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December 10, 2021

Olson Brothers Pro Vac, LLC
c/o C.E.S. NW, Inc.
310 – 29th Street NE, Suite 101
Puyallup, Washington 98372
(253) 848-4282

Attn: Mr. Craig Deaver
cdeaver@cesnwinc.com

Stormwater Soils Report: Infiltration Feasibility
Proposed Permeable Pavement
2511 Inter Avenue
Puyallup, Washington
PN: 2105200-180, -192
Doc ID: CES.ProVac.InterAve.SR

INTRODUCTION

This *soils report* evaluates the feasibility of the site soils to support shallow infiltration of stormwater runoff from the proposed new hard surfacing to be installed at 2511 Inter Avenue in Puyallup, Washington. The site is currently a gravel surfaced contractor's yard. The approximate site location is shown on the attached Site Location Map, Figure 1.

Our understanding of the project is based on our email correspondence with Mr. Craig Deaver of C.E.S. NW, our review of the provided Cover Sheet by C.E.S NW Inc. dated October 21, 2020 our review of the available geologic and soils data, our December 9, 2020 site visit and subsurface explorations, our groundwater monitoring throughout the 2020/21 wet season, our understanding of the City of Puyallup development codes, and our experience in the area.

We understand the site consists of two separate tax parcels that are currently developed with an existing repair shop, paved and gravel parking areas, and utilities. We further understand that you would like to place an additional 8,771 square feet of new asphalt pavement at the site.

Because of the amount of proposed hard surfacing associated with the project, we understand the City of Puyallup is requiring a *Soils Report* be prepared in accordance with the 2014 Stormwater Management Manual for Western Washington (SWMMWW), which includes in-situ infiltration testing and wet season groundwater monitoring.

SCOPE

The purpose of our services was to evaluate the surface and subsurface conditions at the site as a basis for determining the feasibility for onsite stormwater infiltration and providing pertinent conclusions and recommendations relative to stormwater management for the proposed permeable pavement. Specifically, our scope of services for the project included the following:

1. Reviewing the available geologic, hydrogeologic, and geotechnical data for the site area;

2. Exploring surface and subsurface conditions by reconnoitering the site and monitoring the excavation of two test pits to depths of 5.0 feet below existing grades at select locations across the site, and installing two shallow piezometers in each test pit;
3. Performing one EPA falling test in-situ infiltration test;
4. Describing surface and subsurface conditions, including soil type, depth to groundwater, and an estimate of seasonal high groundwater levels;
5. Monitoring groundwater levels at the site during the prescriptive wet season;
6. Providing our opinion about the feasibility of onsite infiltration in accordance with the 2014 SWMMWW, including a preliminary design infiltration rate based on grain size analysis and in-situ testing, as applicable;
7. Preparing this written *Soils Report* summarizing our site observations and conclusions, and our geotechnical recommendations and design criteria, along with the supporting data; and
8. Preparing a written *Addendum Report* following the groundwater monitoring period, which ends in April.

The above scope of work was completed in accordance with our *Proposal for Geotechnical Engineering Services* dated November 18, 2020. We received written authorization to proceed from you on November 19, 2020.

SITE CONDITIONS

Surface Conditions

The site consists of two contiguous parcels located at 2511 Inter Avenue within the City of Puyallup, Washington, within an area of existing residential and commercial development. Based on the information provided the Cover Sheet prepared by C.E.S. NW and Pierce County GIS, the west parcel is generally flagpole in shape, and the east parcel is generally rectangular in shape. When combined, these parcels form an irregularly shaped site. The full site measures approximately 115 to 195 feet wide (east to west) by about 408 feet long (north to south) and encompasses about 1.59 acres. The site is bounded by Inter Avenue to the south, by existing commercial development to the east and west, and by land being developed to the north.

The site is generally level, with a slight slope of about 1 percent down to the north. A large office and repair shop building is located in the northwest portion of the site, and the rest of the site is developed with gravel parking stalls for the ProVac trucks and paved or concrete parking stalls for automobiles. Total topographic relief across the site is on the order of about 1 to 2 feet.

Vegetation across the site generally was generally cleared, except for typical landscaping grass lawn surrounding the residence located southwest and adjacent to the site. Standing water was observed throughout the gravel parking area.

Site Soils

The USDA Natural Resources Conservation Service (NRCS) Web Soil Survey maps the site as being underlain by Briscot silt loam (6A) soils. A copy of the NRCS soils map for the site area is included as Figure 3.

