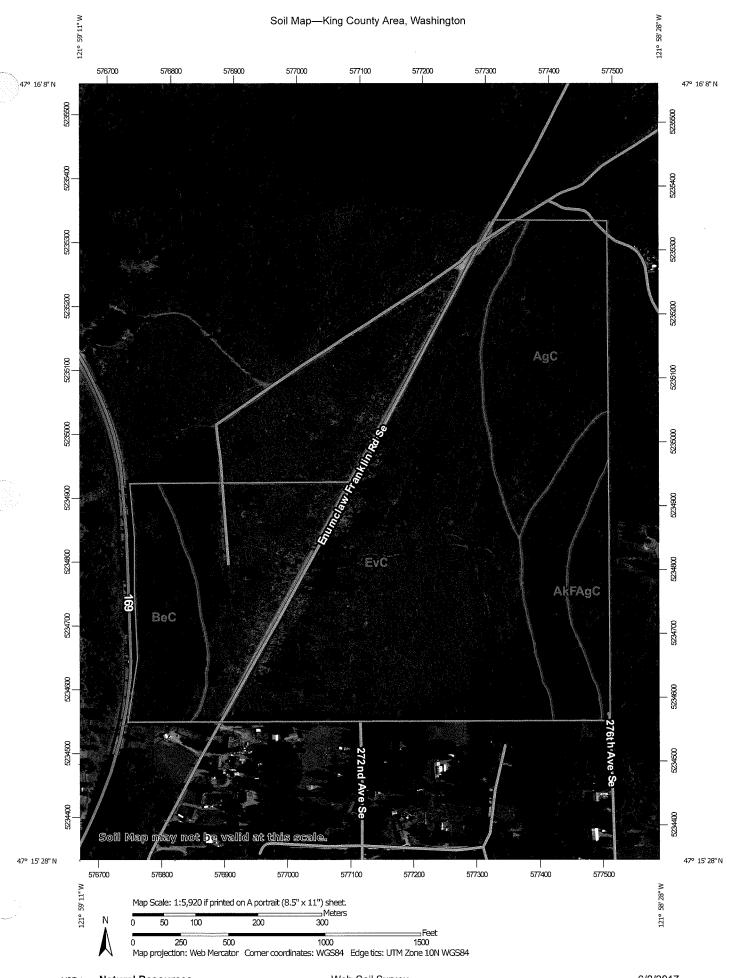


APPENDIX A

NRCS SOILS REPORT



ve Soil Survey Survey Web 🤇 National Coc

Conservation Service Natural Resources

MAP INFORMATION

MAP LEGEND

Area of Interest (AOI)

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

line placement. The maps do not show the small areas of

measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

distance and area. A projection that preserves area, such as the Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required. This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Date(s) aerial images were photographed: Jul 25, 2010—Aug 19, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Special Point Features

Blowout

Streams and Canals Water Features

Transportation

Borrow Pit

Clay Spot

Interstate Highways Major Roads US Routes Rails ‡

Closed Depression

Gravelly Spot

Gravel Pit

Background

Local Roads

Marsh or swamp

Lava Flow

Landfill

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Sandy Spot

Saline Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

contrasting soils that could have been shown at a more detailed misunderstanding of the detail of mapping and accuracy of soil Enlargement of maps beyond the scale of mapping can cause

Please rely on the bar scale on each map sheet for map

Soil Survey Area: King County Area, Washington Survey Area Data: Version 12, Sep 8, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Map Unit Legend

King County Area, Washington (WA633)								
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI					
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	22.0	22.1%					
AkF	Alderwood and Kitsap soils, very steep	8.5	8.6%					
BeC	Beausite gravelly sandy loam, 6 to 15 percent slopes	8.6	8.7%					
EvC	Everett very gravelly sandy loam, 8 to 15 percent slopes	60.4	60.7%					
Totals for Area of Interest	1	99.5	100.0%					

			,

Surveying • Engineering • Geology • Septic Design • GPS • GIS Mapping

February 2, 2017

Buckley Recycling Center, Inc. P.O. Box 2330 Buckley, Washington 98321 Attn: Ron Shear

Soil and Infiltration Observations

Address:

XXX SR 169

Enumclaw, Washington

Parcel No.

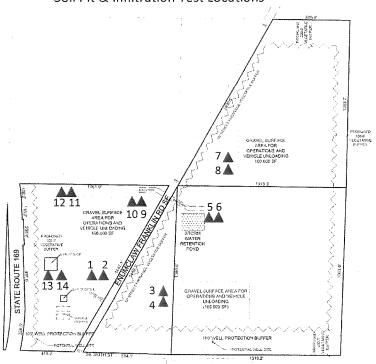
3621069004, 3621069013 &

3621069014

Job Number: 11036

This letter presents our soil and infiltration observation in 14 soil pits excavated throughout the proposed Buckley Recycling Center (BRC). The BRC facilities located east of State Route 169, north of SE 380th Street and straddling the Enumclaw Franklin Road East north of Enumclaw, Washington. BRC provided 14 soil pits at various locations shown on the site plan below. LS&E visited the site on January 31st, 2017 to describe soil textures and characteristics and to conduct falling head percolation testing.

Soil Pit & Infiltration Test Locations



Site plan Not to Scale

Buckley Recycling Center, Inc. February 2, 2017

Soil Observations:

Soil observed and described in the 14 soil pits consist of sand and gravel with a few cobbles and boulders. The soil is consistent with the National Resource Conservations Service (NRCS) mapping which describes the soil across the property as Everett very gravelly sandy loam. The NRCS soil description for the Everett series is shown below

Everett (EvC) - Everett very gravelly sandy loam, 8 - 15 percent slopes

This rolling soil is somewhat excessively drained. It formed in gravelly glacial outwash under conifers. Elevation ranges from 200 to 700 feet. The annual precipitation is 35 to 45 inches, and the mean annual air temperature is about 50 degrees F. The frost-free season is about 180 days. Areas range from five acres to more than 400 acres in size.

Included with this soil in mapping are about eight percent Alderwood soils. Also included are some areas that are as much as five percent sandy Indianola soils and ten percent gravelly Neilton soils and less sloping Everett soils.

Reaction is medium acid.

Permeability is rapid. The available water capacity is low. Surface runoff is slow, and the erosion hazard is low. The effective rooting depth is more than four feet.

This soil is suitable for urban uses. Septic tank drainage fields function properly throughout the year. However, because this soil is very permeable, there is a potential of polluting the groundwater. Dwelling and road construction can be designed to reduce the number of cuts and fills. During construction, topsoil needs to be stockpiled and natural vegetation needs to be protected to maintain the esthetic value of the site.

Infiltration Testing:

Infiltration testing was conducted in each of the 14 soil pits in accordance with the US EPA Falling Head Percolation Test procedure (ASTM D3385). With the exception of two soil pits infiltration rates varied from 12 in / 30 sec to 12 in / 78 sec. with the majority of the site exceeding 12 in / less than 1 min. For design applications an infiltration rate of 60 in / hr. can be applied. This application rate is based on the field measurements with no factor of safety applied.

Seasonal perched water was observed and described in soil pits 11 and 12 located in the northwest corner of the western most parcel. Infiltration rates in these two soil pits were measured to be 6 in / 10 min. The soil described in the two soil pits indicates the sand and gravel is slightly cemented between 22 and 39 in.

CLOSURE:

The conclusions and recommendations presented in this letter are based on soil observations, mapping available and testing at specific locations, therefore, variations in the subgrade conditions may be discovered. Because the future performance and integrity of the site development depends largely on proper initial site preparation, drainage, and construction procedures. Monitoring by a geotechnical professional should be considered an integral part of the planning, development and construction process. LeRoy Surveyors and Engineers, Inc. are available to assist with these services.

Buckley Recycling Center, Inc. February 2, 2017

LeRoy Surveyors & Engineers, Inc. would like to thank you for the opportunity to assist you with this evaluation. If there are any questions regarding the information please contact us.

Sincerely,

LeRoy Surveyors & Engineers, Inc.

1 3-15

REX B. HUMPHREY Rex B. Humphrey, L.E.G. Engineering Geologist

SOIL LOG NUMBER (Number shall match			1 5 Z) 			Sheet <u>/</u> of <u></u>	
1. SITE ADDRESS:								
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3. SITE DESCRIPTI	ON:				·		***************************************	
Commercial Prop	erty - Thre	e Par	cels				11036	
4. LIST METHODS I Soil Test Pit	JSED TO E.	XPOSE	E, SAMPLE	E AND TES	ST SOIL	_S:		
5. NUMBER OF TEST HOLES 6. SATURATED INFILTRATION RATE: LOGGED: 14						ION RATE:		
7. HAS FILL MATERIAL BEEN PLACED OVER THE PROPOSED INFILTRATION TRENCH AREA? NO YES **NO. TRENCH** Unknown								
9. CURRENT WATE DEPTH:	ΞR	1	DEPTH TO LAYER:) IMPERV	ERVIOUS 11. PROFII		E DESCRIPTION:	
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В	4.5 ft		COARSE GRAVEL	SANDY	NONE	:		
Note 1: Identify limits o coarse sand and cobble	f any outwash s to medium	n type so	oils (i.e. tho	se meeting	USDA s	oil texture class	es ranging from	
I hereby state that I pre that I am qualified to/do uncertainty inherent to	this work I r	epreser	nt my Work t	to be comple	ete and	accurate within	elated work. I state the bounds of	
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Note 1: Identify limits of any outwash type soils (i.e. those meeting USDA soil texture classes ranging from coarse sand and cobbles to medium sand. I hereby state that I prepared this report, and conducted or supervised the performance of related work of state that I am qualified to do this work. I represent my work to be complete and accurate within the bounds of uncertainty inherent to the practice of soil science, and to be suitable for its intended use. SIGNED: Engineering Geologist 1811							
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SOIL LOG NUMBER (Number shall match			5 ? (6			Sheet 3 of 7	
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I hereby state that I prepared this report and conducted or supervised the performance of related work. I state that I am qualified to do this work. I represent my work to be complete and accurate within the bounds of uncertainty inherent to the practice of soil science and to be suitable for its intended use. SIGNED: Engineering Geologist								
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