



GILL GROUP

May 4, 2021

Vaughn Bay Construction
1911 65th Avenue West
Tacoma, WA 98466

Attention: Zac Baker
Subject: Geotechnical Report
Bornstedt Village
38272 SE Highway 211
Sandy, Oregon
Gill Project No. ET237V1028

Dear Mr. Baker,

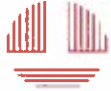
Gill Group, Inc. (Gill) is pleased to provide you with this Geotechnical Report for the above referenced site. This report includes a summary of the activities conducted, a summary of the findings, and recommendations. We appreciate the opportunity to provide the above services. If you have any questions or comments, please contact the undersigned Gill Group participant at (800) 428-3320.

Sincerely,

Gill Group, Inc.

Jacob G. Epperson
Jacob G. Epperson, P.G.

Director of Environmental Services



Date: May 4, 2021
To: Jake Epperson, P.G.
Gill Group
From: Nathan M. Villeneuve, C.E.G.
Timothy J. Pfeiffer, P.E., G.E.
Subject: Preliminary Geotechnical Investigation - DRAFT
Project: Sandy Housing Development
Project No. 2211038

We have completed the requested preliminary geotechnical investigation for the above-referenced project in Sandy, Oregon. This report provides a description of our work and a discussion of site conditions.

BACKGROUND

Gill Group is assisting with the purchase of two parcels in Sandy, Oregon. The site is located south of Highway 211 (Eagle Creek-Sandy Highway), between Village Boulevard and Pine Avenue and is currently occupied by two residential homes and pasture. The site location is shown on Figure 1A (Appendix A). Should the purchase proceed, we understand a housing development consisting of 3-story buildings will be constructed on the properties. Some of the buildings may have daylight basements.

Gill Group is the lead designer for the project. The subject property is in the process of being purchased. Gill Group retained Foundation Engineering to complete a preliminary geotechnical investigation as part the pre-purchase due-diligence process. After the properties are purchased and the site plan is developed, Phase 2 geotechnical work will be needed to provide specific geotechnical recommendations for site grading and for the design and construction of foundations and pavements. Details of our current, Phase 1 scope of work were provided in a proposal dated March 30, 2021 and authorized by a signed agreement dated April 6, 2021.

FIELD EXPLORATION

We excavated twelve (12) exploratory test pits (TP-1 through TP-12) at the site on April 27, 2021 using a CAT 306 excavator provided and operated by Wapiti Pacific Construction. The northwest quadrant of the site was not accessible during the preliminary investigation, so test pits were not excavated in this area. The approximate locations of the test pits are shown in Figure 2A (Appendix A) The test pits extended to maximum depths ranging from ± 6 to 10 feet.

The soil profiles were continuously logged during excavation and samples were collected where appropriate. Undrained shear strength measurements were made on

sampling depths, and strength measurements are shown on the test pit logs (Appendix B). The surface and subsurface conditions are discussed below.

SITE AND SUBSURFACE CONDITIONS

Surface Conditions

The site consists of sloping topography with the high elevations to the north and south and lowest elevations in the middle of the properties. The low elevations form a small drainage to the west where it intersects a road embankment. The lots are bordered on the north by Highway 211, on the east by Pine Avenue, on the south by Bornstedt Park, and on the west by Village Boulevard. Surface conditions at the time of our field exploration are shown in Photos 1 and 2 (Appendix A).

Subsurface Conditions

A general discussion of the soil conditions encountered in the test pits is provided below. More detailed descriptions of conditions encountered in each test pit are provided on the test pit logs (Appendix B).

Topsoil. A topsoil layer was encountered in all the test pits, typically extending to depths of ± 6 to 18 inches. The topsoil consists of low to medium plasticity silty clay and silt with some organics. The organics consisted of roots up to 1/2 inch in diameter.

Residual Soil. Residual soil consisting of stiff to very stiff, high plasticity clay with scattered organics was encountered in all the test pits beneath the topsoil. The residual soil extended to the bottom of each test pit. In TP-1 to TP-5, the residual soil graded to a clay with some sand and a relict rock texture.

Groundwater

No groundwater was encountered in the test pits. We anticipate perched water conditions may develop within a few feet of the ground surface during periods of prolonged rainfall based on the presence of low permeability, fine-grained soils encountered at shallow depths across the site.

PRELIMINARY CONCLUSIONS

Based on the results of our field explorations, in our opinion the site is suitable for the planned development. We anticipate the new housing units can be supported on shallow foundations (e.g., spread and continuous wall footings). Preliminary considerations for site grading and construction are discussed below.

