

22-1670 S

December 30, 2022

Barton & Loguidice
Attention: Travis Lucia
383 US Route 1, Suite 2A
Scarborough, ME 04074

Subject: Subsurface Exploration Services
Proposed Mast Arm and Overhead Signage Structures
Gorham Road, Beech Ridge Road, County Road, & Saco Street
Scarborough, Maine

Dear Travis:

In accordance with our Proposal, dated October 21, 2022, we have performed subsurface explorations for the subject project.

SCOPE AND PURPOSE

The purpose of our services was to obtain subsurface data for use by others in foundation design of the proposed mast arm and overhead signage. Our scope of services included test boring explorations, soils laboratory testing for soil classification, and preparation of this data report..

SITES AND PROPOSED CONSTRUCTION

We understand proposed construction includes new mast arm and overhead signage structures at three separate intersections in Scarborough, Maine, as follows:

- Intersection of Saco Street and County Road (Route 22): Two new 35-foot mast arms and two new 30-foot mast arms.
- Intersection of Gorham Road (Route 114) and County Road (Route 22): One new 50-foot mast arm, one new 40-foot mast arm, and one new overhead signage structure with independent foundations on either side of the traveled

way.

- Intersection of Saco Street, Gorham Road (Route 114) and Beech Ridge Road: One new 40-foot mast arm, two new 30-foot mast arms, and one new 15-foot mast arm.

EXPLORATION AND TESTING

Twelve test borings were made at the subject site as follows:

- Borings B-301 through B-304 at the intersection of Saco Street and County Road;
- Borings B-401 through B-404 made at the intersection of Gorham Road and County Road, and;
- Borings B-501 through B-504 made at the intersection of Saco Street, Gorham Road, and Beech Ridge Road.

The borings were made on December 5 through 9, 2022 by New England Boring Contractors of Hermon, Maine, working under subcontract to S. W. Cole Engineering, Inc. (S.W.COLE). The exploration locations were selected by Barton & Loguidice and adjusted in the field by S. W. Cole Engineering, Inc. (S.W.COLE) due to access limitations and conflicts with existing utilities. "Exploration Location Plans" showing the approximate exploration locations and logs of the test borings are attached.

The borings were made using a combination of hollow-stem augers and cased wash-boring techniques. The soils were sampled at 2-to-5-foot intervals using a split spoon sampler and Standard Penetration Test (SPT) methods. Pocket Penetrometer Tests (PPT) were performed on spilt spoon samples where stiff cohesive soils were encountered. In-situ Vane Shear Tests (VSTs) and rod probing were performed in select borings where softer cohesive soils were encountered to help estimate undrained shear strengths and clay thickness. SPT blow counts, PPT, VST, and rod probing results are noted on the logs.

Soil samples obtained from the borings were returned to our laboratory for further classification and testing. Laboratory testing included two grain size analyses and four moisture content test. Grain size analysis results are attached. Moisture content test results are noted on the boring logs.

SUBSURFACE FINDINGS

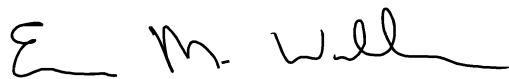
In summary, the explorations encountered topsoil and fill, overlying native glaciomarine deposits of medium dense to very loose sand and stiff to soft silty clay. Relatively thick deposits of soft gray silty clay were encountered in borings B-401, B-402, B-403, and B-404. Saturated soils were encountered in the borings at depths ranging from about 2 to 10 feet. Not all the strata were encountered at each exploration; refer to the attached logs for more detailed subsurface information.

CLOSURE

This letter has been prepared for the exclusive use of Barton & Loguidice for specific application to the Proposed Mast Arm and Overhead Signage Structures at Gorham Road, Beech Ridge Road, County Road, & Saco Street in Scarborough, Maine. S.W. COLE has endeavored to conduct our services in accordance with generally accepted geotechnical practices. No warranty, expressed or implied, is made.