- *Briscot silt loam (6A)*: The Briscot soils are derived from alluvium and are included in hydrologic soils group B/D. These soils typically form on slopes of 0 to 2 percent and are listed as having a "slight" erosion hazard when exposed.

Site Geology

The draft *Geologic Map of the Puyallup 7.5-minute Quadrangle, Washington* by K.G. Troost maps the site as being underlain by alluvium (Qal). An excerpt of the above referenced geologic map is included as Figure 4.

- *Alluvium (Qal)*: Alluvial soils generally consist of normally consolidated, stratified deposits of sand, silt, clay, and occasional peat that were deposited along the Puyallup River channel. The existing topography, as well as the surficial and shallow soils in the area, are the result of fluvial action, including down-cutting by the river, channel meandering and migration, and flood deposits. Alluvium typically offers unfavorable infiltration characteristics because of the silty nature of the soils.

Subsurface Explorations

On December 9, 2020, a representative from GeoResources, LLC (GeoResources) visited the site and monitored the excavation of two test pits at selected locations across the site to depths of about 5.0 feet below the existing ground surface. The test pits were excavated by a licensed earthwork contractor under contract to GeoResources. Piezometers were installed at the termination depth of each test pit.

The specific number, locations, and depths of our explorations were selected based on the configuration of the proposed development and were adjusted in the field based on consideration for underground utilities, existing site conditions, site access limitations, and encountered stratigraphy. Test pit TP-1 was excavated on the adjacent property to the proposed project site because no other areas on the site were clear of utilities. The densities presented in the logs were based on the difficulty of excavation and our experience. Representative soil samples obtained from the test pits were placed in sealed plastic bags then taken to a laboratory for further examination and testing as deemed necessary. The test pits were then backfilled with the excavated soils and bucket tamped, but not otherwise compacted.

The subsurface explorations indicate the subsurface conditions at specific locations only, as actual subsurface conditions can vary across the site. Furthermore, the nature and extent of such variation would not become evident until additional explorations are performed or until construction activities have begun. Based on our experience, it is our opinion that the soils encountered in the explorations are generally representative of the soils at the site.

The approximate locations and numbers of our explorations are shown on the attached Site & Exploration Plan, Figure 2. The soils encountered were visually classified in accordance with the Unified Soil Classification System (USCS) and ASTM D2488. The USCS is included in Appendix A as Figure A-1, while the descriptive logs of our explorations are included as Figure A-2.

Subsurface Conditions

Our explorations encountered relatively uniform subsurface conditions that, in our opinion, generally confirmed the mapped stratigraphy. Our test pits generally encountered about ½-foot of dark-colored topsoil with roots or 1 foot of crushed rock and reddish brown silty sand with gravel,

consistent with fill. Beneath the topsoil and fill, we observed about 0.8 feet of medium dense brown, orange iron stained silty sand or sandy silt in a moist to wet condition, mantling about 2.5 to 2.8 feet of soft gray, orange iron oxide stained silt in a moist condition. Medium dense gray orange iron oxide stained fine sand with silt was observed beneath the surficial soils to the termination depth of each test pit. We interpret these soils to be consistent with native alluvium soils. Table 1, below, summarizes the approximate thicknesses, depths, and elevations of selected soil layers.

TABLE 1:
APPROXIMATE THICKNESS, DEPTHS, AND ELEVATION OF SOIL TYPES ENCOUNTERED IN EXPLORATIONS

Exploration Number	Thickness of Topsoil/Fill (feet)	Thickness of Silty Alluvium (feet)	Depth to Mottling (feet)	Depth to Groundwater (feet)	Elevation of Sandy Alluvium (feet)
TP-1	0.5	3.3	0.5	2.0(perched)/5.0	57.2
TP-2	1.0	3.5	1.0	N/E	57.5

Notes: Elevation datum: Provided *Cover Sheet* by CES NW Inc dated October 21, 2020 N/E: Not encountered

Groundwater Conditions

Perched groundwater was encountered at the time of excavation in TP-1 at a depth of 2.0 feet below the existing ground surface on top of the gray, orange iron oxide stained sandy silt alluvium. Additional groundwater seepage was observed at about 5 feet below existing grades in the sandy alluvium. No groundwater seepage was observed in test pit TP-2 at the time of excavation; however, an old drainage pipe with washed rock was encountered in the western portion of the test pit during the over dig of the infiltration test. Orange iron oxide staining, a form of mottling was observed throughout the soils in each of our test pit explorations. Mottling can be indicative of a seasonal or fluctuating groundwater table. We anticipate fluctuations in the local groundwater levels may occur in response to season, precipitation patterns, off-site construction activities, and site utilization.

We returned to the site throughout the prescriptive wet season observe the depth to groundwater within the piezometers installed in each test pit. Both piezometers had seasonal high groundwater at about 0.5 feet below existing grades. Table 2 summarizes the approximate depths and elevations of groundwater and mottling observed at the time of our explorations and our subsequent readings in both piezometers. We were unable to record groundwater levels during some days in TP-2 because a car had parked over the piezometer. The measurements from our groundwater monitoring are attached in Appendix B.

TABLE 2:
APPROXIMATE DEPTHS, AND ELEVATION OF GROUNDWATER ENCOUNTERED IN EXPLORATIONS

Exploration Number	Depth to Groundwater (feet)	Elevation of Groundwater (feet)	Dated Measured
TP-1	2(perched), 5	59(perched), 56	12/9/2020
	0.5	60.5	12/21/2020
	0.5	60.5	12/31/2020
	0.5	60.5	1/8/2021
	0.5	60.5	1/14/2021
	1.1	59.9	1/29/2021
	1.8	59.2	2/5/2021
	1.7	59.3	2/12/2021
	0.5	60.5	2/16/2021
	1.5	59.5	3/5/2021
	2.4	58.6	3/12/2021
	2.4	58.6	3/19/2021
	1.7	59.3	3/26/2021
	2.1	58.9	4/1/2021
TP-2	NE	NE	12/9/2020
	0.5	61.5	12/21/2020
	1.0	61.0	12/31/2020
	0.7	61.3	1/8/2021
	0.5	61.5	1/14/2021
	1.9	60.1	1/29/2021
	1.2	60.8	2/5/2021
	2.3	59.7	2/12/2021
	Inaccessible	-	2/16/2021
	Inaccessible	-	3/5/2021
	Inaccessible	-	3/12/2021
	Inaccessible	-	3/19/2021
	2.2	59.8	3/26/2021
	Inaccessible	-	4/1/2021

Laboratory Testing

Geotechnical laboratory tests were performed on selected samples retrieved from the test pits to estimate index engineering properties of the soils encountered. Laboratory testing included visual soil classification per ASTM D2488 and ASTM D2487. We also submitted representative samples to an independent analytical laboratory for determination of organic content and cation exchange capacity. Organic content was determined per ASTM D2974 and cation exchange capacity was determined per SW846 9081. Test results are included in Appendix B.

CONCLUSIONS AND RECOMMENDATIONS

Based on our site reconnaissance and subsurface explorations, it is our opinion that the infiltration of stormwater runoff generated onsite by the proposed development is not feasible for the site.

Infiltration Recommendations

Mottled silty sand was encountered near the surface in both of our subsurface explorations, and groundwater was observed at about 0.5 feet below existing grades during our December 21, 2020 site visit to check the groundwater levels in each piezometer.

The City of Puyallup uses the 2012 *Stormwater Management Manual for Western Washington, with 2014 updates* (2014 SWMMWW). Per the 2014 SWMMWW, Volume V, BMP T5.15, a minimum of 1 foot of separation is required between the bottom of the storage course for permeable pavement and the top of an impermeable layer, such as mottling, or the sandy silt soils encountered at the site. Based on the conditions encountered, permeable pavement appears to be infeasible. We performed an EPA falling head test in the brown mottled silty sand in test pit TP-2 and measured an initial rate of 0.6 inches per hour. An EPA falling head test was chosen for this project because the use of a PIT would interfere with the function of the ProVac yard for that day, and in our opinion, would give an inaccurate rate for the soils encountered in our test pits. Based on the above, a long-term design rate of 0.04 inches per hour is applicable for this project, if the site grades can be adjusted to meet the required vertical separation to the seasonal high groundwater. This would require site grades to be raised on the order of 2 to 3 feet.

Per the 2014 SWMMWW, minimum cation exchange capacity of 5 milliequivalents per 100 milligrams of soil and 1 percent organic content is required for soils to provide adequate water quality treatment to the stormwater. Testing was conducted on the shallow soils at the site located at about 2 feet below existing grades by a third party laboratory. The organic content of the site soils were determined to be 5.79 and 9.94 percent per ASTM D: 2974-13, with a cation exchange capacity of 18.0 and 17.6 milliequivalents per 100 grams as determined by SW-846 Test Method 9081. The shallow onsite soils have the required treatment capacity per the 2014 SWMMWW.

Alternative stormwater management methods, such as detention or dispersion, should be considered for this project in accordance with the 2014 SWMMWW. All minimum setback requirements and infeasibility criteria per the 2014 SWMMWW should be considered prior to the selection of any stormwater facility for the proposed development.

LIMITATIONS

We have prepared this report for use by CES NW Inc, and other members of the design team, for use in the design of a portion of this project. The data used in preparing this report and this report should be provided to prospective contractors for their bidding or estimating purposes only. Our report, conclusions and interpretations are based on our subsurface explorations, data from others and limited site reconnaissance, and should not be construed as a warranty of the subsurface conditions.

Variations in subsurface conditions are possible between the explorations and may also occur with time. A contingency for unanticipated conditions should be included in the budget and schedule. Sufficient monitoring, testing and consultation should be provided by our firm during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to

provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork and foundation installation activities comply with contract plans and specifications.

The scope of our services does not include services related to environmental remediation and construction safety precautions. Our recommendations are not intended to direct the contractor's methods, techniques, sequences or procedures, except as specifically described in our report for consideration in design.

If there are any changes in the loads, grades, locations, configurations or type of facilities to be constructed, the conclusions and recommendations presented in this report may not be fully applicable. If such changes are made, we should be given the opportunity to review our recommendations and provide written modifications or verifications, as appropriate.

◆ ◆ ◆

We have appreciated the opportunity to be of service to you on this project. If you have any questions or comments, please do not hesitate to call at your earliest convenience.

Respectfully submitted,

GeoResources, LLC

Andrew Schnitger, EIT
Engineer in Training

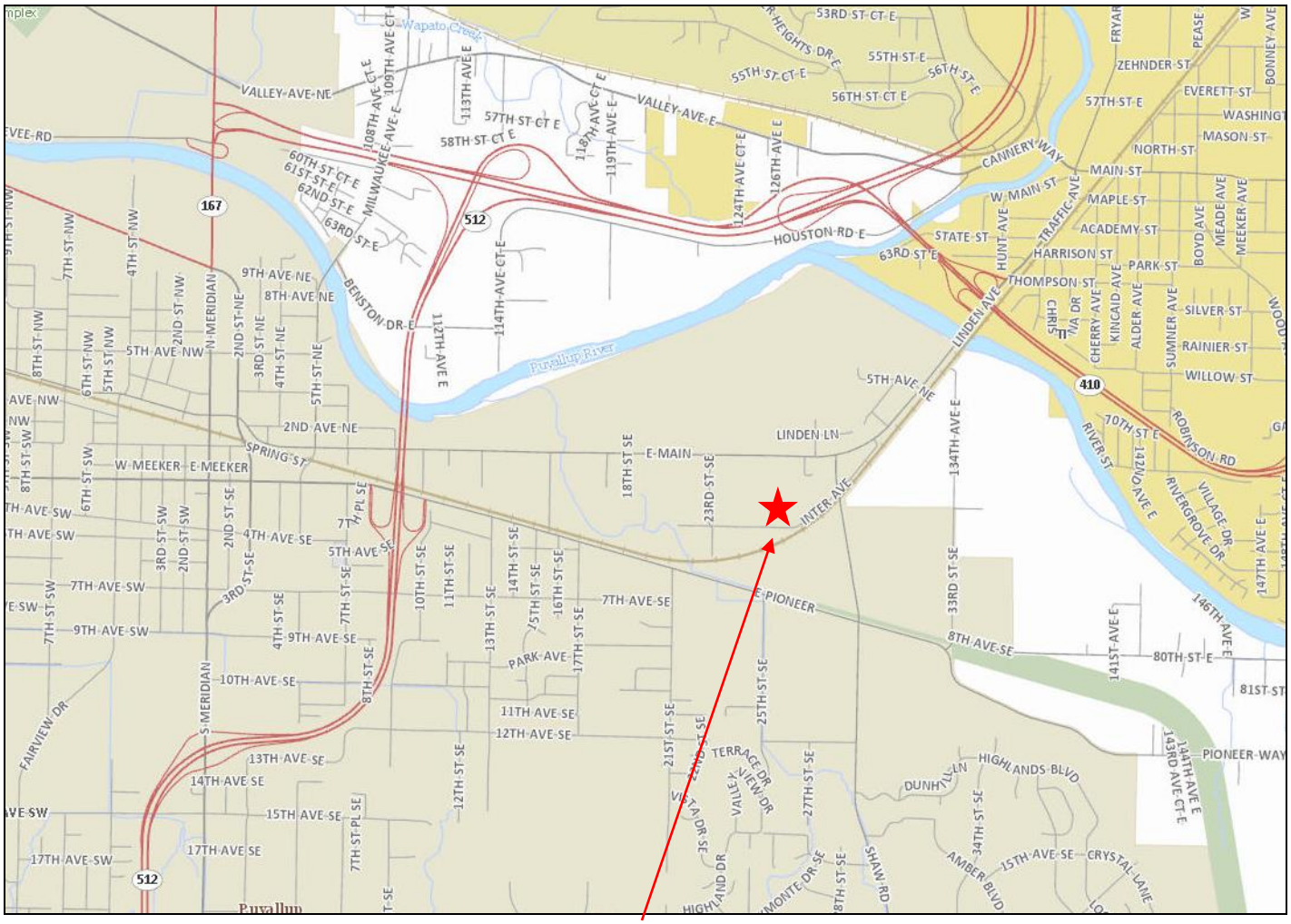
State of Washington
Engineering Geologist
925
Licensed Geologist
12/10/2021
KEITH SCOTT SCHEMBS

Keith S. Schembs, LEG
Principal

ERIC WILLIAM HELLER
STATE OF WASHINGTON
43471
REGISTERED
PROFESSIONAL ENGINEER
12/10/2021

Eric W. Heller, PE, LG
Senior Geotechnical Engineer

AES:KSS:KEB/aes
DocID: CES.ProVac.InterAve.SR
Attachments: Figure 1: Site Location Map
Figure 2: Site & Exploration Plan
Figure 3: NRCS Soils Map
Figure 4: USGS Geologic Map
Appendix A – Subsurface Explorations
Appendix B – Laboratory Test Results



Approximate Site Location

Map created from Pierce County Public GIS (https://matterhornwab.co.pierce.wa.us/publicgis/)

Not to Scale

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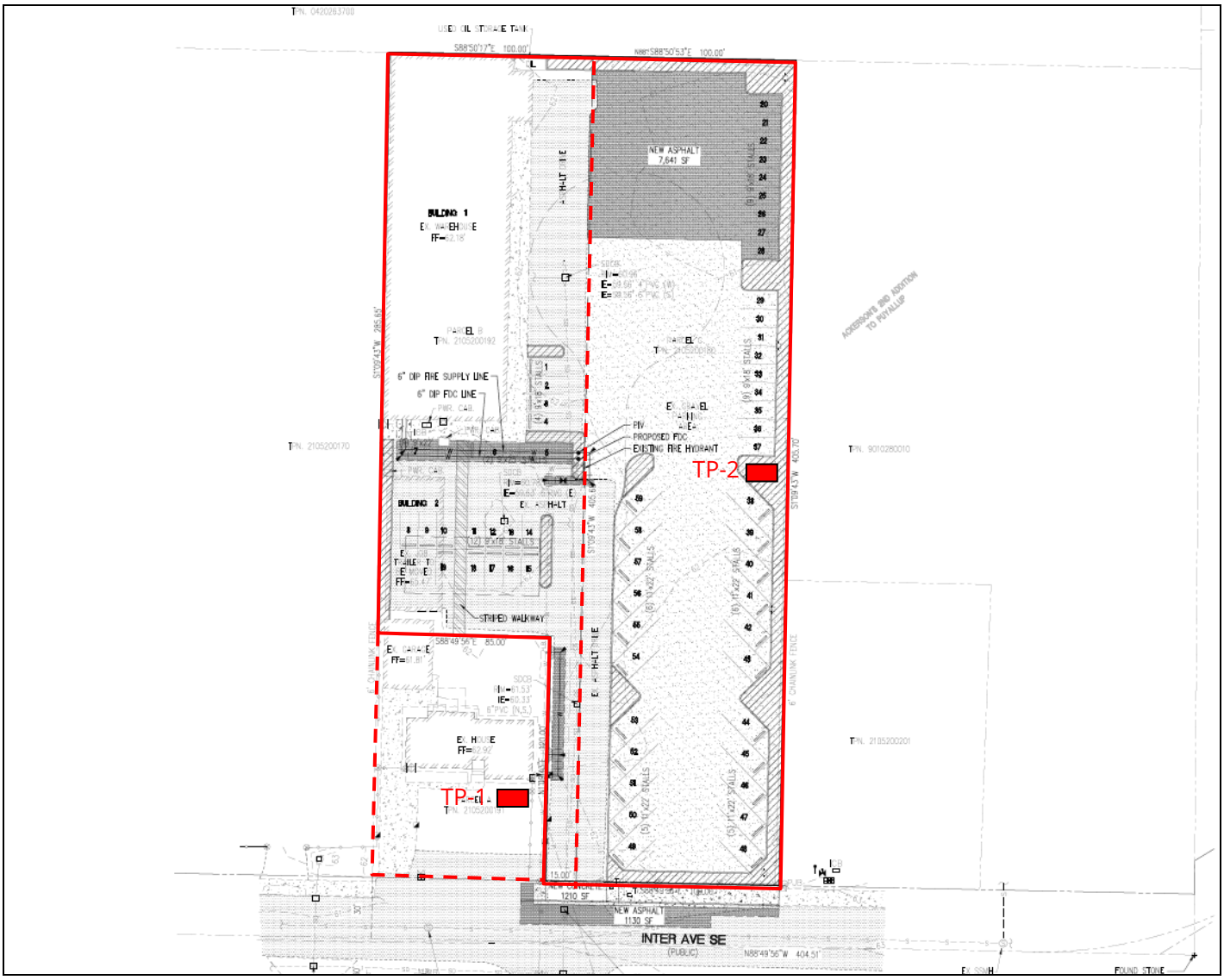
Site Location Map

Olson Brothers Storage
2511 Inter Avenue
Puyallup, Washington
PN: 2105200-180, -192

DocID: CES.ProVac.InterAve.F	December 2021	Figure 1



Approximate Site Location

Map created from Pierce County Public GIS (https://matterhornwab.co.pierce.wa.us/publicgis/)

Approximate test pit and piezometer location

Approximate site boundary

Approximate locations of property lines

Not to Scale

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Site & Exploration Plan

Olson Brothers Storage
2511 Inter Avenue
Puyallup, Washington
PN: 2105200-180, -192

DocID: CES.ProVac.InterAve.F	December 2021	Figure 2

Approximate Site Location

Map created from Web Soil Survey (http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

Soil Type	Soil Name	Parent Material	Slopes	Erosion Hazard	Hydrologic Soils Group
6A	Briscot silt loam	Alluvium	0 to 2	Slight	B/D

Not to Scale

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NRCS Soils Map

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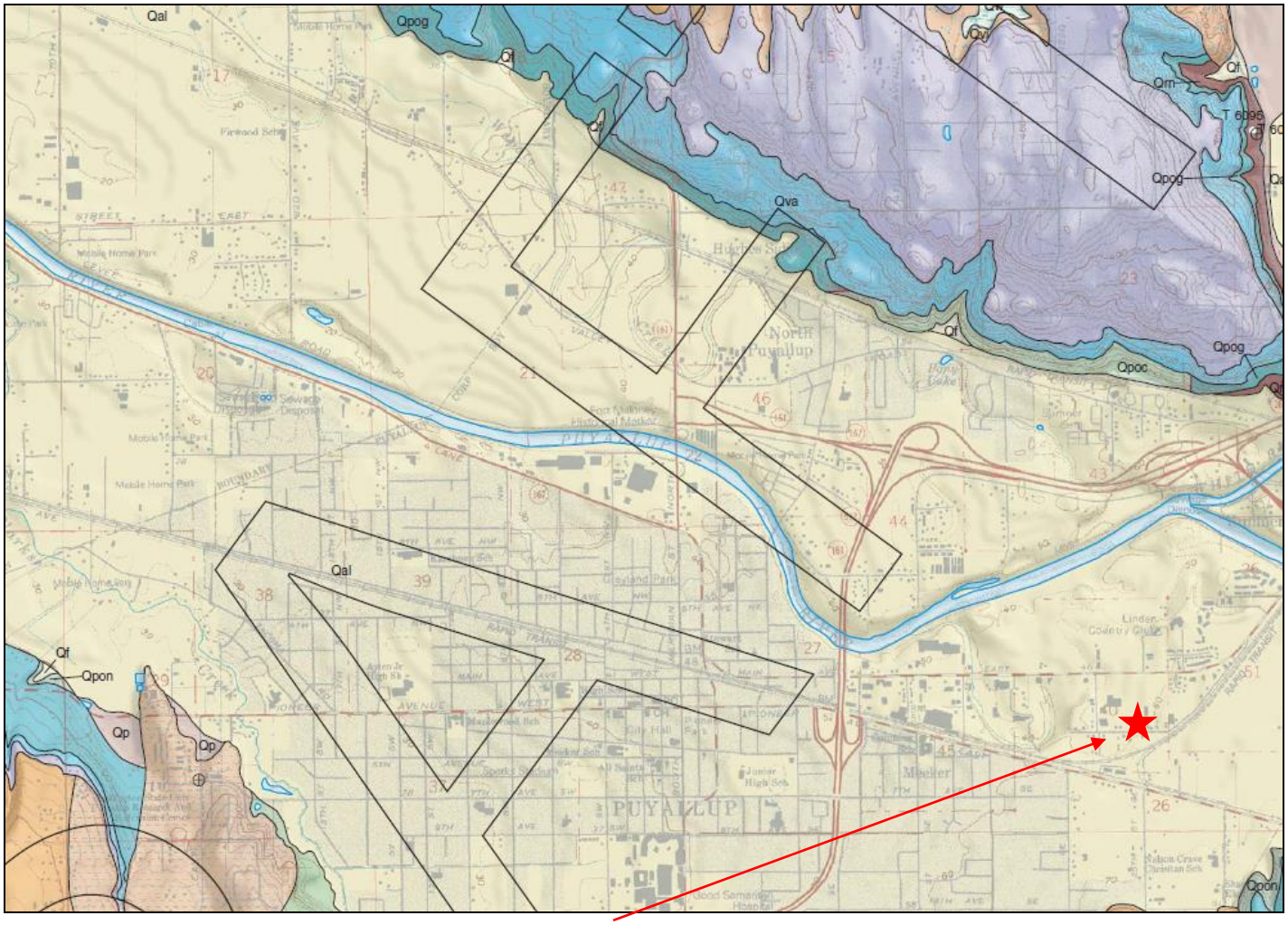
Puyallup, Washington
PN: 2105200-180, -192



Approximate Site Location

An excerpt from the draft *Geologic Map of the Puyallup 7.5-minute Quadrangle*, Washington, by K.G. Troost (in review)

Qal	Alluvium

Not to Scale

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USGS Geologic Map

Olson Brothers Storage
2511 Inter Avenue
Puyallup, Washington
PN: 2105200-180, -192

Appendix A

Subsurface Explorations

SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE GRAINED SOILS More than 50% Retained on No. 200 Sieve	GRAVEL More than 50% Of Coarse Fraction Retained on No. 4 Sieve	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND More than 50% Of Coarse Fraction Passes No. 4 Sieve	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE GRAINED SOILS More than 50% Passes No. 200 Sieve	SILT AND CLAY Liquid Limit Less than 50	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY Liquid Limit 50 or more	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

1. Field classification is based on visual examination of soil in general accordance with ASTM D2488-90.
2. Soil classification using laboratory tests is based on ASTM D2487-90.
3. Description of soil density or consistency are based on interpretation of blow count data, visual appearance of soils, and or test data.

SOIL MOISTURE MODIFIERS:

Dry- Absence of moisture, dry to the touch

Moist- Damp, but no visible water

Wet- Visible free water or saturated, usually soil is obtained from below water table

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Unified Soils Classification System

Olson Brothers Storage
2511 Inter Avenue
Puyallup, Washington
PN: 2105200-180, -192

Test Pit TP-1

Location: South of existing residence, off of proposed permeable area
Approximate Elevation: 61’

Depth (ft)			Soil Type	Soil Description
0	-	0.5	-	Topsoil
0.5	-	1.3	SM	Brown, orange iron oxide stained silty fine SAND (loose, moist) (alluvium)
1.3	-	3.8	SM	Gray, orange iron oxide stained silty fine SAND (loose, moist) (alluvium)
3.8	-	5.0	SP-SM	Gray, orange iron oxide stained fine SAND with some silt (medium dense, moist) (alluvium)

Terminated at 5.0 feet below ground surface.
Caving observed 2 feet below existing ground surface.
Perched groundwater observed at 2 feet below existing grades, fast groundwater seepage observed at termination depth of test pit.
Mottling observed throughout entire excavation.

Test Pit TP-2

Location: Central portion of site, near eastern site boundary
Approximate Elevation: 62’

Depth (ft)			Soil Type	Soil Description
0	-	0.5	-	Crushed rock (dense, moist) (fill)
0.5	-	1.0	SM	Reddish brown silty SAND with gravel (dense, moist) (fill)
1.0	-	1.7	SM	Brown, orange iron oxide stained silty SAND (loose, moist) (alluvium)
1.7	-	4.5	ML	Gray, orange iron oxide stained SILT (soft, moist) (alluvium) (drainage pipe encountered during overdig at about 3 feet)
4.5	-	5.0	SP-SM	Gray, orange iron oxide stained fine SAND with some silt (medium dense, moist) (alluvium)

Terminated at 5.5 feet below ground surface.
No caving observed at the time of excavation.
No groundwater seepage observed at time of excavation.
Mottling observed throughout entire excavation.
Infiltration test performed at about 1.5 feet below existing grades.

Logged by: AES **Excavated on: December 9, 2020**

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Test Pit Logs
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PN: 2105200-180, -192

Appendix B

Laboratory Results

SPECTRA Laboratories ...Where experience matters

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11/18/2021

GeoResources, LLC
4809 Pacific Hwy E
Fife, WA 98424

Project: CES.Provac
Sample Matrix: Soil
Date Sampled: 11/12/2021
Date Received: 11/15/2021
Spectra Project: 2021110413
Rush

Client ID	Spectra #	Analyte	Result	Units	Method	Analyzed
TP-1, 1'	1	Organic Matter	5.79	wt. % Dry	ASTM D-2974-13	11/17/2021
TP-1, 1'	1	Cation Exchange Capacity	18.0	Na, mEq/ 100g	SW846 9081	11/18/2021
TP-2, 1'	2	Organic Matter	9.94	wt. % Dry	ASTM D-2974-13	11/17/2021
TP-2, 1'	2	Cation Exchange Capacity	17.6	Na, mEq/ 100g	SW846 9081	11/18/2021

SPECTRA LABORATORIES

Ben Frans, Laboratory Manager

a7/scj

SPECTRA Laboratories

2221 Ross Way, Tacoma, WA 98421
(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 2021110413

Return Samples: Y N Page _____ of _____ STANDARD ☐ RUSH ☑

CLIENT: GeoResources ADDRESS: 4809 Pacific Hwy E, Fife WA ADDRESS CHANGE ☐

PROJECT: CES. Provac

CONTACT: Andrews

SAMPLED BY: Andrews

PHONE: 253 896 1004 FAX:

e-MAIL: Andrews@Georesources.y Prefer FAX ☐ or e-MAIL ☑

PURCHASE ORDER #

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Cation Exchange	organic content
1 TP-1, 1'	11/12/21	1700	Soil	1																							X	X
2 TP-2, 1'	11/12/21	1705	Soil	1																							X	X
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

LAB USE ONLY

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Andrew	Andrew Schmitger	GeoResources	11/15/21	1058
RECEIVED BY	Taylor Burkhart	Taylor Burkhart	Spectra	11/15/21	1058
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

Appendix C

Groundwater Monitoring Logs

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MONITORING WELL LOGS

Project ID: CES.ProVac.InterAve

*****Depths are in reference with ground surface*****

Date:	12/9/2020 (ATD)
Field Tech:	AES
Well #	**Depth** (ft)
1	2 (perched), 5
2	NE

Date:	12/21/2020
Field Tech:	AES
Well #	**Depth** (ft)
1	0.5
2	0.5

Date:	12/31/2020
Field Tech:	AES
Well #	**Depth** (ft)
1	0.5
2	1.0

Date:	1/8/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	0.5
2	0.7

Date:	1/14/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	0.5
2	0.5

Date:	1/29/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	1.1
2	1.9

Date:	2/5/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	1.8
2	1.2

Date:	2/12/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	1.7
2	2.3

GEORESOURCES
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MONITORING WELL LOGS

Project ID: CES.ProVac.InterAve

*****Depths are in reference with ground surface*****

Date:	2/16/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	0.5
2	Unaccessable

Date:	3/5/2021
Field Tech:	AES
Well #	**Depth** (ft)
1	1.5
2	Unaccessable

Date:	3/12/2021
Field Tech:	CB
Well #	**Depth** (ft)
1	2.4
2	Unaccessable

Date:	3/19/2021
Field Tech:	CB
Well #	**Depth** (ft)
1	2.4
2	Unaccessable

Date:	3/26/2021
Field Tech:	CB
Well #	**Depth** (ft)
1	1.7
2	2.2

Date:	4/1/2021
Field Tech:	CB
Well #	**Depth** (ft)
1	2.1
2	Unaccessable