Site preparation should include stripping the upper ± 6 to 18 inches of topsoil and removing it from structural foundation areas. The native soil is typically stiff to very stiff and will be suitable to support new structures, foundations, and pavements.

The foundation soil is primarily fine-grained and sensitive to moisture. Site grading and earthwork should be performed during the dry season (typically June through September) when aeration, moisture conditioning, and compaction are possible. Construction during the wet season will require removal of soft soil and construction of thick rock sections underlain by a separation geotextile for the building pads, pavement areas, and haul roads to support construction traffic.

As discussed above, the surficial soil is predominantly fine-grained. During dry weather the excavated soils may be reused for general site grading under pavements and landscaping areas or reworked and used as general site fill outside building areas.

ADDITIONAL GEOTECHNICAL WORK

A second phase of geotechnical work should be completed after the property is purchased and the site layout and grading plan has been established. Phase 2 will consist of developing detailed recommendations for foundation design and construction, and new pavements.

VARIATION OF SUBSURFACE CONDITIONS, USE OF THIS REPORT, AND WARRANTY

The preliminary conclusions contained herein assume the soil profiles and groundwater conditions encountered in the test pits are representative of the overall site conditions. The current scope of work does not include recommendations for site grading or for foundation and pavement design. We assume a more detailed geotechnical investigation will be conducted prior to design and construction.

No changes in the enclosed recommendations should be made without our approval. We will assume no responsibility or liability for any engineering judgment, inspection or testing performed by others.

This report was prepared for the exclusive use of Gill Group for their due diligence investigation of the Sandy Housing Development project. Information contained herein should not be used for other sites or for unanticipated design or construction without our written consent. This report is intended solely for the stated purpose. Contractors using this information to estimate construction quantities or costs do so at their own risk. Our services do not include any survey or assessment of potential surface contamination or contamination of the soil or ground water by hazardous or toxic materials. We assume that those services, if needed, have been completed by others.

Our work was done in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

Attachments






Appendix A

Figures



NOTES:
 1. Base map and contours from ESRI and USGS


 SCALE: 1" = 2,400'


 Foundation Engineering, Inc. Professional Geotechnical Services		
PROJECT NO. 2211038	DATE: 5/3/2021	DRAWN BY: NMV

VICINITY MAP

Sandy Housing Development
Sandy, Oregon

FIGURE NO.
1A



LEGEND



Approximate Test Pit Location

NOTES:

1. Test pit locations were collected with mobile GPS and are approximate.
2. Base map provided by ESRI.

N



SCALE: 1" = 160'



Foundation Engineering, Inc.
Professional Geotechnical Services

SITE PLAN

FIGURE NO.