Sincerely,

S. W. Cole Engineering, Inc.



Evan M. Walker, P.E.
Senior Geotechnical Engineer

EMW:tjb

Encl: Exploration Location Plans (3)
Test Boring Logs
Key to Notes and Symbols used on Logs
Gradation Test Reports

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LEGEND

 APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN PREPARED FROM ORTHOIMAGERY ENTITLED "ORTHOREGIONAL2017," PROVIDED BY THE MAINE GEOLIBRARY.
2. THE BORINGS WERE LOCATED IN THE FIELD BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE GPS RECEIVER.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND IS NOT TO BE USED FOR CONSTRUCTION.



BARTON & LOGUIDICE

EXPLORATION LOCATION PLAN

PROPOSED MAST ARM AND OVERHEAD SIGNAGE STRUCTURES
GORHAM RD, BEECH RIDGE RD, COUNTY RD & SACO ST
SCARBOROUGH, MAINE

Job No.	22-1670	Scale	1" = 30'
Date:	12/29/2022	Sheet	1

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LEGEND

 APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN PREPARED FROM ORTHOIMAGERY ENTITLED "ORTHOREGIONAL2017," PROVIDED BY THE MAINE GEOLIBRARY.
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BARTON & LOGUIDICE

EXPLORATION LOCATION PLAN

PROPOSED MAST ARM AND OVERHEAD SIGNAGE STRUCTURES
GORHAM RD, BEECH RIDGE RD, COUNTY RD & SACO ST
SCARBOROUGH, MAINE

Job No.	22-1670	Scale	1" = 30'
Date:	12/29/2022	Sheet	2

R:\2022\22-1670\ArcProject\22-1670.aprx, 12/29/2022 3:29 PM 22-1670 Sheet 3 - ELP, Scale: 1:360, CMORRISON, S. W. COLE ENGINEERING, INC.



LEGEND

 APPROXIMATE BORING LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN PREPARED FROM ORTHOIMAGERY ENTITLED "ORTHOREGIONAL2017," PROVIDED BY THE MAINE GEOLIBRARY.
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4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND IS NOT TO BE USED FOR CONSTRUCTION.



BARTON & LOGUIDICE

EXPLORATION LOCATION PLAN

PROPOSED MAST ARM AND OVERHEAD SIGNAGE STRUCTURES
GORHAM RD, BEECH RIDGE RD, COUNTY RD & SACO ST
SCARBOROUGH, MAINE

Job No.	22-1670	Scale	1" = 30'
Date:	12/29/2022	Sheet	3



BORING LOG

BORING NO.: B-301
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/5/2022
DATE FINISH: 12/5/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 20.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Mobile B-53 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 Water Level ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	∇	0-2	24/17	2-2-1-1		2.0 Loose, dark brown and black, silty SAND, some gravel, with roots and asphalt (FILL) Loose, brown, SAND, trace silt, trace fine gravel		
			2D	∇	2-4	24/17	2-2-3-5				
	5		3D	∇	5-7	24/15	3-4-4-4				
	10		4D	∇	10-12	24/14	2-1-2-3				
	15								Running Sands and Sand Heave in Augers Below 10' - No Sampling, Auger to 20'	∇	
	20								3' of Sand Heave in Augers at 20'		

Bottom of Exploration at 20.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-301



BORING LOG

BORING NO.: B-302
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/6/2022
DATE FINISH: 12/6/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 3 in / 3 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/- During Drilling ∇ 8.5 ft Water at 8.5' After Pulling Casing

