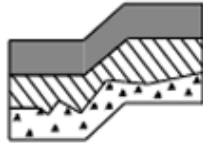


MEMORANDUM



TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

To: Paul Kemp Date: 2-26-2024
4611 Tacoma Ave LLC Project Number: 9010
From: Ben Schepper Project Name: Tacoma Ave Groundwater
Subject: Test pit excavation observations

Mr Kemp,

As requested, we investigated subsurface conditions at the site by excavating 4 test pits to maximum depths of about 7 to 8 feet below existing surface grades using a track mounted excavator. The test pit locations were approximately determined in the field by sighting and pacing from existing surface features. The approximate test pit locations are shown on Figure 1. The Test Pit Logs are presented on Figures A-2 through A-5.

A geologist from our office conducted the field exploration. Our representative classified the soil conditions encountered, maintained a log of each test pit, and recorded water levels observed during excavation. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS) described on Figure A-1

Groundwater

Groundwater seepage was observed in test pits TP-1 through TP-4. The observed seepage rates varied from light to moderate and typically occurred within the sandy silt with interbedded peat at depths of three to four feet below existing surface grades. The groundwater levels indicated by seepage in the test pits may not accurately reflect the actual depth of groundwater beneath the site, as most of the test pits were not allowed to remain open for more than a few minutes due to caving. Two inch diameter perforated PVC standpipes were installed at the base of the test pits for subsequent ground water level measurements. Approximate depth to groundwater observed during test pit excavation and in the wells after installation are on the table below.

Groundwater Monitoring Depth (feet below existing surface grade)					
Date	Method	TP-1	TP-2	TP-3	TP-4
2-14-2024	Seepage observed during test pit excavation	5	3.5	6.5	3.5
2-14-2024	Standpipe (after initial installation)	4.8	4.65	4.1	4.6
2-28-2024	Standpipe	1.8	2.65	2.65	3.2



Figure 1-Approximate locations of test pit excavations and standpipe installations.

Encl: figures A-1 through A-5

LOG OF TEST PIT NO. TP-1

FIGURE A-2

PROJECT NAME: Tacoma Ave Groundwater **PROJ. NO:** T-9010 **LOGGED BY:** BS

LOCATION: Sumner, WA **SURFACE CONDITIONS:** Bare Soil **APPROX. ELEV:** N/A

DATE LOGGED: February 14, 2024 **DEPTH TO GROUNDWATER:** ~5 feet **DEPTH TO CAVING:** ~4 feet

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0		Fill: Gray silty SAND to sand with gravel, wet.	Dense	
1		Fill: Crushed rock & sand with gravel, moist.		
2		Gray sandy SILT with interbedded peat, fine grained sand, 2 to 8 inches thick interbedded peat 3 to 6 feet below grade, wet. (ML)	Soft	
3				
4				
5				
6				
7		Test pit terminated at approximately 7 feet. Minor groundwater seepage observed approximately 5 to 7 feet. Minor caving observed approximately 4 to 7 feet.		
8				
9				
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.



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LOG OF TEST PIT NO. TP-2

FIGURE A-3

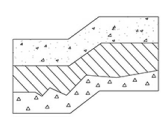
PROJECT NAME: Tacoma Ave Groundwater **PROJ. NO:** T-9010 **LOGGED BY:** BS

LOCATION: Sumner, WA **SURFACE CONDITIONS:** Saturated Crushed Concrete **APPROX. ELEV:** N/A

DATE LOGGED: February 14, 2024 **DEPTH TO GROUNDWATER:** ~3.5 feet **DEPTH TO CAVING:** ~3.5 feet

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0		Fill: Gray SAND with gravel, moist.		
1				
2		Fill: Gray/blue silty SAND with gravel, moist.	Dense	
3				
4		Gray sandy SILT with interbedded peat, fine grained sand, 2 to 6 inches thick peat 4 to 7 feet below grade, wet. (ML)		
5			Soft	
6				
7		Test pit terminated at approximately 7 feet. Minor groundwater seepage observed approximately 3.5 to 7 feet. Minor caving observed approximately 3.5 to 7 feet.		
8				
9				
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.



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LOG OF TEST PIT NO. TP-3

FIGURE A-4

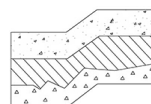
PROJECT NAME: Tacoma Ave Groundwater **PROJ. NO:** T-9010 **LOGGED BY:** BS

LOCATION: Sumner, WA **SURFACE CONDITIONS:** Crushed Rock **APPROX. ELEV:** N/A

DATE LOGGED: February 14, 2024 **DEPTH TO GROUNDWATER:** ~6.5 feet **DEPTH TO CAVING:** ~5.5 feet

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0		Fill: Gray silty sand with gravel and cobbles, moist.	Dense	
1				
2				
3				
4		Fill: Gray sandy silt with interbedded peat, fine grained sand, moist to wet. (ML)	Medium Stiff	
5				
6			Soft	
7		Test pit terminated at approximately 7 feet. Minor groundwater seepage observed approximately 6.5 feet. Minor caving observed approximately 5.5 to 7 feet.		
8				
9				
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.



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LOG OF TEST PIT NO. TP-4

FIGURE A-5

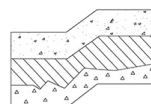
PROJECT NAME: Tacoma Ave Groundwater **PROJ. NO:** T-9010 **LOGGED BY:** BS

LOCATION: Sumner, WA **SURFACE CONDITIONS:** Bare Soil **APPROX. ELEV:** N/A

DATE LOGGED: February 14, 2024 **DEPTH TO GROUNDWATER:** ~3.5 feet **DEPTH TO CAVING:** N/A

Depth (ft)	Sample No.	Description	Consistency/ Relative Density	W (%)
0		Fill: Gray silty sand with gravel, moist.	Loose	
1		Fill: Gray and brown silty SAND with gravel and cobbles, moist, asphalt and construction debris/garbage.	Dense	
2				
3				
4		Gray/brown sandy SILT with peat interbedded, wet, large wood debris.	Soft	
5				
6				
7		Test pit terminated at approximately 7 feet. Minor groundwater seepage observed approximately 3.5 feet. No caving observed.		
8				
9				
10				

NOTE: This subsurface information pertains only to this test pit location and should not be interpreted as being indicative of other locations at the site.



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