Sandy Housing Development
Sandy, Oregon

2A

PROJECT NO.
2211038

DATE:
5/3/2021

DRAWN BY:
NMV

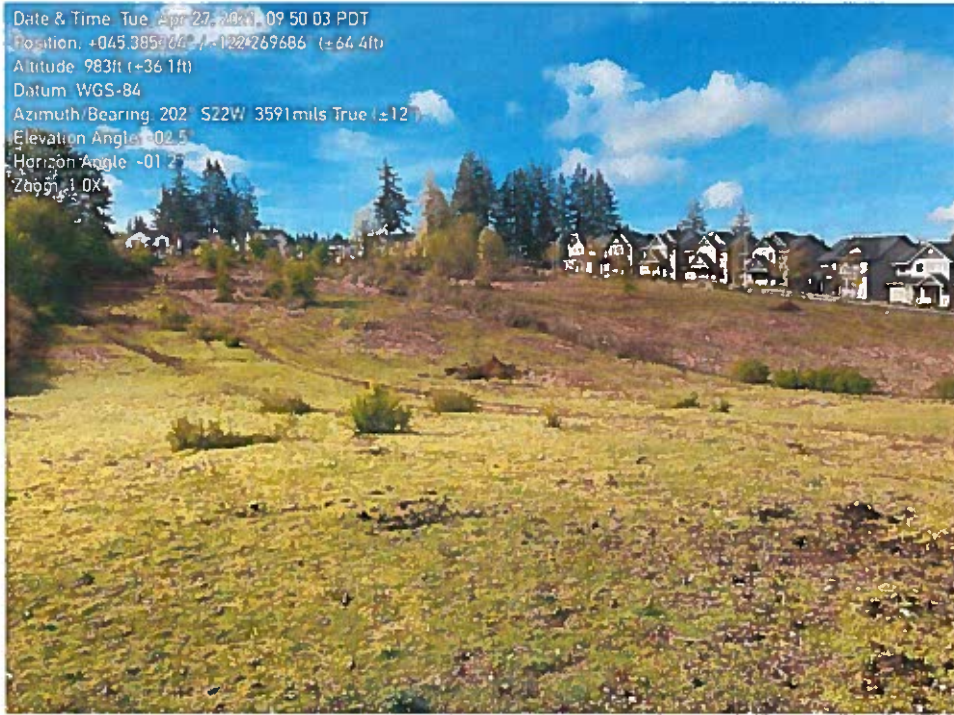


Photo 1: West side of the property, looking southwest.



Photo 2: East side of the property, looking north.



Appendix B

Test Pit Logs

DISTINCTION BETWEEN FIELD LOGS AND FINAL LOGS

A field log is prepared for each boring or test pit by our field representative. The log contains information concerning sampling depths and the presence of various materials such as gravel, cobbles, and fill, and observations of ground water. It also contains our interpretation of the soil conditions between samples. The final logs presented in this report represent our interpretation of the contents of the field logs and the results of the sample examinations and laboratory test results. Our recommendations are based on the contents of the final logs and the information contained therein and not on the field logs.

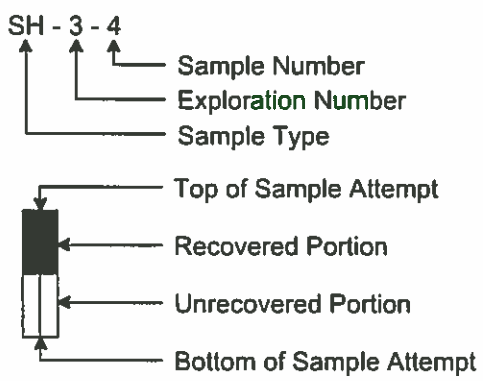
VARIATION IN SOILS BETWEEN TEST PITS AND BORINGS

The final log and related information depict subsurface conditions only at the specific location and on the date indicated. Those using the information contained herein should be aware that soil conditions at other locations or on other dates may differ. Actual foundation or subgrade conditions should be confirmed by us during construction.

TRANSITION BETWEEN SOIL OR ROCK TYPES

The lines designating the interface between soil, fill or rock on the final logs and on subsurface profiles presented in the report are determined by interpolation and are therefore approximate. The transition between the materials may be abrupt or gradual. Only at boring or test pit locations should profiles be considered as reasonably accurate and then only to the degree implied by the notes thereon.

SAMPLE OR TEST SYMBOLS



- C - Pavement Core Sample
- CS - Rock Core Sample
- OS - Oversize Sample (3-inch O.D. split-spoon)
- S - Grab Sample
- SH - Thin-walled Shelby Tube Sample
- SS - Standard Penetration Test Sample (2-inch O.D. split-spoon)

- ▲ Standard Penetration Test Resistance equals the number of blows a 140 lb. weight falling 30 in. is required to drive a standard split-spoon sampler 1 ft. Practical refusal is equal to 50 or more blows per 6 in. of sampler penetration.
- Water Content (%)

FIELD SHEAR STRENGTH TEST

Shear strength measurements on test pit side walls, blocks of soil or Shelby tube samples are typically made with Torvane or Field Vane shear devices.

WATER TABLE

Water Table Location

(1/31/16) Date of Measurement

TYPICAL SOIL/ROCK SYMBOLS

Concrete	Silt	Basalt
Organics	Sand	Sandstone
Clay	Gravel	Siltstone

UNIFIED SOIL CLASSIFICATION SYMBOLS

G - Gravel	W - Well Graded
S - Sand	P - Poorly Graded
M - Silt	L - Low Plasticity
C - Clay	H - High Plasticity
Pt - Peat	O - Organic

Explanation of Common Terms Used in Soil Descriptions

Field Identification	Cohesive Soils			Granular Soils	
	SPT*	S _u ** (tsf)	Term	SPT*	Term
Easily penetrated several inches by fist.	0 - 2	< 0.125	Very Soft	0 - 4	Very Loose
Easily penetrated several inches by thumb.	2 - 4	0.125 - 0.25	Soft	4 - 10	Loose
Can be penetrated several inches by thumb with moderate effort.	4 - 8	0.25 - 0.50	Medium Stiff	10 - 30	Medium Dense
Readily indented by thumb but penetrated only with great effort.	8 - 15	0.50 - 1.0	Stiff	30 - 50	Dense
Readily indented by thumbnail.	15 - 30	1.0 - 2.0	Very Stiff	> 50	Very Dense
Indented with difficulty by thumbnail.	> 30	> 2.0	Hard		