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 Water Level: ∇ At time of Drilling, ∇ At Completion of Drilling, ∇ After Drilling
 D = Split Spoon Sample, U = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear
 Pen. = Penetration Length, Rec. = Recovery Length, bpf = Blows per Foot, mpf = Minute per Foot
 WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft., q_u = Unconfined Compressive Strength, kips/sq.ft., Ø = Friction Angle (Estimated), N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks	
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD					Field / Lab Test Data
			1D	∇	0-2	24/11	3-3-4-4		1.0	Vegetation / Loose, dark brown, silty SAND, some gravel, with roots and organics (Topsoil / FILL)		
			2D	∇	2-4	24/14	3-2-4-3		2.0		Loose, brown, SAND, some silt (FILL)	
	5		3D	∇	5-7	24/12	4-4-5-4	w = 4.4 %		Loose, brown, SAND, trace silt, trace fine gravel		
	10		4D	∇	10-12	24/13	2-4-3-2					
	15		5D	∇	15-17	24/6	2-2-3-3			15.0	Loose, gray-brown, silty fine to medium SAND	
	20		6D	∇	20-22	24/6	1-1-2-1		20.0	Loose, brown, medium to coarse SAND, trace silt, trace fine gravel		

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-302



BORING LOG

BORING NO.: B-303
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/5/2022
DATE FINISH: 12/5/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 3 in / 3 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	∇	0-2	24/17	2-5-4-1		Dark brown to black, silty SAND, with roots and organics (Topsoil / FILL)		
			2D	∇	2-4	24/17	2-3-3-6		Loose, orange-brown to brown, fine to medium SAND, some silt		
	5		3D	∇	5-7	24/15	5-4-5-5		Loose to very loose, brown, SAND, trace silt, trace fine gravel		
	10		4D	∇	10-12	24/20	2-2-1-3		Running Sands and Sand Heave Encountered Below 10'		
	15		5D	∇	15-17	24/0	1-1-2-2				
	20		6D	∇	20-22	24/8	2-1-1-2				

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-303



BORING LOG

BORING NO.: B-304
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/5/2022
DATE FINISH: 12/5/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 3 in / 3 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): 9 ft Soils Saturated Below 9' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 Water Level: ▽ At time of Drilling, ▽ At Completion of Drilling, ▽ After Drilling
 D = Split Spoon Sample, U = Thin Walled Tube Sample, R = Rock Core Sample, V = Field Vane Shear
 Pen. = Penetration Length, Rec. = Recovery Length, bpf = Blows per Foot, mpf = Minute per Foot
 WOR = Weight of Rods, WOH = Weight of Hammer, RQD = Rock Quality Designation, PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft., q_u = Unconfined Compressive Strength, kips/sq.ft., Ø = Friction Angle (Estimated), N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	⊗	0-2	24/2	11-24-13-13		Loose, dark brown, silty fine SAND, with organics (Topsoil / FILL)		
			2D	⊗	2-4	24/18	12-26-30-29	2.0	Dense, orange-brown to brown, silty SAND		
	5		3D	⊗	5-7	24/12	11-15-13-10	4.0	Medium dense to very loose, brown, SAND, trace silt		
	10		4D	⊗	10-12	24/13	1-2-2-1			▽	
	15		5D	⊗	15-17	24/8	2-1-2-1				
	20		6D	⊗	20-22	24/5	1-1-2-2				

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-304



BORING LOG

BORING NO.: B-401
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/6/2022
DATE FINISH: 12/6/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 38.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 3 in / 3 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Perched Water Below 2', Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
∇ Water Level
∇ At time of Drilling
∇ At Completion of Drilling
∇ After Drilling
D = Split Spoon Sample
U = Thin Walled Tube Sample
R = Rock Core Sample
V = Field Vane Shear
Pen. = Penetration Length
Rec. = Recovery Length
bpf = Blows per Foot
mpf = Minute per Foot
WOR = Weight of Rods
WOH = Weight of Hammer
RQD = Rock Quality Designation
PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.
q_u = Unconfined Compressive Strength, kips/sq.ft.
Ø = Friction Angle (Estimated)
N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks	
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD					Field / Lab Test Data
			1D	∇	0-2	24/12	1-1-1-6		0.5	Forest Duff / Dark brown to black, SILT AND SAND, with organics (TOPSOIL)		
			2D	∇	2-4	24/15	3-3-3-3		2.5	Loose, brown, silty SAND, trace organics		
	5		3D	∇	5-7	24/24	3-3-3-4	q _p =3.0 ksf		Stiff, brown mottled, silty CLAY, with sandy silt seams		
	10		4D	∇	10-12	24/24	1-1- WOH/12"	w =49.3 %	9.0	Soft, gray, silty CLAY, with occasional sand seams	∇	
	15		5D	∇	15-17	24/24	WOR/18" WOH/6"					
	20		6D	∇	20-22	24/24	WOR/18" WOH/6"					
	25											
	30											
	35											

