS, close, dipping to subvertical fractures (Rec. = 93%, RQD = 53%)					
28						
30	Auger refusal at 30 feet.					
32						



**HYNES
&
ASSOCIATES**

LOG OF BORING B-102

(Page 1 of 1)

Century Engineering, Inc.
4134 North DuPont Highway
Dover, Delaware 19901

Date Completed: : January 17, 2018
 Logged By: : J. Lindsey
 Drilled By: : M. Hynes
 Drilling Method: : HSA (Geoprobe 3230)
 Total Depth: : 26 feet

Century-Auburn Heights-Farm Lane Bridge
 Project No.: JDH-10/17/506

Depth in Feet	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blow Count	REMARKS
0	Brown, wet, soft, clayey SILT, with little fine to medium sand		ML	1	1-2-2-3	Scale 1" ~ 5 feet Approximately 12 inches of organic bearing soil was encountered at the ground surface. Groundwater was encountered at 8 feet during drilling operations.
2				2	2-4-4	
4	Brown, wet to saturated, dense, fine to coarse SAND, with trace to little silt (decomposed rock)		SP-SM	3	3-16-20	
6				4	3-21-16	
8	Dark brown, wet, very stiff to hard, clayey SILT, with little fine to medium sand (decomposed rock, rock at 19 to 21 feet-cobbles/boulders)		ML	5	9-11-16	
10				6	50/5"	
12				7		
14	Gray, hard, slightly weathered, fine to medium grained GNEISS, close, subvertical to vertical fractures (Rec. = 88%, RQD = 69%)					
16	Auger refusal at 26 feet.					
18						
20						
22						
24						
26						
28						
30						
32						



**HYNES
&
ASSOCIATES**

LOG OF BORING B-103

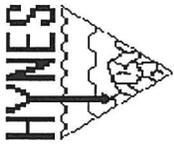
(Page 1 of 1)

Century Engineering, Inc.
4134 North DuPont Highway
Dover, Delaware 19901

Date Completed: : January 22, 2018
 Logged By: : J. Lindsey
 Drilled By: : M. Hynes
 Drilling Method: : HSA (Geoprobe 3230)
 Total Depth: : 30 feet

Century-Auburn Heights-Farm Lane Bridge
 Project No.: JDH-10/17/506

Depth in Feet	DESCRIPTION	GRAPHIC	USCS	Sample No.	Blow Count	REMARKS
0	Brown, wet, soft, clayey SILT, with little fine to medium sand		ML	1	2-2-2-4	Scale 1" ~ 5 feet
2	Brown, wet, soft, clayey SILT, with little fine to medium sand (micaceous)		ML	2	1-2-3	Approximately 12 inches of organic bearing soil was encountered at the ground surface.
4	Brown, wet, loose, fine to medium SAND, with some silt (decomposed rock)		SM	3	1-2-4	Groundwater was encountered at 8 feet during drilling operations.
6	Dark brown, saturated, medium dense, fine to medium SAND, with little silt, trace clay (decomposed rock)		SP-SM	4	8-11-17	At completion water was at 6.5 feet
8	Brown, saturated, medium dense to dense, fine to medium SAND, with some silt (decomposed rock, rock at 23 feet-cobbles/boulders)		SM	5	4-8-16	
10				6	8-31-46	
12						
14						
16						
18						
20						
22						
24	Gray, hard, slightly weathered, fine to medium grained GNEISS, close, moderately dipping to vertical fractures (Rec. = 71%, RQD = 69%)			7		
26						
28						
30	Auger refusal at 30 feet.					
32						



JOHN D. HYNES & ASSOCIATES, INC.

Geotechnical and Environmental Consultants

Monitoring Well Installation

Construction Inspection and Materials Testing

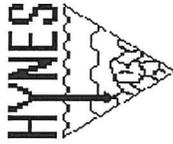
Laboratory Test Results

Century - Auburn Heights State Park Farm Lane Bridge

Project No.: JDH-10/17/506

Boring No./Sample No.	B-100/S-2	B-100/S-3	B-100/S-4	B-101/S-2	B-101/S-3	B-101/S-4	B-102/S-2	B-102/S-3
Begin Depth (ft.)	3	6	9	3	6	9	3	6
End Depth (ft.)	4.5	7.5	10.5	4.5	7.5	10.5	4.5	7.5
Sieve Size	Percent Passing							
1"					100			
¾"					65.6			
½"					43.0			
⅜"		100			43.0			
No. 4		99.9			36.6			
No. 10		99.2			29.0			
No. 20		98.1			22.9			
No. 40		94.6			17.1			
No. 60		84.7			12.1			
No. 100		66.5			8.0			
No. 200		45.2			4.7			
Liquid Limit		NP*			NP			
Plasticity Index		NP			NP			
Natural Moisture %	26.8	27.9	6.5	26.5	6.8	9.3	25.4	11.5

Non-Plastic



JOHN D. HYNES & ASSOCIATES, INC.

Geotechnical and Environmental Consultants

Monitoring Well Installation

Construction Inspection and Materials Testing

Laboratory Test Results

Century - Auburn Heights State Park Farm Lane Bridge

Project No.: JDH-10/17/506

Boring No./Sample No.	B-102/S-4	B-103/S-2	B-103/S-3	B-103/S-4	B-103/S-5
Begin Depth (ft.)	9	3	6	9	14
End Depth (ft.)	10.5	4.5	7.5	10.5	15.5
Sieve Size	Percent Passing				
1"	100				
3/4"	94.4				
1/2"	83.9				
3/8"	82.0				
No. 4	71.2				
No. 10	58.9				
No. 20	43.7				
No. 40	27.6				
No. 60	17.8				
No. 100	11.1				
No. 200	6.1			10.4	
Liquid Limit				NP	
Plasticity Index				NP	
Natural Moisture %	11.4	26.0	34.9	8.8	12.0