* SPT N-value in blows per foot (bpf)
 ** Undrained shear strength

Term	Soil Moisture Field Description
Dry	Absence of moisture. Dusty. Dry to the touch.
Damp	Soil has moisture. Cohesive soils are below plastic limit and usually moldable.
Moist	Grains appear darkened, but no visible water. Silt/clay will clump. Sand will bulk. Soils are often at or near plastic limit.
Wet	Visible water on larger grain surfaces. Sand and cohesionless silt exhibit dilatancy. Cohesive soil can be readily remolded. Soil leaves wetness on the hand when squeezed. Soil is wetter than the optimum moisture content and above the plastic limit.

Term	PI	Plasticity Field Test
Non-plastic	0 - 3	Cannot be rolled into a thread at any moisture.
Low Plasticity	3 - 15	Can be rolled into a thread with some difficulty.
Medium Plasticity	15 - 30	Easily rolled into thread.
High Plasticity	> 30	Easily rolled and re-rolled into thread.

Term	Soil Structure Criteria
Stratified	Alternating layers at least ¼ inch thick.
Laminated	Alternating layers less than ¼ inch thick.
Fissured	Contains shears and partings along planes of weakness.
Slickensided	Partings appear glossy or striated.
Blocky	Breaks into small lumps that resist further breakdown.
Lensed	Contains pockets of different soils.

Term	Soil Cementation Criteria
Weak	Breaks under light finger pressure.
Moderate	Breaks under hard finger pressure.
Strong	Will not break with finger pressure.

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description	
No seepage or groundwater encountered to the limit of exploration.	1-	S-1-1		0.70	1.0		Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to 1/2-inch diameter, (topsoil).	
	2-	S-1-2		0.90	6.0		Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, (residual soil).	
	3-			>1.00				
	4-			±1.00				
	5-	S-1-3			9.0		Very stiff to hard CLAY, some sand (CH); red-brown mottled light brown, moist, high plasticity, fine to medium sand, blocky structure, relict rock texture, (residual soil).	
	6-							
	7-							
	8-							
	9-							BOTTOM OF EXPLORATION

Project No.:	2211038	Test Pit Log: TP- 1
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description	
No seepage or groundwater encountered to the limit of exploration.	1-	S-2-1		0.86	1.0		Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).	
	2-	S-2-2		0.90	8.0		Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, (residual soil).	
	3-			±1.00				
	4-			>1.00				
	5-	S-2-3			10.0		Very stiff to hard CLAY, some sand (CH); red-brown mottled light brown, moist, high plasticity, fine to medium sand, blocky structure, relict rock texture, (residual soil).	
	6-							
	7-							
	8-							
	9-							
	10-							BOTTOM OF EXPLORATION

Project No.:	2211038	Test Pit Log: TP- 2
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-3-1	[Location Diagram]	0.56	1.0	[Symbol]	Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).
	2-			±1.00	[Symbol]	Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, (residual soil).	
	3-			±1.00			
	4-			>1.00			
	5-						
	6-						
	7-						
	8-			8.0		[Symbol]	Very stiff to hard CLAY, some sand (CH); red-brown mottled light brown, moist, high plasticity, fine to medium sand, blocky structure, relict rock texture, (residual soil).
	9-			10.0		[Symbol]	BOTTOM OF EXPLORATION
	10-						

Project No.: 2211038	Test Pit Log: TP- 3
Surface Elevation: N/A (Approx.)	Sandy Housing Development
Date of Test Pit: April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-4-1	[Location Diagram]	0.50	1.5	[Symbol]	Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).
	2-	S-4-2	[Location Diagram]	0.84		[Symbol]	Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, blocky structure, (residual soil).
	3-			0.92			
	4-	0.90					
	5-	S-4-3	[Location Diagram]	[Symbol]	6.0	[Symbol]	Very stiff to hard CLAY, some sand (CH); red-brown mottled light brown, moist, high plasticity, fine to medium sand, blocky structure, relict rock texture, (residual soil).
	6-						
	7-						
	8-						
	9-	9.0	[Symbol]	BOTTOM OF EXPLORATION			

Project No.: 2211038	Test Pit Log: TP- 4
Surface Elevation: N/A (Approx.)	Sandy Housing Development
Date of Test Pit: April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description	
No seepage or groundwater encountered to the limit of exploration.	1-	S-5-1		0.40	0.6		Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).	
	2-	S-5-2		±1.00			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, blocky structure, (residual soil).	
	3-			±1.00				
	4-			>1.00				
	5-							
	6-							
	7-	S-5-3						
	8-					7.5		Very stiff to hard CLAY, some sand (CH); red-brown mottled light brown, moist, high plasticity, fine to medium sand, blocky structure, relict rock texture, (residual soil).
	9-					9.0		BOTTOM OF EXPLORATION

Project No.: 2211038 Test Pit Log: TP- 5
 Surface Elevation: N/A (Approx.) Sandy Housing Development
 Date of Test Pit: April 27, 2021 Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-6-1		0.50	1.0		Medium stiff to stiff silty CLAY, trace sand, scattered organics, (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).
	2-	S-6-2		0.84			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).
	3-			0.70			
	4-			±1.00			
	5-						
	6-	S-6-3					
	7-						
	8-						
	9-					8.5	











Project No.: 2211038 Test Pit Log: TP- 6
 Surface Elevation: N/A (Approx.) Sandy Housing Development
 Date of Test Pit: April 27, 2021 Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-7-1		0.46	1.0		Medium stiff to stiff silty CLAY, some organics, trace sand (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of roots up to ±1/2-inch diameter, (topsoil).
	2-			0.88			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure (residual soil).
	3-	S-7-2		0.94			
	4-						
	5-						
	6-						
	7-	S-7-3					
	8-					8.0	









Project No.: 2211038	Test Pit Log: TP- 7
Surface Elevation: N/A (Approx.)	Sandy Housing Development
Date of Test Pit: April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-8-1		0.38	1.3		Medium stiff to stiff silty CLAY, trace sand, scattered organics (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of fine roots, (topsoil).
	2-	S-8-2		±1.00			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).
	3-			0.88			
	4-						
	5-						
	6-						
	7-						
	8-	S-8-3					
	9-					9.0	

Project No.: 2211038	Test Pit Log: TP- 8
Surface Elevation: N/A (Approx.)	Sandy Housing Development
Date of Test Pit: April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description		
No seepage or groundwater encountered to the limit of exploration.	1-	S-9-1		0.40	1.5		Medium stiff to stiff silty CLAY, trace sand, scattered organics (CL); brown, damp, low to medium plasticity, fine sand, organics consist of fine roots, (topsoil).		
	2-	S-9-2		0.72				Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).	
	3-			±1.00					
	4-								
	5-	S-9-3							
	6-								
	7-	S-9-4							
	8-								
	9-				9.0				

Project No.:	2211038	Test Pit Log: TP- 9
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description		
No seepage or groundwater encountered to the limit of exploration.	1-	S-10-1		0.42	1.0		Medium stiff to stiff silty CLAY, trace sand, scattered organics (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of fine roots, (topsoil).		
	2-	S-10-2		0.48				Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).	
	3-			0.70					
	4-			±1.00					
	5-	S-10-3							
	6-								
	7-				6.5				

Project No.:	2211038	Test Pit Log: TP-10
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-11-1		0.40	1.0		Medium stiff to stiff silty CLAY, trace sand, scattered organics (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of fine roots, (topsoil).
	2-	S-11-2		±1.00			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).
	3-			0.74			
	4-			>1.00			
	5-						
	6-	S-11-3					
	7-						
	8-	S-11-4					
	9-					8.5	

Project No.:	2211038	Test Pit Log: TP-11
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

Comments	Depth, Feet	Sample #	Location	C, TSF	Elev. Depth	Symbol	Soil and Rock Description
No seepage or groundwater encountered to the limit of exploration.	1-	S-12-1		0.38	1.3		Medium stiff to stiff silty CLAY, trace sand, scattered organics (CL); brown, dry to damp, low to medium plasticity, fine sand, organics consist of fine roots, (topsoil).
	2-			±1.00			Stiff to very stiff CLAY, trace sand, scattered organics (CH); red-brown, dry to damp, high plasticity, fine sand, organics consist of black wood fragments and fine roots, lenses of brown clay, blocky structure, (residual soil).
	3-	S-12-2		>1.00			
	4-			>1.00			
	5-						
	6-						
	7-						
	8-						
	9-	S-12-3					
	10-					9.5	

Project No.:	2211038	Test Pit Log: TP-12
Surface Elevation:	N/A (Approx.)	Sandy Housing Development
Date of Test Pit:	April 27, 2021	Sandy, Oregon