Bottom of Exploration at 38.0 feet
No Refusal, Rod Probe Terminated in Clay

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-401

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22



BORING LOG

BORING NO.: B-402
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/7/2022
DATE FINISH: 12/7/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 6 ft Soils Wet to Saturated Below 6' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ▽ At Completion of Drilling
 ▽ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	∅	0-2	24/14	1-2-1-2		1.0	Forest Duff / Dark brown, silty SAND, with roots and organics Loose, dark brown, silty SAND, trace organics Loose to medium dense, brown, silty fine SAND, with silt seams	∇
			2D	∅	2-4	24/13	1-3-12-10	2.5			
	5		3D	∅	5-7	24/19	4-4-8-12				
	10		4D	∅	10-12	24/24	WOH/18" 1	9.0	Soft, gray, silty CLAY, with occasional sand seams		
			1V	H	12-12.4	5	S _v =0.46/0.05ksf				
			1V'	H	13-13.4	5	S _v =0.37/0.03ksf				
	15		2V	H	15-15.4	5	S _v =0.33/0.03ksf				
			2V'	H	16-16.4	5	S _v =0.33/0.01ksf				
	20		3V	H	20-20.4	5	S _v =0.3/0.01ksf				
			3V'	H	21-21.4	5	S _v =0.03/0.01ksf				

Bottom of Exploration at 22.0 feet
 No Refusal, Boring Terminated in Clay

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-402



BORING LOG

BORING NO.: B-403
SHEET: 1 of 2
PROJECT NO.: 22-1670
DATE START: 12/6/2022
DATE FINISH: 12/6/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 50.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 3 in / 3 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 5.8 ft Soil Became Saturated

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 Water Level ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks	
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD					Field / Lab Test Data
			1D		0-2	24/10	2-6-4-2		0.5	Vegetation / Dark brown, silty SAND, with organics (Topsoil / FILL)		
			2D		2-4	24/17	1-8-5-6		3.4	Medium dense, brown, silty fine SAND (Probable FILL)		
	5		3D		5-7	24/15	1-2-2-2		4.0	Loose, dark brown, silty SAND (Probable Relic Ground Surface)		
									5.5	Loose, gray-brown, silty SAND	∇	
										Loose, gray-brown, layered, clayey SILT and silty SAND		
	10		4D		10-12	24/24	3-3-2-2		10.0	Stiff, gray-brown, silty CLAY		
	15		5D		15-17	24/24	WOH/24*		12.0	Soft, gray, silty CLAY, with occasional sand seams		
	20		6D		20-22	24/24	WOR/24*	w = 55.2 %				
	25											
	30											
	35											

ROD PROBE
 Depth Resistance Interpreted Soil Type
 22-50 HYDRAULIC Silty Clay

(Continued Next Page)

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-403



BORING LOG

BORING NO.: B-403
SHEET: 2 of 2
PROJECT NO.: 22-1670
DATE START: 12/6/2022
DATE FINISH: 12/6/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
	45										
	50										

Bottom of Exploration at 50.0 feet
No Refusal, Rod Probe Terminated in Clay

BORING / WELL: 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-403**



BORING LOG

BORING NO.: B-404
SHEET: 1 of 2
PROJECT NO.: 22-1670
DATE START: 12/8/2022
DATE FINISH: 12/8/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 55.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): 5 ft Soils Wet to Saturated Below 5' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level
▽ At time of Drilling D = Split Spoon Sample Pen. = Penetration Length WOR = Weight of Rods S_v = Field Vane Shear Strength, kips/sq.ft.
▽ At Completion of Drilling U = Thin Walled Tube Sample Rec. = Recovery Length WOH = Weight of Hammer q_u = Unconfined Compressive Strength, kips/sq.ft.
▽ After Drilling R = Rock Core Sample bpf = Blows per Foot RQD = Rock Quality Designation Ø = Friction Angle (Estimated)
V = Field Vane Shear mpf = Minute per Foot PID = Photoionization Detector N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks	
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD					Field / Lab Test Data
			1D	⊗	0-2	24/12	1-2-2-3		0.8	Forest Duff / Dark brown to gray, silty SAND, with roots and organics (TOPSOIL)		
			2D	⊗	2-4	24/14	2-4-2-5		2.5	Loose, brown, SAND, some silt		
	5		3D	⊗	5-7	24/24	2-3-3-3		5.0	Loose, gray-brown, silty fine SAND, with clayey silt layers	▽	
	10		1V	H	10-10.4	5		S _v =0.31/0.02ksf		Stiff, gray-brown, silty CLAY, with sand seams		
			1V'	H	11-11.4	5		S _v =0.31/0.01ksf		Soft, gray, silty CLAY		
	15		2V	H	15-15.4	5		S _v =0.31/0.01ksf				
			2V'	H	16-16.4	5		S _v =0.31/0.01ksf				
	20											
	25											
	30											
	35											

ROD PROBE
Depth Resistance Interpreted Soil Type
16.4-54 HYDRAULIC Silty Clay

(Continued Next Page)

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-404

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22



BORING LOG

BORING NO.: **B-404**
SHEET: 2 of 2
PROJECT NO.: 22-1670
DATE START: 12/8/2022
DATE FINISH: 12/8/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
	45										
	50										
	55							54.0	Drive Rod Probe with 140 Lb. Hammer Below 54'		
									54-55 44 Blows Probable Sand		
									Bottom of Exploration at 55.0 feet		

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-404**



BORING LOG

BORING NO.: B-501
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/8/2022
DATE FINISH: 12/8/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	∇	0-2	24/13	1-4-5-10		1.0	Vegetation / Dark brown and black, silty SAND, with roots and organics	
			2D	∇	2-4	24/17	3-3-4-5			Loose, orange-brown to brown, SAND, trace silt	
	5		3D	∇	5-7	24/16	5-5-5-6		5.0	Loose, brown with oxide staining, SAND, some silt	
	10		4D	∇	10-12	24/21	4-5-5-4		10.0	Loose, brown, fine to medium SAND, some silt	∇
	15		5D	∇	15-17	24/11	1-2-3-7		15.0	Loose, brown, fine to medium SAND, trace silt	
	20		6D	∇	20-22	24/8	1-1-1-1		20.0	Very loose, brown, medium to coarse SAND, trace silt	

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-501



BORING LOG

BORING NO.: B-502
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/9/2022
DATE FINISH: 12/9/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D		0-2	24/14	2-3-2-3		Vegetation / Dark brown and black, silty SAND, with organics (Topsoil / FILL)		
			2D		2-4	24/20	4-4-7-6		2.0 Medium dense, brown, medium SAND, trace silt		
	5		3D		5-7	24/20	3-3-5-4		4.0 Loose to very loose, brown, SAND, trace silt		
	10		4D		10-12	24/15	1-1-2-2			∇	
	15		5D		15-17	24/9	2-2-2-3				
	20		6D		20-22	24/3	1-1-3-3				

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-502



BORING LOG

BORING NO.: B-503
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/8/2022
DATE FINISH: 12/8/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ∇ At Completion of Drilling
 ∇ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	X	0-2	24/15	1-2-2-5		0.5	Vegetation / dark brown, silty SAND, with organics (Topsoil / FILL)	
			2D	X	2-4	24/14	4-8-6-10		2.0	Loose, orange-brown to brown, silty SAND, with organics	
	5		3D	X	5-7	24/16	3-4-6-5	w = 9.6 %		Medium dense to very loose, brown, fine to medium SAND, trace silt	
	10		4D	X	10-12	24/11	1-1-1-2				∇
	15		5D	X	15-17	24/7	2-2-3-1				
	20		6D	X	20-22	24/11	2-2-2-3				

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-503



BORING LOG

BORING NO.: B-504
SHEET: 1 of 1
PROJECT NO.: 22-1670
DATE START: 12/9/2022
DATE FINISH: 12/9/2022

CLIENT: Barton & Loguidice
PROJECT: Proposed Mast Arm and Overhead Signage Structures
LOCATION: Gorham Rd., Beech Ridge Rd., Country Rd., and Saco St., Scarborough, Maine

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** N/A **TOTAL DEPTH (FT):** 22.0 **LOGGED BY:** John Cozens
DRILLING CO.: New England Boring Contractors **DRILLER:** Tom Schaefer **DRILLING METHOD:** Cased Boring
RIG TYPE: Mobile B-53 **AUGER ID/OD:** N/A / N/A **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic / Automatic **HAMMER WEIGHT (lbs):** 140 / 140 **CASING ID/OD:** 4 in / 4 1/2 in **CORE BARREL:** N/A
HAMMER EFFICIENCY FACTOR: _____ **HAMMER DROP (inch):** 30 / 30
WATER LEVEL DEPTHS (ft): ∇ 10 ft Soils Saturated Below 10' +/-

GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
 ∇ Water Level
 ∇ At time of Drilling
 ▽ At Completion of Drilling
 ▽ After Drilling
 D = Split Spoon Sample
 U = Thin Walled Tube Sample
 R = Rock Core Sample
 V = Field Vane Shear
 Pen. = Penetration Length
 Rec. = Recovery Length
 bpf = Blows per Foot
 mpf = Minute per Foot
 WOR = Weight of Rods
 WOH = Weight of Hammer
 RQD = Rock Quality Designation
 PID = Photoionization Detector
 S_v = Field Vane Shear Strength, kips/sq.ft.
 q_u = Unconfined Compressive Strength, kips/sq.ft.
 Ø = Friction Angle (Estimated)
 N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION					Graphic Log	Sample Description & Classification	H ₂ O Depth	Remarks
			Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD				
			1D	∇	0-2	24/20	6-8-8-3		Medium dense, black and dark brown, silty SAND, trace gravel (FILL)		
			2D	∇	2-4	24/15	5-6-6-5	2.0	Medium dense, orange-brown to brown, SAND, some silt		
	5		3D	∇	5-7	24/17	3-3-3-5	5.0	Loose, brown, fine to medium SAND, trace silt		
	10		4D	∇	10-12	24/11	2-2-2-4	10.0	Loose, brown, SAND, trace silt	∇	
	15		5D	∇	15-17	24/8	2-2-3-4	15.0	Loose, brown, medium to coarse SAND, some silt		
	20		6D	∇	20-22	24/14	2-2-3-4	20.0	Loose, rust-brown, SAND, some silt, with occasional gray silt seams		

Bottom of Exploration at 22.0 feet

BORING / WELL 10-12-2022 22-1670.GPJ SWCE TEMPLATE.GDT 12/29/22

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: B-504

KEY TO NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q _u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S _v	-	field vane shear strength, kips/sq. ft.
L _v	-	lab vane shear strength, kips/sq. ft.
q _p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W _L	-	liquid limit - Atterberg test
W _P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ _T	-	total soil weight
γ _B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
“Y”	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16” thickness
Seam:	1/16” to 1/2” thickness
Layer:	½” to 12” thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: Test Boring Explorations - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: Test Pit Explorations - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

Project Name SCARBOROUGH ME - PROPOSED TRAFFIC SIGNAL MAST ARMS
(PROJECT #4500.001.001 P04) - GEOTECHNICAL ENGINEERING

Project Number 22-1670

Client BARTON & LOGUIDICE, LLC

Lab ID 29959G

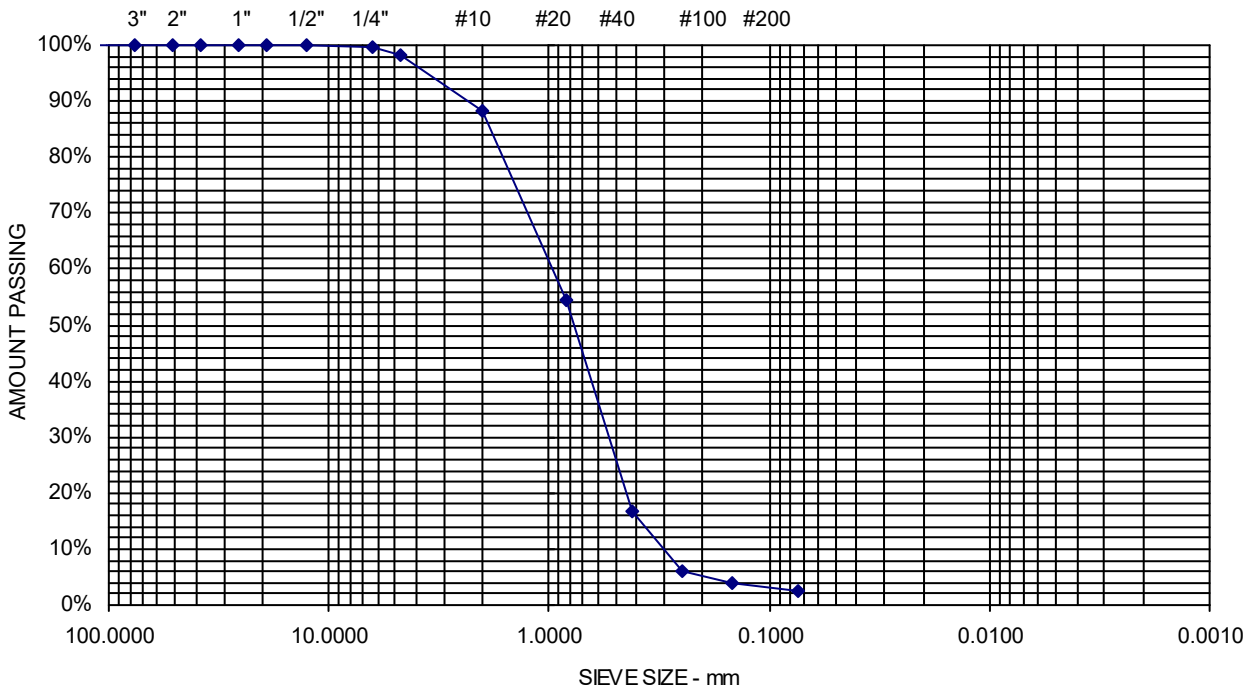
Date Received 12/29/2022

Date Completed 12/29/2022

Material Source B-302, 3D (5-7')

Tested By OLIVIA MILLS

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150 mm	6"	100	
125 mm	5"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	100	
6.3 mm	1/4"	100	
4.75 mm	No. 4	98	1.7% Gravel
2.00 mm	No. 10	88	
850 μm	No. 20	54	
425 μm	No. 40	17	95.9% Sand
250 μm	No. 60	6	
150 μm	No. 100	4	
75 μm	No. 200	2.4	2.4% Fines



Comments:



Report of Gradation

ASTM C-117 & C-136

Project Name SCARBOROUGH ME - PROPOSED TRAFFIC SIGNAL MAST ARMS
(PROJECT #4500.001.001 P04) - GEOTECHNICAL ENGINEERING

Project Number 22-1670

Client BARTON & LOGUIDICE, LLC

Lab ID 29962G

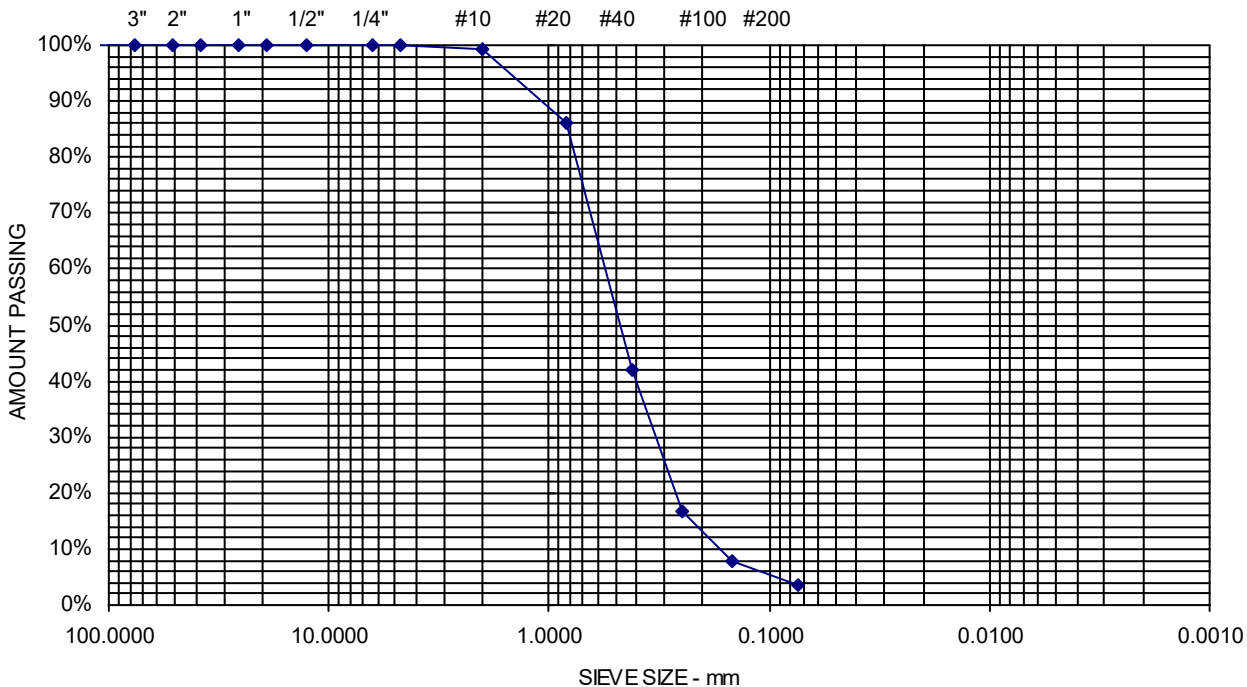
Date Received 12/29/2022

Date Completed 12/29/2022

Material Source B-503, 3D (5-7')

Tested By OLIVIA MILLS

<u>STANDARD DESIGNATION (mm/μm)</u>	<u>SIEVE SIZE</u>	<u>AMOUNT PASSING (%)</u>	
150 mm	6"	100	
125 mm	5"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	100	
38.1 mm	1-1/2"	100	
25.0 mm	1"	100	
19.0 mm	3/4"	100	
12.5 mm	1/2"	100	
6.3 mm	1/4"	100	
4.75 mm	No. 4	100	0% Gravel
2.00 mm	No. 10	99	
850 μm	No. 20	86	
425 μm	No. 40	42	96.5% Sand
250 μm	No. 60	17	
150 μm	No. 100	8	
75 μm	No. 200	3.5	3.5% Fines



Comments: