From:	Kimbal Logan <kimbal@kl-re.com></kimbal@kl-re.com>
Sent:	Monday, August 10, 2020 11:29 PM
То:	Sarah Fox
Cc:	Barry McDonnell; Phil Bourquin; Shawn MacPherson (macphersonlaw@comcast.net); Jerry Acheson; Fox, Jamal; Steve Hogan; Don Chaney;
	'LeAnne Bremer'; mpmills18@gmail.com; pakjam@gmail.com; karenmartel@comcast.net
Subject:	Mills Family LLC - Application for Comp Plan Amendment - 57 acres in Lacamas North Shore

Sarah,

This email is in response to your gracious offer to allow the Mills Family or me to add additional documents to be reviewed by the Planning Commission and the Public before the next Planning Commission meeting to discuss the Comp Plan Amendments for this year including the Mills Property at Lacamas North Shore. I appreciate your thoughtful heads up. I did not receive your email sent at 4:45 PM today until well after 8:00 PM because I was out of the office. I read your previous email to give allow me to send the additional documents and information to you by the end of the day today. Considering it is being sent to you on August 10, I hope you will accept it on behalf of the Mills Family and work with us and the Planning Commission to get full information to them before the August 21, 2020 meeting. I apologize for delaying you for today, but hope the complete information being sent to you and the Planning Commission and the public will be helpful for all of us. Please let me know if you intend to add this information to the document list. I hope you do in consideration of the Mills and your stated deadline.

Since I have in the past and more recently sent to you a lot of documents and emails that I hope are to be included in the package to be reviewed by the Planning Commission, I will not resend any of that information. Please let me know right away if any of the previous information sent to you has not or will not be forwarded to the Planning Commission and made available to the public.

Also, since I still do not have a copy of the Staff recommendations for support and approval of the Mills Application and am requesting that once I and the Mills are able to review the Staff recommendations (hopefully well before the Planning Commission meeting on the 21st), that we will be able to respond in a public way to the recommendations and observances once we know what they are. Hopefully the Staff will be making a Good Faith Effort to recommend approval of the Comp Plan Amendment as proposed by the Mills and much of my worries about the procedures will disappear.

As for this email and the additional documentation that I would like submitted on behalf of the Mills I am including the following submittals:

- A letter from me objecting to some of the staff observations and findings in the Staff Report for Annual Comprehensive Plan Amendments dated June 30, 2020.
- A copy of the Road Plan for the area recommended and adopted by the Legacy Lands Committee of the City of Camas
- A copy of the site plan approved for the Dens development site adjacent to the City Gun Club Property and abutting the Mills remainder lands including the approved NE ٠ Fargo Street
- A copy of the Purchase and Sale Agreement between the Mills Family LLC and the City of Camas including the proposed and supported site and zoning plan for the Mills 57 acre remainder property
- A copy of an Archeological Investigation of the Mills remainder property completed by Archeological Investigations Northwest Inc (Amber Roesler)
- A copy of a Wetland and Habitat Investigation of the Mills Remainder property completed by Olson Environmental Inc. (Kevin Grosz)
- A copy of a Phase 1 Environmental Investigation of the Mills remainder property completed by Berger ABAM (Amber Roesler) * to be sent later * they sent me the wrong report
- A copy of a Preliminary Geotechnical Investigation of the Mills remainder Property completed by Earth Engineers Inc (Troy Hull)

I'm using Adobe Acrobat.

You can view "Mill.Logan.Letter.Objections.Findings.Aug.2020.docx" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:da78f29e-bf98-46c4-875c-6a9747c82249

You can view "Legacy.Advisory.Master.Plan.Map.1.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:c385a88e-9d31-4d3d-84d9-a48071a5b541 You can view "Legacy.Advisory.Master.Plan.Map.2.pdf" at: <u>https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:af45050b-8664-43b5-ae0c-4241317093e2</u> You can view "Legacy Land Committee Mtg 3 Presentation_revised (003).pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:d7725152-c652-4bb0-8137-911b68eccecd

You can view "Mills.Dens.West.Plat.2014.Exhibit.2.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:01c50403-7564-4445-bfb1-d18b95826af8 You can view "Mills.Camas.PSA.1.2018.11.30.executed.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:827bb0dd-bb01-467f-9f50-2c40079cb213 You can view "AINW.Report.Mills.2019.03.14.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:61740cbf-445f-4dee-a37d-dc454d62f96b You can view "Mills.Wetland.Habitat.Assess.2019.03.05.pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:005cac12-c502-4889-9827-5233c8bd7425 You can view "19-033-1 (Preliminary Geotechnical Report 57-Acre Property The Mills Family LLC Camas FINAL).pdf" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:788f4e4e-86c1-40c5-836d-9300c3361d44

Thanks again for your gracious offer and consideration given to the Mills and myself, Sarah. I look forward to working with you in the future.

Kímbal R. Logan

Phone - 360.904.9090 Email – kimbal@kl-re.com

Sarah Fox, Robert Maul, Phil Bourquin, Planning Staff – City of Camas

Re : Staff Report Annual Comprehensive Plan Amendments - City of Camas

Dear Sarah and Staff,

I have nothing but respect for the amount of work you all do and have done for the City of Camas and its future, and your commitment to what you think is best for the City of Camas. As I have come to expect, you have done a thorough and well thought out job of reviewing the rules and procedures needed for proceeding with public actions affecting the future of Camas.

Nonetheless, regarding the Mills Family Application for Comprehensive Plan Change, I think you have chosen to follow a path envisioned by the Staff and what the Staff sees as viable rather than a path balanced between the existing land use plans approved by the City, County, and State (through the Growth Management Act), the private property rights and wishes of the existing landowners, and the not fully informed wishes of the general public that have been lead to believe that they, along with the City Staff can implement whatever plan they want for previously planned and approved private property owned by private citizens.

It seems to me that in your discussion of the Mills Application and in your Findings, you have not pointed out to the public, the Planning Commission, or the City Council the following:

- In your discussion of comprehensive plan goals, you correctly point out Economic Development Goals for the North Shore and ignore or minimize the equally important goals in Lacamas North Shore for adequate and disparate housing types.
- You have not mentioned (in any public way) the agreements that were made with the Mills Family when they agreed to move forward with the sale of 33 acres of spectacular public property to the City including the historic Leadbetter House at a discounted price in exchange for a "good faith, best effort" by the Staff to provide the Mills with the zoning and road access they need to not be substantially damaged from their sale of land to the City.
- In negotiating with the City, it was the Mills' intention to end up with the same amount of MF-10 land and MF-18 they owned after the sale to the City as they owned before the sale to the City. The City staff agree to support this result. However, as far as we know, the City staff and leaders have never made this agreement (that provided such a spectacular win for the City and the future of the area) clearly known.

Kimbal Logan Letter

Mills Comp Plan Amendment

- You seem to want to put into play the rules and development conditions hoped for by the staff and many others from the proposed North Shore Sub-Area Plan before it is ratified and legally approved. You have proposed to the public at large that the remaining land in Lacamas North Shore is a blank slate that they can have changed to any zoning desired; that with the adoption of a new sub-area plan the old plan can be thrown out the window. The existing Comp Plan for the area was originally split between Mixed Use Zoning and Business Park Zoning. The current Comprehensive Plan and zoning have clearly planned and approved areas of Business Park and Multiple Family Zones already in place. As far as I can tell any proposed Sub-area Plan or Comp Plan Amendment is supposed to be consonant with and subordinate to the existing Comp Plan and zoning for the area. Meaning a refinement of existing approved uses and goals not a dramatic change of the Comp Plan or uses.
- By equivocating over the proposal from the Mills Family and by your Findings, you give the impression that the Mills are trying to change BP land into multi-family land when in fact it was the Mills intention all along to maintain the same amount of Multi-Family Land that they always had and no more.
- You have not clearly pointed out that previous purchases by the City and the School District have removed well over 600 residential units from the Lacamas North Shore Area. You seem willing to trade other BP Land (not owned by the Mills) into residential land when the intention of the Growth Management Board, the State of Washington, Clark County, and the City of Camas was to maintain a much as possible the correctly planned and approved existing BP property in the area.
- The loss of 600 housing units in the area will cause a problem when it comes to paying the latecomers fees due to the Camas School system to pay for the new water lines in the area or that the development fees needed to pay for the new sewer system in the area would benefit greatly from additional multi-family development in the area.
- The topography of the Mills Family remainder lands makes it problematic to leave any BP land in the Mills Family remainder lands. Road access and development realities will limit the scope of the development. I believe that mixing BP right next door to multi family residential and retirement housing when other BP land is available next door is not good planning. The loss of 600 housing units in the area will cause a problem when it comes to paying the latecomers fees due to the Camas School system to pay for the new water lines in the area or that the development fees needed to pay for the new sewer system in the area would benefit greatly from additional multi-family development in the area.
- The Dens Family with the approval of the City Staff had proposed to the Mills Family that the Mills Family share the cost of construction of NE Fargo Street and agree that it could be removed at some point in time in the future when the City or some other entity provided adequate road access to the Mills properties from the North.

- The Legacy Lands Advisory Board recommended that a road be planned providing access to the Mills Family remainder lands from Leadbetter Road adjacent to the Gun Club Property to the Mills Family remainder lands.
- Leadbetter Road will have to be left open for a long time to provide access to the improvements to the Gun Club Property and the public boat launch. This is to the same access point as the Dens proposed NE Fargo Street.
- To facilitate the purchase of the 33 acres by the City, the City helped arrange and pay for a boundary line adjustment of the Mills Property to reflect the new property boundaries indicated in Exhibit B to the Purchase and Sale Agreement between the City and the Mills Family. City Code for Boundary line adjustments prohibits creation of a new lot by boundary line adjustment from having resulting mixed zoning codes or creating lots without legal access to a public road. Approval of the Comp Plan Amendment as applied for will solve both potential problems facing the Mills and the City.
- Originally, the City had expressed interest in the whole Mills Property but was focused on other purchases. The Mills were the source of the idea and the proposal for the sale of the 33 acres and Leadbetter House and other significant lands to the City in exchange for the zoning and road changes still being applied for in their remainder properties. First through Columbia Land Trust, then the Conservation Fund, and then the City, the proposal from the Mills has never changed. The City went forward with the purchase and now is backing away from the City Staff making a "good faith, "best effort" to grant the Mills what they reasonably bargained for.... To quote Brooks and Dunn: "That aint no way to go".

The Mills are good people who have worked successfully with the City of Camas for many years. The City of Camas should recognize its relationship with and responsibilities to the Mills Family as it considers this Comp Plan Amendment. However, I do not believe those would be the best reasons to approve this Comp Plan Amendment.

The best and real reason to approve the Comp Plan Amendment is that the Amendment is in the best interest of the City of Camas and its citizens. It will provide much needed high-end and mid-range multi-family housing and / or retirement housing in Lacamas North Shore. It will be a real boon for the myriad of jobs that will be created in the area if the City sticks to its original long-range plans for the North Shore Commerce Center. It will provide much needed funds to pay for existing public improvements like water and sewer lines and road improvements. The net result will be an area of quality high-end and mid-range low density multifamily housing owned by local well financed developers and investors who intend to hold the properties developed for the long term. This low density beautifully landscaped area of development with walking trails to the public parks and Lacamas Lake will be a gem in the crown jewel of Camas – Lacamas North Shore, and a testament to the vision and grit of the City of Camas Staff, the City of Camas Leaders, Columbia Land Trust, and the Mills Family. I urge to move forward with the commitments already planned for,





Exhibit 6 CPA20-02 Page7



2411 Southeast 8th Avenue • Camas • WA 98607 Phone: 360-567-1806 • Fax: 360-253-8624 www.earth-engineers.com

May 28, 2019

Lacamas North Shore LLC 2001 Southeast Columbia River Drive, Suite 100 Vancouver, Washington 98661 Telephone: 360-694-9940 Fax: 360-694-9999 E-mail: <u>karenmartel@comcast.net</u>

Subject: Preliminary Geotechnical Investigation Report 57-Acres of the Mills Family Property – Parcels 5 and 6 North Shore of Lacamas Lake Camas, Clark County, Washington EEI Report No. 19-033-1

To whom it may concern:

Earth Engineers, Inc. (EEI) is pleased to provide our attached Preliminary Geotechnical Investigation Report for the above referenced project. This report includes the results of our field investigation, an evaluation of geotechnical factors that may influence the proposed construction, and preliminary geotechnical recommendations for the future buildings and general site development.

We appreciate the opportunity to perform this geotechnical study and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office at 360-567-1806.

Sincerely, **Earth Engineers, Inc.**

J-groul

Troy Hull, P.E. Principal Geotechnical Engineer

Jacqui Boyer Geotechnical Engineering Associate

Attachment: Preliminary Geotechnical Investigation Report

Distribution (electronic copy only): Addressee Kimbal Logan, Kimbal Logan Real Estate & Investment (<u>kimbal@klreico.com</u>)

Exhibit 6 CPA20-02 Page8



Earth Engineers, Inc.

PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT

57-Acres of the Mills Family Property Parcels 5 and 6 North Shore of Lacamas Lake Camas, Clark County, Washington

Prepared for:

Lacamas North Shore LLC 2001 Southeast Columbia River Drive Suite 100 Vancouver, Washington 98661

Prepared by:

Earth Engineers, Inc. 2411 Southeast 8th Avenue Camas, Washington 98607 Phone: 360-567-1806 Fax: 360-253-8624

EEI Report No. 19-033-1

May 28, 2019

Jacqui Boyer Geotechnical Engineering Associate



Troy Hull, P.E. Principal Geotechnical Engineer

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APPENDICES: Appendix A – Site Location Plan

Appendix B – Exploration Location Plan

Appendix C – Exploration Logs

Appendix D – Soil Classification Legend

- Appendix E Depth to Drive Probe Refusal Plan (i.e. inferred bedrock depth)
- Appendix F Surcharge-Induced Lateral Earth Pressures for Wall Design

1.0 PROJECT INFORMATION

1.1 Project Authorization

Earth Engineers, Inc. (EEI) has completed a preliminary geotechnical investigation report for the potential future development of 57-acres of the Mills Family LLC property off the North Shore of Lacamas Lake in Camas, Washington. Our geotechnical services were authorized by Lacamas North Shore LLC on February 26, 2019 by signing our Proposal No. 19-P040 issued on February 15, 2019.

1.2 Project Description

Our current understanding of the project is based on the information Kimbal Logan with Kimbal Logan Real Estate and Investment provided via e-mail to EEI Principal Geotechnical Engineer Troy Hull on February 6, 2019. Briefly, we understand the Mills Family LLC has recently signed closing documents for the sale of 33-acres of their 90-acre property to the City of Camas. Mr. Logan has informed us that the remaining 57-acres adjacent to the future City property are still owned by the Mills Family, and that the property is currently under a real estate purchase and sale agreement between the Mills Family and Lacamas North Shore LLC (the client). As such, this report will concern the potential future development of the overall property identified as "Parcels 5 and 6".

We have also received the following documents pertaining to the project via e-mail:

- A map prepared by Minister Glaeser Surveying Inc. titled "Mills Family LLC. Boundary Line Adjustment: All Parcels", dated January 29, 2019. This map shows the parcels that make up the entire 90-acre property, previously owned by the Mills Family. The map divides the property into 5 parcels (Parcels 1, 2, 4, 5, and 6), shown in Figure 1 below. Mr. Logan has informed us that the sale of Parcels 1, 2, and 4 to the City of Camas has closed, while Parcels 5 and 6 has remained under the ownership of the Mills Family.
- A map prepared by Minister Glaeser Surveying Inc. titled "Mills Family LLC. Boundary Line Adjustment: Parcel 5", dated January 28, 2019. This map shows a survey of Parcel 5, which has remained under the ownership of The Mills Family for now. The map indicates that Parcel 5 is 35.61-acres in size.
- A map prepared by Minister Glaeser Surveying Inc. titled "Mills Family LLC. Boundary Line Adjustment: Parcel 6", dated January 29, 2019. This map shows a survey of Parcel 6, which has also remained under the ownership of The Mills Family for now. The map indicates that Parcel 6 is 21.02-acres in size.

• An undated, untitled map showing Lidar contours overlying the subject parcels. It should be noted that this map does now show elevations on the contours, or provide a scale. However, it does show the general trend of the slopes in the area.



Figure 1: Map showing the subject parcels on the Mills Family property (base map source: referenced above). As previously stated, Parcels 5 and 6 are the subject parcels for this project, outlined in red.

As this project is in its very early stages, we have not been provided with any plans for future development of the subject parcels. As such, this report should be considered to be preliminary until we can confirm some of the assumptions made below. Once more design details are known, we envision a supplemental geotechnical report will be prudent to ensure the geotechnical findings and recommendations are appropriate for the actual construction.

For the purposes of this report, we are assuming that the future development of the subject parcels could include both residential and commercial properties. We are also assuming that the development will include the infrastructure to support said buildings (i.e. roads, parking areas, utilities, detention ponds for stormwater, etc.).

In addition, for the purposes of this report, we are assuming maximum foundation loads of 5 to 6 kips per linear foot for wall footings, 50 to 75 kips per column footing, and 150 psf for floor slabs. With regard to design grades, there are no grading plans available at this time. We are assuming that there could be significant cuts and fills across the site given the variable topography. Finally, we have also assumed that potential future development will be constructed in accordance with the 2015 International Building Code (IBC), and/or the 2015 International Residential Code (IRC).

1.3 Purpose and Scope of Services

The purpose of our services was to perform a preliminary geotechnical engineering evaluation of the subject property, in order to evaluate if difficult rock excavation will impact construction and to provide preliminary geotechnical recommendations. Due to the limitations of site access for the subject property, our scope of services involved an exploration using hand tools. We budgeted 3 days to conduct the site reconnaissance and 30 hand tool explorations. The hand tool explorations involved advancing hand auger borings (HA-1 through HA-30) to the depth of practical hand auger refusal, with supplemental drive probe testing. We used a GPS hand-held unit to mark our exploration locations, and placed a wood stake with white flagging at each exploration location so that the surveyor can later survey the locations if desired. For the approximate exploration locations see Appendix B.

Grab samples were obtained from the hand auger borings at the discretion of the representative of the Geotechnical Engineer. The soil samples were tested in the laboratory to determine the material's properties for our evaluation. Laboratory testing was accomplished in general accordance with ASTM procedures.

This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents recommendations regarding the following:

- A discussion of subsurface conditions encountered including pertinent soil and groundwater conditions, including depth to bedrock, if it is encountered.
- Preliminary geotechnical related recommendations for foundation design including allowable bearing capacities, estimated settlements, coefficient of friction and passive earth pressure recommendations.
- Structural fill recommendations, including an evaluation of whether the in-situ soils can be used as structural fill.
- Seismic design parameters in accordance with the 2015 International Building Code.
- Qualitative evaluation of slope stability within the designated hazard areas.
- An evaluation as to whether difficult rock excavation may be encountered across the property and a demarcation of those general areas based on our explorations.
- Preliminary lateral earth pressure recommendations for future retaining wall designs, and general retaining wall recommendations.
- Preliminary pavement design recommendations based on an assumed CBR value and assumed traffic loading conditions.
- Other discussions on geotechnical issues that may impact the future development of the subject property.

It should be noted that, in order to fully understand the depth to bedrock we would typically recommend drilled borings or excavator test pits, as hand tools are not a very reliable method for evaluating whether difficult rock excavation is present. However, due to accessibility issues, this was not feasible.

Our scope of services did not include drilled borings or excavator test pits, advanced lab testing, and a global slope stability study. However, if desired by the client, those services can be added to our scope.

2.0 SUBSURFACE CONDITIONS

2.1 Site Location and Description

As noted above, the site is located off of the north shore of Lacamas Lake in Camas, Washington. For the purposes of this project, the subject property has been subdivided into two parcels: Parcel 5 and Parcel 6, as shown in Figure 1 above. The subject site is bordered to the north by farm and agricultural land (Johnston Dairy Farm), to the south by a vacant residential property, to the east by a residence, and to the west by Parcel 4 mentioned above (recently sold to the City of Camas). See Figure 2 below for the project vicinity.



Figure 2: Vicinity map showing the subject property for this project (Parcels 5 and 6 – outlined in red), as well as the Mills Family LLC property that has been sold to the City of Camas (Parcels 1, 2 and 4 – outlined in blue). Base map source: <u>https://gis.clark.wa.gov/mapsonline/</u>.

According to the Clark County Website, the proposed project limits are located on Clark County Parcel No.'s 177884000 (Parcel 5), and 177885000 (Parcel 6). It should be noted that Clark County has recently adjusted their tax lots to match the boundary adjustment made for the subdivision of the Mills Family property.

As shown in Figure 2 above, Parcel 5 is irregularly shaped and Parcel 6 is rectangular. Cumulatively, the subject property (i.e. both parcels) is roughly 57 acres in size and is currently vacant. With respect to site topography, the subject parcels have variable slopes (i.e. there is not a general slope trend). The steepest slopes on the subject property are located on the northwestern property line of Parcel 5, with slopes of up to 70 percent (i.e. 1.4H:1V - Horizontal:Vertical). See Figure 3 below for the slopes on the subject property.



Figure 3: Map produced by Clark County showing the slopes on the subject parcels (base map source: <u>https://gis.clark.wa.gov/mapsonline</u>).

The property is currently heavily vegetated with both young and mature trees, brush, shrubs and grass. While conducting our subsurface investigation, we encountered outcrops (i.e. visible exposures) of basalt rock. An example is shown in Photo 1 below. We also encountered a large ridge along the northern perimeter of Parcel 5 where bedrock is exposed at the surface, shown in Photo 2. In addition, we encountered a marshy wetland in the northeast corner of Parcel 6. See Photo 3 below.



Photo 1: Example of a basalt outcrop encountered during our explorations.



Photo 2: Steep ridge encountered during our explorations, exposing a basalt rock face.



Photo 3: Marshy area encountered during our explorations.

It should be noted that a trail system has been cleared on the subject property. See Figure 4 below for the approximate location of the trails. A historic logging road was cleared by Shane McGuffin with Kimbal Logan Real Estate & Development. This logging road roughly crosses through the middle length of the parcels, and can be accessed by Northeast Leadbetter Road (west of the subject parcels) as shown on Figure 4. There are also existing foot trails on the subject property that connect to this logging road, and can also be accessed by the northeast corner of Parcel 6 (via Johnston Dairy). Photo 4 below shows the cleared logging road at its connection with the western property line.



Figure 4: Map showing approximate locations of the trails on the subject property (base map provided by Shane McGuffin, Real Estate Broker with Kimbal Logan Real Estate & Investment).



Photo 4: Access to the western property line from the newly cleared trail.

During our site visits and investigation, we did not observe signs of previous or current soil movement, such as clearly identifiable landslide head scarps, bowl-shaped depressions, or surface cracking in the soils. We did, however, observe leaning tree trunks and pistol-butting, shown in Photo 4 below, which can be an indicator of shallow soil creep.



Photo 5: Pistol butting observed on the subject property, possibly indicative of soil movement.

2.2 Mapped Geology and Soils

The geology of the site is mapped as the Unit Tbem: Oligocene aged basaltic andesite (bedrock) of Elkhorn Mountain, shown in Figure 5 below. The USGS mapping indicates that this unit is a sequence of lava flows and flow breccia composed of dark-gray to brown, porphyritic to seriate to aphyric tholeiitic basaltic andesite and basalt¹.

¹ Evarts, R.C., and O'Connor, J.E., 2008, Geologic Map of the Camas Quadrangle, Clark County, Washington, and Multnomah County, Oregon, US Geologic Survey: Department of the Interior, Scientific Investigations Map 3017, scale 1:24,000.



Figure 5: A map of the geology of the site and its surrounding areas (base map source: Scientific Investigations Map 3017 from the USGS Department of the Interior).

The United States Department of Agriculture Natural Resource Conservation Service (USDA, NRCS) maps the surface soils on the subject property as the following units: VaB, VaC, OmE and Llb. Vader silt loam on 3 to 8 percent slopes (Unit VaB) is mapped on 48 percent of the subject property. Vader silt loam on 8 to 15 percent slopes (Unit VaC) is mapped on 20 percent of the subject property. These well drained soils are described as residuum and colluvium from sandstone with a mixture of volcanic ash in the upper part. The only differentiation between VaB and VaC are the slopes. Olympic stony clay loam on 3 to 30 percent slopes is mapped on 22 percent of the subject property. This well drained soil is described as residuum and colluvium from igneous rock. Finally, Lauren very gravelly loam on 0 to 8 percent slopes (Unit LIB) is mapped on 10 percent of the subject property. This somewhat excessively drained soil is described as alluvium with volcanic ash².

In addition, we reviewed the Clark County Geographic Information Services (GIS) mapping tool (<u>https://gis.clark.wa.gov/mapsonline</u>) to identify geologic hazards in the area. The County indicates that both parcels have slopes ranging from 0 to 40 percent, shown in Figure 3 above. The County also maps portions of the subject parcels to be within landslide hazard areas, solely due to the presence of slopes greater than 15 percent. These slopes are shown in Figure 6 below. It should be noted that the County maps the subject property in the lowest relative earthquake hazard area and very low soil liquefaction hazard area due to the presence of shallow bedrock.

² Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ accessed 2/28/2019.



Figure 6: Map produced by Clark County showing the landslide hazard areas on the subject parcels (base map source: <u>https://gis.clark.wa.gov/mapsonline</u>).

As a part of our due diligence we also reviewed the Washington State Department of Natural Resources (DNR) Geologic Information Portal (<u>https://geologyportal.dnr.wa.gov/</u>). According to the DNR portal, the property is mapped within an area of moderate to high susceptibility to landslide failure, shown in Figure 7 below. However, the portal does not map the subject parcels to be within any mapped historic landslides. The portal also maps the property to be 600 feet east of the Lacamas Lake fault, lining the North Shore of Lacamas Lake. It should be noted that the DNR portal also indicates that the subject property is not mapped within an area of liquefaction susceptibility, again due to the presence of relatively shallow bedrock.



Figure 7: Map produced by the Washington State DNR showing the landslide hazard for the subject parcels (base map source: <u>https://geologyportal.dnr.wa.gov</u>/).

Finally, we reviewed publically available well logs from the State of Washington Department of Ecology (<u>https://fortress.wa.gov/ecy/wellconstruction/map/</u>) to obtain subsurface information from nearby properties. According to well logs located approximately 0.15 miles south of the subject parcels, "cemented gravels and cobbles" were first encountered at depths ranging from 2 feet below ground surface to 11 feet below ground surface.

2.2 Subsurface Materials

As stated earlier, the site was explored with 30 hand auger explorations (HA-1 through HA-30) accompanied by supplemental drive probe tests. For the approximate exploration locations, see the "Exploration Location Plan" in Appendix B. The hand auger borings were advanced until they hit refusal due to dense gravel, basalt fragments, or bedrock. It should be noted that using hand tools is not a reliable method for determining whether refusal is due to gravel, cobble or bedrock (i.e. it is difficult to distinguish the cause of drive probe and hand auger refusal).

Grab samples were obtained from the explorations at the discretion of the Geotechnical Engineering Associate for laboratory testing. As stated above, we conducted supplemental drive probe tests to determine the consistency of the surficial soils as well as the depth to the bedrock. The results are included in the "Exploration Logs" in Appendix C.

The drive probe test is based on a "relative density" exploration device used to determine the distribution and to estimate strength of the subsurface soil and decomposed rock units. The resistance to penetration is measured in blows-per-foot of an 11-pound hammer, freely falling roughly 39-inches, striking a coupling, and driving a 1-inch diameter solid end area (i.e. pipe cap) into the ground. This measure of resistance to penetration can be used to estimate relative density of soils. For a more detailed description of this geotechnical exploration method, please refer to the Slope Stability Reference Guide for National Forests in the United States, Volume I, United States Department of Agriculture, EM-7170-13, August 1994, P 317-321.

Results of our hand auger explorations and drive probe tests are reported in Appendix C. Upon completion, the hand auger explorations were loosely backfilled with the excavated soil.

Soil samples were obtained from each major soil stratum encountered during the excavation process. Each sample was marked and identified by the date sampled, project number, hand auger number, and sample depth. The samples were transported to our laboratory for visual identification and laboratory testing, and will be retained for at least 60 days from the date of this report.

Select soil samples were tested in the laboratory to determine material properties for our evaluation. Laboratory testing was accomplished generally in accordance with ASTM procedures. The testing performed included moisture content tests (ASTM D 2216) and fines content determinations (ASTM D 1140). The test results have been included on the exploration logs located in Appendix C.

In general, we encountered a layer of topsoil, underlain by native soils (silt or sand), eventually transitioning to basalt bedrock with depth. Each of these strata are discussed separately below.

TOPSOIL

The topsoil at the site was encountered in each of our explorations. The topsoil was generally dark brown in color, and comprised of sandy silt with roots, rootlets and gravel. Based on our observations (ASTM D2488) during the explorations, we considered the topsoil stratum to be dry to moist. The thickness of the topsoil stratum in our explorations varied from 6 to 12 inches across the site.

NATIVE SOILS

In all of our hand auger explorations we encountered what we interpreted to be native soils that extended to hand auger refusal. This soil unit was generally fine grained, brown to orange brown, sandy silt with gravel and fractured basalt. It should be noted that, in some of our explorations, we also encountered organics such as charcoal and woodchips. In some of our explorations, this silt stratum transitioned to a gray-brown clayey silt with sand and decomposed basalt at the base of our explorations (near refusal). Laboratory moisture content testing (ASTM D2216) was performed on grab samples obtained within this silt stratum. Results ranged from 21 to 37 percent moisture indicating a moist condition. Fines content laboratory testing (ASTM D1140) results on samples obtained within this stratum resulted in 29 to 53 percent passing the

No. 200 sieve. Based on drive probe testing, we consider the silt soils to have highly variable consistencies grading from soft to hard. The thickness of this stratum ranged in our explorations from 6 inches to 6 feet across the site.

It should be noted that we also encountered a coarse grained, brown silty sand stratum with gravel. This stratum was encountered at varying depths in our explorations, ranging in thickness from 1 to 3.5 feet across the site. Laboratory moisture content testing (ASTM D2216) was performed on grab samples obtained within this sand stratum. Results ranged from 20 to 35 percent moisture indicating a dry to moist condition. Fines content laboratory testing (ASTM D1140) results on samples obtained within this stratum resulted in 11 to 19 percent passing the No. 200 sieve. Based on drive probe testing, we consider the sand to have highly variable consistencies grading from loose to dense.

BASALT BEDROCK

Beneath the topsoil and the native soils described above, we encountered what we interpreted to be basalt bedrock, which resulted in hand auger and drive probe refusal in most of our explorations. Based on our analysis of the fractured basalt fragments, the basalt was gray with red-brown weathered surfaces, and intensely jointed/fractured. The depth to weathered bedrock varied across the site from 3 inches to 8.5 feet. It should be noted that in HA-20 and HA-22 we did not encounter drive probe refusal and we terminated our testing at 12 feet and 8 feet bgs, respectively.

The above subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The exploration logs, provided in Appendix C, should be reviewed for specific information at specific locations. These records include soil descriptions, stratifications, and locations of the samples. The stratifications shown on the logs represent the conditions only at the actual exploration locations. The soils extent at each boring location was estimated based on an examination of the soil samples, field measurements, and the subsurface data. The hand auger boring explorations performed are not adequate to accurately identify the full extent of the depth to bedrock across the site as they may encounter premature refusal on "rocky" soil material. Consequently, the actual depth to bedrock may be much greater than that shown on the exploration logs and discussed herein. Variations of soil and rock strata may occur and should be expected between locations. The stratifications may be gradual. The samples that were not altered by laboratory testing will be retained for 60 days from the date of this report and then will be discarded.

2.4 Groundwater Information

At the time of our explorations we did not encounter a clearly identifiable static groundwater level. We reviewed publically available well logs provided by the State of Washington Department of Ecology (<u>https://fortress.wa.gov/ecy/wellconstruction/map/wclswebMap/default.aspx</u>) for historic groundwater information. A water well report for a property 0.4 miles

away drilled to a depth of 80 feet below ground surface and did not encounter an identifiable static water level.

It should be noted that the groundwater elevations can fluctuate seasonally, especially during periods of extended wet or dry weather, or from changes in land use. Additionally, some perched groundwater may be encountered within excavations made during or just after the wet winter months. In general, however, we do not expect that groundwater will influence the development of the subject site.

2.5 Seismicity

In accordance with Section 1613.3.2 of the 2015 IBC and Table 20.3-1 of ASCE7-10, we generally recommend a Site Class D (stiff soil profile) for this site when considering the average of the upper 100 feet of bearing material beneath the foundations. This recommendation is based on the results of our subsurface investigation as well as our previous understanding of the local geology. A higher site class (i.e. C) may be appropriate for some areas of the site—where bedrock is at its shallowest. When the project layout is determined, the Site Class recommendation can be refined.

Inputting our recommended Site Class as well as the site latitude and longitude into the United States Geological Survey (USGS) Seismic Design Maps web application, available online at <u>http://earthquake.usgs.gov/designmaps/us/application.php</u>, we obtained the seismic design parameters for a return interval of 2 percent exceedance in 50 years shown in Table 1 below.

Parameter	Recommendation	
Ss	0.877g	
S ₁	0.372g	
Fa	1.149	
Fv	1.656	
S _{MS} (=S _s x F _a)	1.008g	
S _{M1} (=S ₁ x F _v)	0.616g	
S _{DS} (=2/3 x S _{MS})	0.672g	
Design PGA (=S _{DS} /2.5)	0.269g	
MCE _G PGA	0.374g	
F _{PGA}	1.126	
PGA_{M} (= $F_{PGA} \times MCE_{G} PGA$)	0.421g	

Table 1: Seismic Design F	Parameter Recommendations	(Site Class D)
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Note: Site latitude = 45.61878, longitude = -122.41952

3.0 EVALUATION AND FOUNDATION RECOMMENDATIONS

3.1 Geotechnical Discussion

The following geotechnical factors may influence the proposed construction:

- Limited nature of hand explorations As stated above, hand explorations can be unreliable in determining the depth to shallow bedrock, because it is difficult to determine whether the hand tool refusal is occurring on bedrock or a large cobble, for example. <u>As</u> <u>such</u>, <u>our</u> recommendations should be taken as preliminary, and a supplemental investigation should be considered once the property is accessible to an excavator.
- 2. Preliminary stages of the project Because the project is still in the preliminary stages, we have not been provided any plans or proposed locations for potential development. How and where the property is developed may have somewhat of an impact on our geotechnical recommendations. As such, once plans are developed, we should be forwarded those plans so that we can evaluate whether our recommendations need to be modified and if supplemental explorations need to be performed to better identify the subsurface conditions where the actual development(s) will occur.
- 3. Shallow bedrock As stated above, we encountered what we interpreted to be basalt bedrock in most of our explorations at a depth ranging from approximately 3 inches to 8.5 feet below the existing grade. It should be noted that we are characterizing the depth to the basalt rock to be the depth of drive probe refusal. However, as stated above, hand tools are not a reliable method for being 100 percent certain that this is the actual depth to competent bedrock. During our explorations, we observed that the higher elevation points coincided with areas where the basalt rock was at (or near) the surface. For example, along the steep ridge at the northern property line of Parcel 5 and the steep ridge that runs across the northeast corner of Parcel 6. If required, excavations through this shallow bedrock stratum during site development could be difficult, and may require specialized equipment. It should be noted that the depth to the basalt stratum was generally greater in the lower portion of the two parcels (i.e. below the cleared logging road, where the slopes were less variable). See Appendix E, showing the depth to drive probe refusal at each exploration location.
- 4. Variable topography As stated above, we encountered variable topography across the subject site (see Figure 3 for site slopes). The property ranges in elevation from approximately 275 feet to 365 feet, with no general trend to the site slopes. The steepest slopes are located along the northern property line of Parcel 5, where there is a ridge exposing basalt. As such, we envision developing in these areas to be the most difficult, due to the variable topography and shallow bedrock. The property becomes much less variable in the southern portion of the two parcels, and the resultant depth to drive probe refusal (i.e. interpreted depth to bedrock) was also greater in these areas.

5. Moisture sensitive soils – The fine-grained soils encountered at the site are expected to be moisture sensitive. The increase in moisture content during periods of wet weather can cause significant reduction in the soil strength and support capabilities, and will also be slow to dry. As such, when the project is ready to go to construction, water should not be allowed to collect in foundation excavations or on prepared subgrades, and care should be taken when operating construction equipment on the exposed subgrade. It may be prudent to place a relatively thin layer of crushed rock gravel on the prepared surfaces during construction to protect them from disturbance.

In our professional opinion, it is viable to develop the subject property given the estimated depths to bedrock. However, as stated above, we recommend a supplementary, more detailed investigation be conducted once the project plans have been developed further and the site can be accessed by an excavator.

3.2 General Site Preparation

Topsoil, vegetation, roots, debris, and any other deleterious soils will need to be stripped from beneath the building areas, when they are determined. The topsoil thickness was about 6 to 12 inches thick in our hand auger explorations. It should be noted that the bedrock layer was found to be at a depth of 3 to 8.5 feet in our explorations.

We recommend that once the subgrade is prepared, a proof roll should be performed with a fully loaded dump truck or water truck to verify the strength of the soil subgrades before concrete is placed (if possible). Soils that are observed to rut or deflect excessively under the moving load, or are otherwise judged to be unsuitable, should be undercut and replaced with properly compacted structural fill. Alternately, the exposed subgrades will need to be visually evaluated by the Geotechnical Engineer or his representative using a ½-inch diameter steel geo-probe. The proof rolling and undercutting activities should be witnessed by a representative of the Geotechnical Engineer and should be performed during a period of dry weather.

Utilities will need to be located and rerouted as necessary and any abandoned pipes or utility conduits should be removed to inhibit the potential for subsurface soil erosion. Utility trench excavations should be backfilled with properly compacted structural fill that is constructed as outlined in Section 3.3 of this report.

3.3 Structural Fill

Any structural fill to be placed should be free of organics or other deleterious materials, have a maximum particle size less than 3 inches, be relatively well graded, and have a liquid limit less than 45 and plasticity index less than 25. In our professional opinion, the existing site soils would be suitable for use as structural fill, however it may be extremely difficult to properly compact as we anticipate it will be moisture sensitive and may require moisture conditioning to achieve optimum moisture. As such, it may be more practical to import well graded, crushed

rock gravel. We recommend fill be moisture conditioned to within 3 percentage points below and 2 percentage points above optimum moisture as determined by ASTM D698 (Standard Proctor).

Fill should be placed in relatively uniform horizontal lifts on the prepared subgrade which has been stripped of deleterious materials and approved by the Geotechnical Engineer or their representative. If loose soils exist on the prepared subgrades, they should be re-compacted. Each loose lift should be about 1-foot thick. The type of compaction equipment used will ultimately determine the maximum lift thickness. Structural fill should be compacted to at least 95 percent of standard proctor maximum dry density as determined by ASTM Designation D698. Each lift of compacted engineered fill should be tested by a representative of the Geotechnical Engineer prior to placement of subsequent lifts.

3.4 Foundation Recommendations

As stated above, this project is in its preliminary stages. As such we have not been provided information on where the proposed development will occur, what type of structures it will include and what their resultant foundation loads will be. As such, these recommendations should be taken as preliminary. In general, we anticipate that the bearing conditions are appropriate for conventional shallow foundations. It's possible that for very heavy foundation loads (i.e. buildings several stories in height), that deep foundations may also be appropriate and more practical.

If shallow foundations are selected, they should bear on the medium stiff native silt stratum, the medium dense native sand, or the basalt bedrock stratum. Spread footings for isolated columns and continuous bearing walls can be designed for an allowable soil bearing pressure of up to 2,000 psf when bearing on the native silt or sand soils, and 4,000 psf when bearing on the basalt bedrock. Our recommended allowable bearing capacity is based on dead load plus design live load, and can be increased by one-third when including short-term wind or seismic loads. Minimum footing dimensions should be in compliance with the 2017 ORSC. It's possible that we may be able to provide higher allowable bearing capacities for the soil and rock strata, if more subsurface data is collected to better define the conditions within the footprints of the actual buildings.

Lateral frictional resistance between the base of footings and the subgrade can be expressed as the applied vertical load multiplied by a coefficient of friction of 0.32 for concrete foundations bearing directly the native soils or bedrock. In addition, lateral loads may be resisted by passive earth pressures based on an equivalent fluid pressure of 300 pounds per cubic foot (pcf) for footings poured "neat" against the medium stiff to very stiff native soils, basalt bedrock, or properly backfilled structural fill. These are ultimate values—we recommend a factor of safety of 1.5 be applied to the equivalent fluid pressure, which is appropriate due to the amount of movement required to develop full passive resistance. To be clear, no safety factor has been applied to the friction coefficient discussed above.

Exterior footings and foundations in unheated areas should be located at a depth of at least 18 inches below the final exterior grade to provide adequate frost protection (if footings bear on competent basalt bedrock, then there is no minimum frost depth requirement). If the buildings are to be constructed during the winter months or if the foundation soils will likely be subjected to freezing temperatures after foundation construction, then the foundation soils should be adequately protected from freezing. Otherwise, interior foundations can be located at nominal depths compatible with architectural and structural considerations.

Again, variable conditions (i.e. depth to bedrock, etc.) are anticipated to be present during construction. The foundation excavations should be observed by a representative of the Geotechnical Engineer prior to steel or concrete placement to assess that the foundation materials are capable of supporting the design loads and are consistent with the materials discussed in this report. Unsuitable soil zones encountered at the bottom of the foundation excavations should be removed to the level of suitable soils or properly compacted structural fill as directed by the Geotechnical Engineer.

After opening, foundation excavations should be observed and concrete placed as quickly as possible to avoid exposure of the excavation bottoms to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. If possible, the foundation concrete should be placed during the same day the excavation is made. If the soils will be exposed for more than 2 days, consideration should be given to placing a thin layer of rock atop the exposed subgrade to protect it from the elements.

Based on the known subsurface conditions and site geology, laboratory testing and past experience, we anticipate that properly designed and constructed foundations supported on the recommended materials could experience maximum total and differential settlements on the order of 1-inch and ½-inch, respectively.

3.5 Retaining Walls

As previously stated, there are no detailed design drawings for this project as it is in its preliminary stages. As such, we are not aware of any retaining walls being planned for the project. We have provided the following preliminary recommendations in the event that the project does include retaining walls. However, we should be forwarded the details of any planned walls so that we can review our preliminary recommendations and modify them if determined to be necessary.

Retaining wall footings should be designed in general accordance with the recommendations contained in Section 3.4 above. Lateral earth pressures on walls, which are not restrained at the top, may be calculated on the basis of an "active" equivalent fluid pressure of 35 pcf for level backfill, and 60 pcf for sloping backfill with a maximum 2H:1V slope. Lateral earth pressures on walls that are restrained from yielding at the top may be calculated on the basis of an "at-rest" equivalent fluid pressure of 55 pcf for level backfill, and 90 pcf for sloping backfill with a maximum 2H:1V slope. The stated equivalent fluid pressures do not include surcharge loads,

such as foundation, vehicle, equipment, etc., adjacent to walls, hydrostatic pressure buildup, or earthquake loading.

Lateral frictional resistance between the base of footings and the subgrade can be expressed as the applied vertical load multiplied by a coefficient of friction of 0.32 for concrete foundations bearing directly on the native soils or bedrock. In addition, lateral loads may be resisted by passive earth pressures based on an equivalent fluid density of 300 pounds per cubic foot (pcf) for footings poured "neat" against in-situ soils, or properly backfilled with structural fill. These are ultimate values - we recommend a factor of safety of 1.5 be applied to the equivalent fluid pressure, which is appropriate due to the amount of movement required to develop full passive resistance.

We recommend that retaining walls be designed for an earth pressure determined using the Mononobe-Okabe method to mitigate future seismic forces. Our calculations were based on one-half of the Design Peak Ground Acceleration (PGA) value of 0.269g, which was obtained from Table 1 above. We have assumed that the retained soil/rock will have a minimum friction angle of 29 degrees and a total unit weight of about 115 pounds per cubic foot. For seismic loading on retaining walls with level backfill, new research indicates that the seismic load is to be applied at 1/3 H of the wall instead of 2/3 H, where H is the height of the wall³. We recommend that a Mononobe-Okabe earthquake thrust per linear foot of 7.7 psf * H² be applied at 1/3 H from the base of the wall, where H is the height of the wall measured in feet. Note that the recommended earthquake thrust value is appropriate for slopes behind the retaining wall of up to 10 degrees.

All backfill for retaining walls should be select granular material, such as sand or crushed rock with a maximum particle size between ³/₄ and 1¹/₂ inches, having less than five percent material passing the No. 200 sieve. Because of the fines content, the soil on site will not meet this requirement, and it will be necessary to import specified material to the project for structural drainage backfill behind retaining walls. Non-expansive silty soils can be used for the last 18 to 24 inches of backfill, thus acting as a seal to the granular backfill.

All backfill behind retaining walls should be moisture conditioned to within +/- 2 percent of optimum moisture content, and compacted to a minimum of 92 percent of the material's maximum dry density as determined in accordance with ASTM D698 (Standard Proctor). This recommendation applies to all backfill located within a horizontal distance equal to 75 percent of the wall height, but should be no less than 4 feet.

An adequate subsurface drain system will need to be designed and installed behind retaining walls to prevent hydrostatic buildup. A waterproofing system should be designed to mitigate against moisture intrusion.

³ Lew, M., et al (2010). "Seismic Earth Pressures on Deep Building Basements," SEAOC 2010 Convention Proceedings, Indian Wells, CA.

3.6 Pavement Recommendations

As previously stated, there are no detailed design drawings for this project as it is in its preliminary stages. As such, we are providing pavement recommendations using assumed values.

After the site has been stripped and prepared in accordance with Section 3.2 of this report, the pavement subgrade should be proofrolled with a fully loaded dual axle dump truck and then covered with gravel structural fill the same day. Areas found to be soft or yielding under the weight of a dump truck should be overexcavated as recommended by the Geotechnical Engineer's representative and replaced with additional crushed rock gravel fill.

Using the AASHTO method of flexible pavement design, the following design parameters have been assumed:

- An assumed California Bearing Ratio (CBR) value of 8 for the native silty sandy soils.
- A pavement life of 20 years.
- A terminal serviceability (Pt) of 2 (i.e. poor pavement condition).
- A regional factor (R) of 3.0.
- An assumed 18,000-pound equivalent axle load (EAL) of:
 - 5 per day for car parking.
 - 25 per day for driveways.
- An assumed average weight of 4,000 pounds per vehicle was used in our calculations.

The project Civil Engineer should review our assumptions to confirm they are appropriate for the anticipated traffic loading. See Tables 2 and 3 below for recommended pavement section thicknesses based on the above assumptions.

Pavement Materials	Car Parking	Driveway Areas	
Asphaltic Concrete	2	2.5	
Clean Crushed Aggregate Base Course (less than 5% fines)	8	10	

|--|

Pavement Materials	Car Parking	Driveway Areas
Portland Cement Concrete	6	6
Clean Crushed Aggregate Base Course (less than 5% fines)	4	4

Asphaltic concrete materials should be compacted to at least 91 percent of the material's theoretical maximum density as determined in general accordance with ASTM D 2041 (Rice Specific Gravity).

The crushed aggregate base course should consist of dense graded aggregate with a maximum particle size no greater than 2 inches and we recommend that the material comply with the most recent edition of the Washington State Department of Transportation's *Standard Specifications for Road, Bridge, and Municipal Construction*.

The base course should be moisture conditioned to within 2 percent of optimum and compacted to a minimum of 95 percent of a Standard Proctor (ASTM D698). When placed, the lift base course thickness should generally not exceed 12 inches prior to compacting. The type of compaction equipment used will ultimately determine the maximum lift thickness. In addition, we recommend that the structural fill be placed within +/- 2 percent of the optimum moisture for that material.

4.0 CONSTRUCTION CONSIDERATIONS

EEI should be retained to provide observation and testing of construction activities involved in the foundation, earthwork, and related activities of this project. EEI cannot accept any responsibility for any conditions that deviate from those described in this report, nor for the performance of the foundations if not engaged to also provide construction observation for this project.

4.1 Drainage and Groundwater Considerations

The upper soils encountered at this site are expected to be sensitive to disturbances caused by construction traffic and to changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils that become wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather.

Water should not be allowed to collect in the foundation excavations or on prepared subgrades for the floor sections during construction. Positive site drainage should be maintained throughout construction activities. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. If groundwater is encountered, a system of sumps and pumps may be required to keep footing excavations drained until the footing is placed to prevent softening of the subgrade soils.

A site grading plan should be developed to provide rapid drainage of surface water permanently away from the building and pavement areas and to inhibit infiltration of surface water around the perimeter of the building and beneath the floor area. The grades should be sloped away from the building areas. Roof runoff should be piped (tightlined) to an approved on-site private system.

4.2 Excavations

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document and subsequent updates were issued to better insure the safety of workers entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavations or footing excavations, be constructed in accordance with the new OSHA guidelines. These regulations are strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate

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the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. We are providing this information solely as a service to our client. EEI does not assume responsibility for construction site safety or the contractor's compliance with local, state, and federal safety or other regulations.

5.0 REPORT LIMITATIONS

As is standard practice in the geotechnical industry, the conclusions contained in our report are considered preliminary because they are based on assumptions made about the soil, rock, and groundwater conditions exposed at the site during our subsurface investigation. A more complete extent of the actual subsurface conditions can only be identified when they are exposed during construction. Therefore, EEI should be retained as your consultant during construction to observe the actual conditions and to provide our final conclusions. If a different geotechnical consultant is retained to perform geotechnical inspection during construction then they should be relied upon to provide final design conclusions and recommendations, and should assume the role of geotechnical engineer of record, as is the typical procedure required by the governing jurisdiction.

The geotechnical recommendations presented in this report are based on the available project information, and the subsurface materials described in this report. If any of the noted information is incorrect, please inform EEI in writing so that we may amend the recommendations presented in this report, if appropriate, and if desired by the client. EEI will not be responsible for the implementation of its recommendations when it is not notified of changes in the project.

Once construction plans are finalized and a grading plan has been prepared, EEI should be retained to review those plans, and modify our existing recommendations related to the proposed construction, if determined to be necessary.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

This report has been prepared for the exclusive use of the client, Lacamas Northshore LLC, for the proposed development of the 57-acres of the Mills Family Property to be located on the North Shore of Lacamas Lake. EEI does not authorize the use of the advice herein nor the reliance upon the report by third parties without prior written authorization by EEI.

APPENDICES
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			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'06.81"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat) and 122°2	tio 17 25'	n, 57- 7885(17.55	acre 000, ("W	Mills Cam	s Famil las, Wa	y Propo ashingt	R erty [on [C	eport f Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 297'
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Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	ic Description of nd Rock Strata	Sample		Drive Blow 6 Inc	Prob s Per ches	e ſ	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			●14 ●17							
1 — 2 — 3 —	-	SM	Sand (SM) - brown s moist, loose to dense few charcoal observe	ilty sand with fractured basalt, dry to e	GRAB 2 GRAB 1		10 7 9 •11 •12 •18			11			21	hard digging effort
4 —							2	2						
5 — 5 — 6 — 7 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 — 15									•5	0				drive probe refusal was 50 blows/1" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
Note enco	es : ount	Hand au tered at t	ger terminated at a dep he time of exploration.	oth of approximately 4.5 feet bgs. Drive Boring loosely backfilled with excavated	probe d soil c	e te on	st terr 5/7/19	ninat 9. Ap	ed a prox	t a dep imate e	oth of a elevatio	pproxir on base	nately ed on C	5 feet bgs. Groundwater was not Google Earth.

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			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'07.25"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat) and 122°2	tion 177 25'1	i, 5 [°] 788 4.1	7-ao 500 4"V	cre Mills 00, Carr V	s Famil nas, Wa	y Propo ashingt	R erty D on D C	eport N Drilling (Drilling I Drilling I Drilling I Ground	Sheet 1 of 1 Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 293'
				l Lithology							Samplir	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample		Driv Blo 6 I	re P ows Inch	robe Per nes	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		• !	5							
-		ML	Silt (ML) - brown to o	range brown sandy silt with gravel	RAB 1		z						30	
1 — 2 — 3 —	-								•5)				drive probe refusal was 50 blows/3" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
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15 Note enco	s : l unt	Hand au ered at t	ger terminated at a dep he time of exploration. I	th of approximately 1 foot bgs. Drive pr Boring loosely backfilled with excavated	obe te I soil c	est t	terr 5/7/	nina /19.	ated at a Approx	a depth imate (n of app elevatio	proxima on base	ately 1.9 ed on C	5 feet bgs. Groundwater was not Google Earth.

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	22		Forth	Apper	ndi	X		С	:	Η	a	nd	Α	Pac uge	9e41 E r H	IA-3
		20 3	Engineers,	Client: Lacamas North Shore LLC	ctigat	ion		7 0	oro	N /1i		Family	Drop	R orty D	eport N	Number: 19-033-1
	-	5	Inc.	Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'05.82"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	and 122°2	177 5'1	788 2.5	7-a 350(58"\	00, W	Ca	ima	as, Wa	ishingt	on D On C	Drilling I Drilling I Dround	Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 288'
				Lithology		-					_	S	Samplii	ng Data	a	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample Number		Driv Blc 6	ve F ows Incl	Prot Pe hes	50 50 50 50)	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		•1	1									
1 —											•50	0				drive probe refusal was 50 blows/2"
-																hand auger and drive probe refusal on basalt
3 —	-															
4 —																
-																
5 —																
-																
6 —																
7 —																
-																
8 —																
-																
9																
10 —																
-																
11 —																
-																
13 —																
-																
14 —																
15																
Note loose	es : I ely I	Hand au backfilled	ger and drive probe tes I with excavated soil on	t terminated at a depth of approximately 5/7/19. Approximate elevation based o	1 foo n Goo	ot b ogle	igs. e E	. Gr arth	rour h.	ndw	vat	er was	s not ei	ncounte	ered at	the time of exploration. Boring

												Ext	hibit (CPA20-02
	32		Earth	Apper	ldi	X	C):	Ha	anc	A k	Pag uge	9e42 E r H	HA-4 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'04.98"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	stigat and ² 22°2	ion 177 25'0	, 57 885 9.4	-acr 5000 5"W	e Mill , Can	s Fami nas, W	ly Prop ashing	Forty C ton C C	Report N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 305'
				Lithology							Sampli	ng Dat	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample Number		Prive Blov 6 Ir	e Pro vs P nche	bbe er s	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
			Topsoil - dark brown gravel, dry to moist Silt (ML) - brown san chips, moist, soft to r	sandy silt with gravel, charcoal and wood nedium stiff	CIRAB		3 5 6 4 5		•5	49 49			29	drive probe refusal was 50 blows/5" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
14 — 15 Note ence	es :	Hand au	ger terminated at a dep he time of exploration. I	th of approximately 2.5 feet bgs. Drive p Boring loosely backfilled with excavated	robe soil o	tes	t ter	rmina 19. A	ated a	at a de	pth of a	approxii on base	mately :	3 feet bgs. Groundwater was not Google Earth.
														-

									Exh	ibit (CPA20-02
	10		Earth	Аррен	ndi	x C: H	land	A k	Pag uge)e43 er h	IA-5 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inv. Site Address: Parcel No.'s 17788400 Location of Borehole: 45°37'04.80"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat 0 and 122°2	ion, 57-acre M 177885000, Ca 5'03.19"W	lills Fam amas, W	ly Prop ashingt	R erty D on D C	eport N Prilling (Prilling I Prilling I Ground	Aumber: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 323'
	Τ			I Lithology		i		Samplii	ng Data	3	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample	Drive Probe Blows Per 6 Inches	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0	Ĩ	Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		• 2					
1 — 2 — 3 — 4 —		ML	Silt (ML) - brown san medium stiff to stiff	dy silt with some gravel, moist,	GRAB 1	 8 9 10 7 7 7 9 11 13 				21	
5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 —		S.M.	Sand (SM) - brown s medium dense to den color changes to gray fractured basalt obse	illy sand with gravel, dry to moist, nse y-brown to reddish-brown rved	GRAB 3 GRAB 2	●14 ●17 ●26 ●27 ●22 ●26	•5D 16			25	digging difficulty increases drive probe refusal was 50 blows/5" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
Note loos	es : sely	Hand aug backfilled	ger and drive probe tes I with excavated soil on	t terminated at a depth of approximatel 5/7/19. Approximate elevation based of	y 8 fee on Goo	et bgs. Ground ogle Earth.	water wa	is not ei	ncounte	ered at	the time of exploration. Boring

												Exh	ibit (CPA20-02
	22	S.S.	Farth	Apper	ndi	iх		C:	Ha	and	Αι	Pac uge	e44 e r h	IA-6
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'04.71"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat) and 122°2	tior 17 24'5	n, 57 7885 58.50	7-acre 5000, 0"W	e Mills Carr	s Famil nas, Wa	y Prop ashingt	R erty D on D C	eport N Prilling (Prilling I Prilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 333'
				L _ithology		_				ç	Samplir	ng Data	3	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample		Drive Blov 6 Ii	e Prol ws Pe nches	be er s	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			5 1							
-	_	ML	Silt (ML) - brown to re moderately weathere	eddish brown silt with sand and d fractured basalt, moist, stiff	GRAB 1		•11 •1!	5					26	digging difficulty increases
2 — 3 — 4 —							7 10 10	7						hand auger refusal on dense gravel
5 — 6 —									•5	0				drive probe refusal was 50 blows/3"
7 —	-													
9 —	-													
- 10 —	-													
- 11 —	-													
- 12 —	-													
- 13 —	-													
- 14 —	-													
- 15														
Note enco	es : l ount	Hand aug ered at th	ger terminated at a dep ne time of exploration. I	th of approximately 2 feet bgs. Drive pr Boring loosely backfilled with excavated	obe te I soil c	est on !	term 5/7/1	ninate 19. Aj	ed at a pprox	a depth imate e	of app elevatio	proxima on base	ately 5 f ed on G	feet bgs. Groundwater was not loogle Earth.

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	195	High L	Earth	Apper	ndi	X	x (C	:	Ha	anc	ΙΑι	Pag uge)e45 er h	1A-7 Sheat 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'05.05"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	stigat and 1 122°2	tior 17 24'5	n, 5 788 54.5	7-a 500 59"\	ocre 00, 0 W	Mills Carr	s Famil nas, Wa	y Prop ashingt	R erty D on D C	eport N Prilling (Prilling I Prilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 352'
			I	L _ithology								Samplii	ng Data	Э	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample Number		Driv Blo 6 I	e F ws Incl	Prob Per hes	e	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		•	5								
1-	-	ML	Silt (ML) - brown to re fractured basalt, mois	eddish brown silt with sand and st, medium stiff to very stiff			5		27						
2 — 3 —										•5	D				drive probe refusal was 50 blows/4" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
4 — 5 —	-														
6 —	-														
7 —	-														
8 —	-														
9 —	-														
- 10 —	-														
- 11 —															
- 12 —															
- 13 —															
- 14 —															
15		1													
enco	es : l ounte	⊣and aug ered at ti	ger terminated at a dep he time of exploration. I	tn or approximately 1.5 feet bgs. Drive p Boring loosely backfilled with excavated	soil o	tes on !	st te 5/7/	erm '19.	iinat . Ap	ed a prox	at a dep kimate	orn of a elevatio	pproxir on base	nately 2 ed on C	z reet bgs. Groundwater was not Google Earth.

				l							Exh	nibit e	S CPA20-02
	22		Earth	Apper	ndi	ix	C :	Ha	and	Α	Page Uge	9e46 E r H	HA-8 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'06.98"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat and 122°2	tior 17 24'5	n, 57-acre 7885000, 57.31"W	e Mills Cam	s Famil <u>i</u> nas, Wa	y Prope ashingt	R erty D on D D C	eport N Drilling (Drilling I Drilling I Dround	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 342'
			l	l Lithology		_			ç	Samplir	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample	INUMBER	Drive Pro Blows Pe 6 Inches	be er S	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Topsoil	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			8						
1 — 2 — 3 —		ML	Silt (ML) - brown to g gravel, moist, mediur fractured basalt obse	ray brown clayey silt with sand and n stiff to very stiff erved	AB 1		•17 10 10 7 5		53			31	
-	-				GR/		10		55			31	drive probe refusal was 50
4 — 5 — 6 — 7 —							3:	•5	D				hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
8	-												
9 —													
-	-												
10 —													
-													
12 —													
-													
13 —													
-													
14 — _													
15													
Note enco	es : l ount	Hand aug ered at th	ger terminated at a dep he time of exploration. I	th of approximately 3.5 feet bgs. Drive Boring loosely backfilled with excavated	orobe soil c	tes on !	st termina 5/7/19. Aj	ited a oprox	it a dep imate e	oth of a elevation	pproxir on base	nately ! ed on G	5 feet bgs. Groundwater was not boogle Earth.
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			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'07.15"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat D and 122°2	itio 17 25'	n, 57-a 788500 03.73"\	cre Mill: 00, Can W	s Famil nas, Wa	y Prop ashingt	R erty D on D D C	eport N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 337'
				Lithology					(Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample	Number	Drive P Blows 6 Inch	Probe Per nes	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			4						
1 — 2 — 3 — 4 — 5 — 6 —		ML	Silt (ML) - brown san soft to stiff Silt (ML) - dark brow basalt, stiff to hard	dy silt with orange mottling, moist,	AB 1		 11 6 2 2 3 5 4 9 11 20) 29 ●35				30	
		Hand au	per terminated at a der	th of approximately 6.5 feet bos. Drive	probe		st term	• 39 • 41 • 4 • 5	9 D	th of a	pproxir	mately	hand auger refusal on fractured basalt drive probe refusal was 50 blows/1"
not	enco	ountered	at the time of explorati	on. Boring loosely backfilled with excav	ated s	soil	on 5/7	/19. Ap	proxima	ate elev	/ation b	based o	on Google Earth.

												Ext	hibit (S CPA20-02
	14	15	Earth	Appen	dix	X	С	:	На	nd	Au	Paq Ige	ge48 r H	A-10
			Earth Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Invo Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'08.07"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat 0 and 7 122°2	tio 17 25'	n, 57 7885 07.5	7-acr 5000 1"W	e Mills), Carr	s Famil nas, Wa	y Prop ashingt	R erty D on D C	eport N Drilling (Drilling I Drilling I Drilling I	Sheet 1 of 1 Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 325'
				Lithology							Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	ic Description of nd Rock Strata	Sample Number	INULINEI	Drive Blov 6 Ir	e Pro ws P nche	obe Per es	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			3 5							
1 — 2 — 3 —		ML	Silt (ML) - brown sar moist, soft	ndy silt with gravel, orange flecks,			4 3 4 5 4							
4 —		ŚM	Sand (SM) - brown s dense	ilty sand with gravel, moist, medium	GRAB 1		●11 ●11						35	
5 —							•11							hand auger refusal on dense gravel
	s : +	Hand au	ger terminated at a dep	oth of approximately 4.5 feet bgs. Drive	probe	te	st ter	rmin	ated a	t a dep	oth of a	pproxir	nately !	drive probe refusal was 50 blows/4" 5.5 feet bgs. Groundwater was
not e	nco	ountered	at the time of explorati	on. Boring loosely backfilled with excav	ated s	soil	on 5	5///1	9. Ар	proxima	ate elev	vation I	based o	on Google Earth.

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	22	ER SA	Farth	Appen	dix	X	C):	Η	a	nd	Au	Pag Ige	je49 r H	A-11
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'08.64"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	stigat and ⁻ 122°2	tior 17 25'	n, 5 788 10.9	;7-a 350(92"\	icre I 00, C W	Mills Cam	s Famil has, Wa	y Prop ashingt	R erty D on D C	eport N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 325'
	Т			Lithology							,	Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample Number		Driv Blo 6	ve F ows Incl	Probe Per hes	48	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		k	9								
1-	-	ML	Silt (ML) - brown san to very stiff	dy silt with gravel, moist, medium stiff			•1 9 8	6							
2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 — 14 —										•5	0				drive probe refusal was 50 blows/2" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
Note enco	es : ount	Hand aug ered at ti	ger terminated at a dep ne time of exploration.	th of approximately 2 feet bgs. Drive pro Boring loosely backfilled with excavated	obe te soil o	l est on	teri 5/7	min /19.	ated . App	at a	l a depth imate e	of app elevation	broxima on base	ately 3 f ed on G	feet bgs. Groundwater was not Google Earth.

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	22		Farth	Appen	di>	X	C):	Ha	nd	Au	Pag Ige	r H	A-12
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inver Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'09.88"N, 1 Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	stigat and ⁻ 122°2	tioi 17 25'	n, 5 788 14.8	7-ad 3500 31"V	cre Mill 00, Car V	ls Famil mas, Wa	y Prop ashingt	R erty D on D C	eport N Prilling (Prilling I Prilling I Pround	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 325'
				l Lithology	1						Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	c Description of nd Rock Strata	Sample Number	NUITIDEI 8	Driv Blc 6	/e P ows Inch	Per Per nes	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
-		<u>d opsol</u> t	gravel, dry to moist	sandy silt with roots, rootlets and		•5	50							drive probe refusal was 50 blows/3"
1 -														hand auger and drive probe refusal on basalt
2 —														
3 —														
-														
4 —														
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11 —														
12 —														
- 13 —														
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14 —														
15														
Note not e	es : enco	Hand au ountered	ger terminated at a dep at the time of explorati	oth of approximately 0.25 feet bgs. Drive on. Boring loosely backfilled with excava	probe ited s	e t soil	est on	tern 5/7/	ninateo /19. Ap	d at a de oproxima	epth of ate elev	approx /ation k	imately based o	/ 0.5 feet bgs. Groundwater was on Google Earth.

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	1	436		Apper	ndix	х	С	: H	aı	nd	Aυ	Paq I de	je51 r H	A-13
	13		Earth				Ū		<u> </u>			.9°		Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inv Site Address: Parcel No.'s 17788400 Location of Borehole: 45°37'11.60"N Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	vestigat 00 and 1, 122°2	ation 17 25'(n, 57 7885 07.95	-acre M 6000, C 5"W	/lills am	Famil as, Wa	y Prop Ishingt	R erty [on [C	eport f Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 350'
				l Lithology						ç	Sampli	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	c Description of nd Rock Strata	Sample	Number	Drive Blov 6 Ir	e Probe vs Per nches		% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			4							
1_		ML	Silt (ML) - brown san	dy silt with gravel, moist, very stiff			1	8						
- 2 — 3 — 4 — 5 — 6 — 7 — 7 — 8 — 9 — 10 — 11 — 11 — 11 — 11 —							•15 •11 •12 •15 •12	7	€50	D				hand auger refusal on dense gravel drive probe refusal was 50 blows/5"
-														
14 —														
15														
Note enco	es : oun	Hand au tered at t	ger terminated at a dep he time of exploration.	th of approximately 1 foot bgs. Drive p Boring loosely backfilled with excavate	orobe te ed soil c	est on	term 5/7/1	inated 9. Appi	at a roxi	a depth imate e	of app elevation	oroxima on base	ately 4. ed on G	5 feet bgs. Groundwater was not Google Earth.

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	A.		Fourth	Appen	dix	X	С		Η	a	nd	Au	Pag Ige	je52 r H	A-14
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'13.57"N, Date Drilled: 5/7/2019 Logged By: Jacqui Boyer	estigat) and 122°2	tior 177 25'1	n, 57 788! 1.8	7-ac 500 55"V	cre N 10, C V	Vills Cam	s Famil as, Wa	y Prop ashingt	R erty D on D C	eport N Prilling (Prilling I Prilling I Pround	Sheet 1 of 1 Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 342'
	Τ			Lithology							ç	Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample Number		Drive Blo 6 I	e Pi ws Inch	robe Per ies		% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Topsoil	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		k	7								
1 -		ML	Silt (ML) - brown to o moist, stiff to very sti	range-brown sandy silt with gravel, ff	GRAB 1		12	21						24	
2 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 —								21			0				drive probe refusal was 50 blows/2" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
15	_														
Note ence	es : ount	Hand au ered at t	ger terminated at a dep he time of exploration.	th of approximately 1.5 feet bgs. Drive Boring loosely backfilled with excavated	probe 1 soil o	tes on !	st te 5/7/	ermi 19.	nate App	ed a prox	t a dep imate e	oth of a elevatio	pproxir on base	nately 2 ed on G	2 feet bgs. Groundwater was not Google Earth.

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Engineers, Inc. Plant Learnes but Show 11.C. Plant Learnes but Show 11.C. Plant Learnes but Show 12.C. Plan	6	1	1	Earth	Appen	dix	cC:	На	nd	Au	Pag Ige	ge53 r H	A-15 Sheet 1 of 1
Unblogy Sampling Data B				Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'09.27"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat and 1 122°2	ion, 57-a 1778850 5'04.72"	acre Mill 000, Can 'W	s Famil nas, Wa	y Prope ashingt	R erty D on D C	Report N Drilling (Drilling I Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 349'
Image: Section of Soli and Rock Strata Image: Section of				l	i Lithology				(Samplir	ng Data	а	
0 Topsail- dark known sawdy sill with roots, models and graved, by to mosk. 1	Depth (ft) Water Level		Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample	Drive I Blows 6 Inc	Probe s Per ches	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
1 Sand (SW) - brown sile; sand with gravel, factured basalt 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 6 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 <td>0 -</td> <td>000000000000000000000000000000000000000</td> <td>[apsail</td> <td>Topsoil - dark brown gravel, dry to moist</td> <td>sandy silt with roots, rootlets and</td> <td></td> <td>• 4 • 7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	0 -	000000000000000000000000000000000000000	[apsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		• 4 • 7						
3	1 — 2 — _		SM	Sand (SM) - brown s and orange-gray mot	ilty sand with gravel, fractured basalt tling, moist, medium dense	GRAB 1	●15●14●12●13					22	
9	3 — 4 — 5 — 6 — 7 — 8 —						 ●13 ●9 ●9 ●12 ●11 ●9 ●10 ●8 	•••	50				hand auger refusal on fractured basalt drive probe refusal was 50 blows/5"
15 Image: Instant and a set of approximately 3 feet bgs. Drive probe test terminated at a depth of approximately 7.5 feet bgs. Groundwater was encountered at the time of exploration. Boring loosely backfilled with excavated soil on 5/13/19. Approximate elevation based on Google Earth.	9 — 9 — 10 — 11 — 12 — 13 — 14 —												
	15 Notes : encoun	: H nte	and aug red at ti	ger terminated at a dep ne time of exploration. I	th of approximately 3 feet bgs. Drive pro Boring loosely backfilled with excavated	obe te soil c	st termir n 5/13/1	nated at 9. Appro	a depth oximate	of app elevat	proxima ion bas	ately 7.1 sed on	5 feet bgs. Groundwater was not Google Earth.

													Ext	hibit (CPA20-02
	22		Earth	Appen	di>	X	С):	Ha	ar	nd	Au	Pag Ige	ge54 r H	A-16
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'08.36"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigati) and 1 122°2	tior 172 25'0	n, 5 788 01.1	7-ac 3500 15"V	cre M 10, Ca V	1ills I ama	Famil <u>y</u> s, Wa	y Prop ashingt	R erty D on D C	eport N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 353'
				Lithology							Ś	Samplii	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample Number		Driv Blo 6 I	ve P ows Inch	robe Per ies		% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			3 3								
1 — 2 — -		ML	Silt (ML) - brown san basalt, moist, soft to	dy silt with gravel and fractured medium stiff			5 6 5 4								
3 —		ML	Silt (ML) - brown to g decomposed basalt a very stiff	ray-brown clayey silt with and fractured basalt fragments, moist,	3RAB 1		•1	13 14			33			34	
4 — 5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 — 15 —										•50					drive probe refusal was 50 blows/1" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
Note enco	s : l unte	Hand au ered at t	ger terminated at a dep he time of exploration.	oth of approximately 4 feet bgs. Drive pro Boring loosely backfilled with excavated	obe te I soil o	est on §	terr 5/1:	mina 3/19	ated a	at a proxi	depth imate	of app elevat	oroxima ion bas	ately 4.8 sed on	5 feet bgs. Groundwater was not Google Earth.

												Ext	ibit (CPA20-02
	19		Farth	Appen	dix	X	С	:	На	Ind	Au	Pag Ige	је55 г Н	A-17
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inv Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'08.42"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat) and ' 122°2	tior 17 24'§	n, 57 788 56.5	7-ac 5000 1"W	re Mill 0, Car /	ls Famil mas, Wa	y Prop ashingt	R erty D on D D C	eport N Prilling (Prilling I Prilling I Ground	Jumber: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 336'
				i Lithology		_					Samplii	ng Data	3	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample		Drive Blo 6 I	e Pr ws F nche	obe Per es	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist root encountered, dif	sandy silt with roots, rootlets and ficult digging			10	21						
1 —		MI	Silt (ML) - brown san mottling, moist, medi	dy silt with gravel and orange um stiff to very stiff			10							
2 —			decomposed basalt o	observed			6							
3 — - 4 —		ML	and fractured basalt,	moist, stiff to very stiff	GRAB 1		10 •1	22					30	
5 — 5 —	-							●2 ●25	9					hand auger refusal on fractured basalt
6 —	-							19	•!	50				drive probe refusal was 50 blows/4"
8 —	-													
9 —														
 10														
 11														
12 —														
13 —														
14 —														
15 Note	s :	Hand au	ger terminated at a dep	th of approximately 4.5 feet bgs. Drive	probe	te	st te	rmir	nated	at a dep	oth of a	pproxir	nately (5.5 feet bgs. Groundwater was
not e	enco	ountered	at the time of exploration	on. Boring loosely backfilled with excav	ated s	soil	on	5/13	/19. A	Approxin	nate ele	evation	based	on Google Earth.

													Ext	nibit (6 CPA20-02
	32	B CA	Farth	Appen	dix	X	C	:	H	ła	nd	Au	Pag Ige	ge56 r	A-18
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'08.28"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat) and ⁻ 122°2	tior 177 24'5	n, 5 788 51.6	7-a 3500 53"\	cre DO, 0 W	Mill: Can	s Famil nas, Wa	ly Prop ashingt	R erty D on D D C	eport f Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 309'
	Γ			Lithology								Sampli	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	ic Description of nd Rock Strata	Sample		Driv Blc 6	ve P ows Incł	Prob Pei nes	0e r	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		•5	0								
-			gravel, all to molet												drive probe refusal was 50
1 — 2 — 3 —															hand auger and drive probe refusal on basalt
-															
4 —	-														
5 —															
6 —	-														
-															
/															
8 —															
9 —															
-															
10 —															
11 —															
-															
-															
13 —															
- 14 —															
-															
Note not e	es : enco	Hand au ountered	ger terminated at a dep at the time of explorati	oth of approximately 0.5 feet bgs. Drive p on. Boring loosely backfilled with excave	orobe ated s	tes soil	st te on	erm 5/1	inat 3/19	ted a 9. A	at a dep pproxin	oth of a nate ele	pproxir evation	nately based	 0.5 feet bgs. Groundwater was on Google Earth.

												Exh	ibit 6	CPA20-02
	1 P		Earth	Appen	dix	X	С	:	Чa	nd	Au	Pag Ige	је57 г Н	A-19 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'10.27"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat) and 122°2	tion 177 24'5	, 57 '885 1.74	′-acre 5000, 4"W	e Mill Can	s Famil nas, Wa	y Prop ashingt	R erty D on D C	eport N Drilling (Drilling N Drilling E Ground	lumber: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 299'
				Lithology							Samplii	ng Data	a	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample		Drive Blov 6 Ir	e Pro ws Pe nches	be er S	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		4								
1 -		ML	Silt (ML) - brown san basalt, moist, mediur few charcoal observe	dy silt with gravel and fractured n stiff to stiff ed	GRAB 1		6 9 8						29	
2 -		ML	Silt (ML) - gray-brow moist, medium stiff to	n clayey silt with decomposed basalt, o stiff	RAB 2		9 8						29	
3 - 4 - 5 - 6 - 7 -					0				•5	D				drive probe refusal was 50 blows/2" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
8 9 10 11 12 13														
14 — 15														
Not enc	es : oun	Hand au tered at t	ger terminated at a dep he time of exploration.	th of approximately 3 feet bgs. Drive pr Boring loosely backfilled with excavated	obe te I soil c	est t on 5	erm 5/13	ninate /19. /	ed at Appro	a deptroximate	n of app elevat	oroxima ion bas	ately 3.5 sed on (5 feet bgs. Groundwater was not Google Earth.

									Ext	hibit 6	S CPA20-02
	121		E arth	Appen	dix	к С: На	Ind	Αu	Paq Ige	ge58 r H	A-20
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inv. Site Address: Parcel No.'s 17788400 Location of Borehole: 45°37'13.02"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat 0 and 122°2	ion, 57-acre Mil 177885000, Car 4'55.18"W	ls Famil mas, Wa	y Prop ashingt	R erty D on D C	Report N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 297'
				Lithology				Sampli	ng Dat	a	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample	Drive Probe Blows Per 6 Inches	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 _		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		4 •11					
1 —		ML	Silt (ML) - brown to g decomposed basalt,	rey brown sandy silt with moist, stiff to very stiff		●10 ●10					
2 —					GRAB 1	•13	29			29	
3		S₩	Sand (SM) - brown to decomposed basalt, silt and gravel conter	o grey brown silty sand with dry to moist, medium dense to dense nt increases	GRAB 2	●18 ●12 ●14 ●25	19			20	hard digging
5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 —					GRAB 3	 31 225 22 20 20 18 32 20 22 26 30 31 35 31 	442			18	hand auger refusal on dense sand
Note enco	s : I unte	Hand aug ered at ti	ger terminated at a dep ne time of exploration.	th of approximately 5 feet bgs. Drive p Boring loosely backfilled with excavated	robe te d soil c	st terminated at n 5/13/19. Appr	a depth oximate	n of app elevat	proxima ion bas	ately 12 sed on	feet bgs. Groundwater was not Google Earth.

				i							-Ext	hibit (6 CPA20-02
	12			Appen	dix	Х	C	Ha	Ind	Au	Paq Ige	je59 r H	A-21
			Larth										Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'13.32"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	stigat and 122°2	tior 17 24'§	n, 57-, 7885(51.54'	acre Mil 000, Ca 'W	ls Fam mas, W	ly Prop ashingt	erty E con E C	Report N Drilling I Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 292'
				Lithology	1					Sampli	ng Dat	a	
	/el			Litiology		Т	Drive	Probe	e				
Depth (ft)	Water Lev	Lithologic Symbol	Geologi Soil ar	ic Description of nd Rock Strata	Sample	<u>*</u>	Blow 6 Inc	s Per ches	% Passing #200 Siev	Liquid Limit	Plastic Limit	Moisture Content (⁶	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		P	5						
-		111111	Silt (ML) - brown san	dy silt with gravel, soft to medium stiff		¢.	4						
1 -	-	ML			RAB 1		5					23	hard digging
2 —					6			●32					hand auger refusal on dense gravel
3 —							•2	1					
4 —								26 28					
5 —							•2	23					
6 —								•	50				drive probe refusal was 50 blows/2"
-	_												
-													
8	_												
9 —	-												
10 —													
11 —													
- 12 —													
-													
3													
14 —													
15													
Note enco	es : l ount	Hand aug ered at th	ger terminated at a dep ne time of exploration.	oth of approximately 2 feet bgs. Drive pro Boring loosely backfilled with excavated	obe te soil o	est on	termii 5/13/1	nated at 19. Appr	a dept oximat	h of app e elevat	oroxima ion bas	ately 6 sed on	feet bgs. Groundwater was not Google Earth.

				[Ext	hibit (CPA20-02
	24		Earth	Apper	ndix	X	C:	Ha	nd	Au	Paq Ige	ge60 rH	A-22 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inv Site Address: Parcel No.'s 17788400 Location of Borehole: 45°37'09.94"N, Date Drilled: 5/13/2019 Logged By: Jacqui Boyer	estigat 0 and 1 122°2	tior 17 25'1	n, 57-acı 7885000 19.19"W	re Mill:), Cam	s Famil nas, Wa	y Prop ashingt	R erty D on D C	Report N Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 323'
				Lithology		_			ç	Samplii	ng Data	a	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	c Description of nd Rock Strata	Sample Number		Drive Pro Blows F 6 Inche	obe Per es	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			1 3						
1 2 3 3 4 5 6 7 8 9 10 11 12 13 14			Silt (ML) - brown to c moist to wet, soft to v fractured basalt and	prange-brown sandy silt with gravel, /ery stiff gravel encountered	GRAB 3 GRAB 1 GRAB 1		3 3 2 4 11 14 10 •20 •20 •20	•42 36 37	22			32 36 37	digging difficulty increases hand auger refusal on gravel
	s :	Hand au	ger terminated at a dep	th of approximately 5 feet bgs. Drive p	robe te	est	terminat	ted at	a depth	of app	proxima	ately 8 f	eet bgs. Groundwater was not
enco	unte	ered at t	he time of exploration.	Boring loosely backfilled with excavate	d soil o	on !	b/13/19.	Appro	oximate	elevat	ion bas	sed on	Google Earth.

														Exh	hibit (S CPA20-02
	22		. .	Appen	di>	X	C):	ŀ	ła	an	nd	Au	Pag Ige	9e61 r H	A-23
			Larth											•		Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'14.21"N, 7 Date Drilled: 5/21/2019 Logged By: Jacqui Boyer	stigat and 1 122°2	ior 17 5'(n, 5 788 02.3	57-a 350 37"	acre 100, W	e Mi Ca	lls F mas	⁻ amily s, Wa	y Prope shingt	R erty D on D D C	eport f Drilling (Drilling I Drilling I Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 312'
				l Lithology	1							5	Samplir	ng Data	а	
h (ft)	er Level	logic ool	Geologi	ic Description of	nple ber		Driv Blo	ve F ows	Prol	be er		Sieve	- -	<u>.</u>	ture ent (%)	Remarks
Dept	Wate	Lithc Sym	3011 81		San Nur	B	18	28	38	48		% P6	Liqui	Plas	Mois Cont	
0		Topsoil	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and	•	•	8									
-			Silt (ML) - brown grav	velly silt with sand, moist, very stiff to				•2	25							hard digging
1 –		ML	naru						•32	2						
-											50					drive probe refusal was 50
2 —																blows/2" hand auger and drive probe
3 -																refusal due to the presence of dense gravel/cobbles or bedrock
4 —																
-																
5 -																
6 —																
-																
/																
8 —																
9_																
-																
10 —																
- 11 —																
-																
12 —																
- 13 —																
-																
14 —																
<u>15</u>																
Note	es : ount	Hand au ered at t	ger terminated at a dep he time of exploration.	th of approximately 1.5 feet bgs. Drive p Boring loosely backfilled with excavated	orobe soil o	tes on !	st t 5/2	erm 1/1	nina 9. A	ited Appi	at a roxi	a dep mate	th of a elevat	pproxir ion bas	nately sed on	2 feet bgs. Groundwater was not Google Earth.
L																

<u> </u>				1					Exh	hibit (S CPA20-02
	124	151	Fourth	Apper	ndix	c C: Ha	and	Au	Pag Ige	r H	A-24
			Carun	Client: Lacamas North Shore LLC					R	eport N	Sheet 1 of 1 Number: 19-033-1
	-		Engineers, Inc.	Project: Preliminary Geotechnical Inv Site Address: Parcel No.'s 17788400 Location of Borehole: 45°37'17.26"N Date Drilled: 5/21/2019 Logged By: Jacqui Boyer	vestigat 00 and 7 I, 122°2	ion, 57-acre Mil 177885000, Ca 5'08.09"W	lls Famil mas, Wa	y Prop ashingt	erty D ton D C	Drilling (Drilling I Drilling I Ground	Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 295'
	Π			l Lithology				Sampli	ng Data	3	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample Number	Drive Probe Blows Per 6 Inches	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		• 3					
1 —		ML	Silt (ML) - brown gra basalt, moist, mediur large basalt fragmen	velly silt with sand and fractured n stiff to stiff ts encountered		●13 ● 8					digging difficulty increases
2 —						●11 ●20					hand auger refusal on dense gravel
3 —						● 19					
-						●22 ●16					
-						●16 ●20					
5 —						● 17					
6 —						●15 ●17					
7 —						●20 ●21					
8 —							50				drive probe refusal was 50 blows/1"
9 —											
_											
10 —											
11 —											
12 —											
- 13 —											
-											
15											
Note	s : H unte	Hand aug ered at t	ger terminated at a dep he time of exploration.	th of approximately 1.5 feet bgs. Drive Boring loosely backfilled with excavate	e probe ed soil o	test terminated n 5/21/19. Appr	at a dep oximate	oth of a elevat	pproxir	nately a sed on	8 feet bgs. Groundwater was not Google Earth.

		1								Exh	hibit 6	S CPA20-02
	Forth	Appen	di>	X	С	: H	ar	nd	Au	Pag Ige	ge63 r H	A-25
	Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Property Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washington Location of Borehole: 45°37'13.34"N, 122°25'07.73"W Date Drilled: 5/21/2019 Logged By: Jacqui Boyer						Sheet 1 of 1 Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 356'				
		Lithology						ç	Samplir	ng Data	а	
Depth (ft) Water Level Lithologic Symbol	Geolog Soil a	ic Description of nd Rock Strata	Sample Number		Drive Blov 6 Ir	e Probe vs Per hches		% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			6 •11							
2 — ML	Silt (ML) - orange-br rootlets, moist, medi	own sandy silt with gravel, some um stiff	2 GRAB 1		7 6 6						33	easy digging
ML	Silt (ML) - gray-brow moist, stiff	n clayey silt with decomposed basalt,	SRAB 2		10						28	digging difficulty increases
	moist, stiff		GRA				•50				28	digging difficulty increases drive probe refusal was 50 blows/4" hand auger and drive probe refusal due to the presence of dense gravel/cobbles or bedrock
12 - 13 14												
15								لا بر حام	of -		habi 0	Firsthese Country in the
encountered a	Notes : Hand auger terminated at a depth of approximately 3 feet bgs. Drive probe test terminated at a depth of approximately 3.5 feet bgs. Groundwater was not encountered at the time of exploration. Boring loosely backfilled with excavated soil on 5/21/19. Approximate elevation based on Google Earth.											

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	22	155	E.a.	Appen	dix	X	():	ŀ	ła	nd	Au	Pag Ige	ge64 rH	A-26
			Earth Engineers, Inc.	Client: Lacamas North Shore LLC Report Number: 19-033-1 Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Property Drilling Contractor: EEI Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washington Drilling Method: Hand Equip Location of Borehole: 45°37'11.42"N, 122°25'03.02"W Drilling Equipment: Hand A Logged By: Jacqui Boyer Ground Surface Elevation (Sheet 1 of 1 Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 360'				
				l Lithology	Т							Sampli	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	c Description of nd Rock Strata	Sample Number	Drive Probe Drive Probe Blows Per 6 Inches 8 200 Dassi 8 200 Dass 8 200 Dass				Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks		
0		Tapsail	gravel, dry to moist	sandy silt with roots, rootlets and		•1	2								
		ML	Silt (ML) - brown gra	velly silt with sand, moist, very stiff				•2	7						hard digging
1 —										•!	0				drive probe refusal was 50 blows/3"
2 —	-														hand auger and drive probe refusal on basalt
3 —															
-	-														
4 —															
5 —	-														
-	-														
-															
7 —	-														
8	-														
-	-														
9 —	-														
10 —	-														
- 11 —	-														
-	-														
12 —															
13 —															
-															
4 — _															
15															
Note enco	Notes : Hand auger terminated at a depth of approximately 1 foot bgs. Drive probe test terminated at a depth of approximately 1.5 feet bgs. Groundwater was not encountered at the time of exploration. Boring loosely backfilled with excavated soil on 5/21/19. Approximate elevation based on Google Earth.														
L															

												Ext	hibit (CPA20-02
	and a second	B CA	Farth	Appen	di>	X	С		Ha	and	Αι	Pag Ige	ge65 rH	A-27
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Property Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washington Location of Borehole: 45°37'10.62"N, 122°24'58.85"W Date Drilled: 5/21/2019 Logged By: Jacqui Boyer						Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 351'				
	Т			Lithology							Sampli	ng Dat	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	c Description of nd Rock Strata	Sample Number		Drive Blo 6 I	e Pro ws F nche	obe Per es	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and		ļ	3 3							
1-		ML	Silt (ML) - brown san	dy silt with rounded gravel, moist,		T	8							
· ·		ML	Silt (ML) - brown gra	velly silt with sand, moist, stiff	AB 1		•1	3					26	digging difficulty increases
2 —					GF				20	-				hand auger refusal on
	-							ľ						dense gravel
3 —									33	5D				drive probe refusal was 50 blows/2"
4 -														
5 —														
6 —														
7 -														
8 –														
9 -														
10 —														
11 —														
12 —														
13 —														
.														
14 —	-													
15														
Notenc	Notes : Hand auger terminated at a depth of approximately 2 feet bgs. Drive probe test terminated at a depth of approximately 3.5 feet bgs. Groundwater was not encountered at the time of exploration. Boring loosely backfilled with excavated soil on 5/21/19. Approximate elevation based on Google Earth.													

				i									-Ext	hibit (6 CPA20-02	
	31	E.C.		Appendix C: Hand Auger HA-28												
			Earth												Sheet 1 of 1	
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Inve Site Address: Parcel No.'s 177884000 Location of Borehole: 45°37'14.75"N, Date Drilled: 5/21/2019 Logged By: Jacqui Boyer	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Proj Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washing Location of Borehole: 45°37'14.75"N, 122°25'16.70"W Date Drilled: 5/21/2019 Logged By: Jacqui Boyer						ly Prop ashingt	R erty D con D C C	Report f Drilling Drilling Drilling Ground	Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 316'		
				l Lithology	Sampling Data											
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil a	ic Description of nd Rock Strata	Sample		Driv Blc 6	ve P ows Incł	Prob Per nes	e	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks	
0 -		Tapsail	Topsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			3 •1	1								
1 -						T			\mathbf{n}	•5	p				drive probe refusal was 50 blows/1"	
2 —	_														hand auger and drive probe refusal on basalt	
3 —	-															
4	-															
5 —	_															
6 —	-															
7 —																
8																
9 —																
10 —																
11 —	_															
12 — -	-															
13 —																
14 — -	-															
Note	15 Image: Im															

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	22		Earth	Appen	dix	X	С	:⊦	ła	nd	Au	Pag Ige	r H	A-29 Sheet 1 of 1
			Engineers, Inc.	Client: Lacamas North Shore LLC Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Property Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washington Location of Borehole: 45°37'14.42"N, 122°25'10.27"W Date Drilled: 5/21/2019 Logged By: Jacqui Boyer						Number: 19-033-1 Contractor: EEI Method: Hand Equipment Equipment: Hand Auger Surface Elevation (ft msl): 349'				
				i Lithology		_					Samplir	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ar	c Description of nd Rock Strata	Sample Number		Drive Blov 6 Ir	Prob vs Pe iches	r r	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
0 - 1 —	-	Tapsail	Topsoil - dark brown gravel, dry to moist Silt (ML) - brown grav medium stiff to very s	sandy silt with roots, rootlets and velly silt with some sand, moist, stiff	GRAB 1		4	7					22	hard digging
2 —		ML			GRAB 2	•	12 7	/					21	
3 —	_	ML	Silt (ML) - brown to o gravel, moist, mediur	range brown silt with sand and n stiff to stiff	RAB 3		5 5						28	digging difficulty increases
4 —	-				0		5 7							hand auger refusal on dense gravel
5 —	-						12	-	•5	D				drive probe refusal was 50 blows/5"
6 — - 7 —	-													
8 —	_													
9 —	-													
10 — -	_													
11 —														
12 —														
13 — -	-													
14 —														
Note not e	5 Image: Second Sec													

													-Ext	hibit (6 CPA20-02
	22		Forth	Appen	dix	X	С		Η	la	nd	Au	Pac Ige	ge68 r H	A-30
			Engineers, Inc.	Client: Lacamas North Shore LLC Rep Project: Preliminary Geotechnical Investigation, 57-acre Mills Family Property Dril Site Address: Parcel No.'s 177884000 and 177885000, Camas, Washington Location of Borehole: 45°37'07.18"N, 122°25'20.40"W Dril Date Drilled: 5/21/2019 Logged By: Jacqui Boyer					eport f Drilling (Drilling I Drilling I Ground	Sheet 1 of 1 eport Number: 19-033-1 illing Contractor: EEI illing Method: Hand Equipment illing Equipment: Hand Auger round Surface Elevation (ft msl): 305'					
	Γ			Lithology								Sampli	ng Data	а	
Depth (ft)	Water Level	Lithologic Symbol	Geologi Soil ai	c Description of nd Rock Strata	Sample Number		Drive Blo 6 I	e Pi ws nch	robe Per les	e	% Passing #200 Sieve	Liquid Limit	Plastic Limit	Moisture Content (%)	Remarks
-		Topsoil	l opsoil - dark brown gravel, dry to moist	sandy silt with roots, rootlets and			5			5	h				
1 —										•.5					drive probe refusal was 50 blows/3"
2 —	-														hand auger and drive probe refusal on basalt
3 —	-														
4 —	-														
5 —															
-															
6 —	-														
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12 —															
- 13 —															
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Note enco	15 Image: Im														
L															

APPENDIX D: SOIL CLASSIFICATION

APP	APPARENT CONSISTENCY OF COHESIVE SOILS (PECK, HANSON & THORNBURN 1974, AASHTO 1988)											
Descriptor	SPT N ₆₀ (blows/foot)*	Pocket Penetrometer, Qp (tsf)	Torvane (tsf)	Field Approximation								
Very Soft	< 2	< 0.25	< 0.12	Easily penetrated several inches by fist								
Soft	2 – 4	0.25 – 0.50	0.12 – 0.25	Easily penetrated several inches by thumb								
Medium Stiff	5 – 8	0.50 – 1.0	0.25 – 0.50	Penetrated several inches by thumb w/moderate effort								
Stiff	9 – 15	1.0 – 2.0	0.50 - 1.0	Readily indented by thumbnail								
Very Stiff	16 – 30	2.0 - 4.0	1.0 - 2.0	Indented by thumb but penetrated only with great effort								
Hard	> 30	> 4.0	> 2.0	Indented by thumbnail with difficulty								

 * Using SPT N_{60} is considered a crude approximation for cohesive soils.

APPARENT DENSITY OF COHESIONLESS SOILS (AASHTO 1988)								
Descriptor SPT N ₆₀ Value (blows/foot)								
Very Loose	0 - 4							
Loose	5 – 10							
Medium Dense	11 – 30							
Dense	31 – 50							
Very Dense	> 50							

PERCENT OR PROPORTION OF SOILS (ASTM D2488-06)								
Descriptor Criteria								
Trace	Particles are present but estimated < 5%							
Few 5 – 10%								
Little	15 – 25%							
Some	30 - 45%							
Mostly	50 – 100%							
· · ·								
Percentages are estimated to nearest 5% in the field. Use "about" unless percentages are based on laboratory testing.								

MOISTURE (ASTM D2488-06)								
Descriptor	Criteria							
Dry	Absence of moisture, dusty, dry to the touch, well below optimum moisture content (per ASTM D698 or D1557)							
Moist	Damp but no visible water							
Wet	Visible free water, usually soil is below water table, well above optimum moisture content (per ASTM D698 or D1557)							

SOIL PARTICLE SIZE (ASTM D2488-06)								
Descriptor	Size							
Boulder	> 12 inches							
Cobble	3 to 12 inches							
Gravel - Coarse Fine	³ / ₄ inch to 3 inches No. 4 sieve to ³ / ₄ inch							
Sand - Coarse Medium Fine	No. 10 to No. 4 sieve (4.75mm) No. 40 to No. 10 sieve (2mm) No. 200 to No. 40 sieve (.425mm)							
Silt and Clay ("fines")	Passing No. 200 sieve (0.075mm)							

	UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2488)									
	Major Division		Group Symbol	Description						
Coarse	Gravel (50% or	Clean	GW	Well-graded gravels and gravel-sand mixtures, little or no fines						
Grained	Gravel (50% 0)	Gravel	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines						
Soils	nore retained	Gravel	GM	Silty gravels and gravel-sand-silt mixtures						
	011 NO. 4 Sieve)	with fines	GC	Clayey gravels and gravel-sand-clay mixtures						
(more than 50% retained	Sand (500/	Clean	SW	Well-graded sands and gravelly sands, little or no fines						
	passing No. 4	sand	SP	Poorly-graded sands and gravelly sands, little or no fines						
on #200		Sand	SM	Silty sands and sand-silt mixtures						
sieve)	sleve)	with fines	SC	Clayey sands and sand-clay mixtures						
Fine Grained	Silt and Clay		ML	Inorganic silts, rock flour and clayey silts						
Soils	(liquid limit < 50)		CL	Inorganic clays of low-medium plasticity, gravelly, sandy & lean clays						
	(114010 mm < 50)		OL	Organic silts and organic silty clays of low plasticity						
(50% or more	Silt and Clay		MH	Inorganic silts and clayey silts						
passing #200	(liquid limit > 50)		CH	Inorganic clays or high plasticity, fat clays						
sieve)	(114010 111111 > 50)	(liquid limit > 50)		Organic clays of medium to high plasticity						
Hig	hly Organic Soils		PT	Peat, muck and other highly organic soils						



	GRAPHIC SYMBOL LEGEND	
G	GRAB	🔨 Grab sample
S	PT	Standard Penetration Test (2" OD), ASTM D1586
S	Т	Shelby Tube, ASTM D1587 (pushed)
D	M	Dames and Moore ring sampler (3.25" OD and 140-pound hammer)
С	ORE	Rock coring

Exhibit 6 CPA20-02 Page70



Exhibit 6 CPA20-02

APPENDIX F: SURCHARGE-INDUCED LATERAL EARTH PRESSURES FOR WALL DESIGN



Kimbal Logan

From: Sent: To: Subject: Attachments: Eva Hulse <eva@AINW.COM> Friday, June 7, 2019 11:46 AM Kimbal Logan FW: Mills Remainder Parcels: Archaeology Summary Figure 1 Project Location.pdf; Figure 2 Shovel Tests.pdf; Table 1.pdf



Eva L. Hulse, Ph.D., R.P.A. | AINW Senior Geoarchaeologist eva@ainw.com | C 971.645.1939

Archaeological Investigations Northwest, Inc. 3510 NE 122nd Ave | Portland, OR 97230 O 503.761.6605 ext. 219 | from Vanc. 360.696.7473 | <u>ainw.com</u>

From: Eva Hulse
Sent: Thursday, March 14, 2019 10:50 AM
To: 'Kimbal Logan'; 'Mark Martel (karenmartel@comcast.net)'
Cc: Jo Reese; Kristen Fuld
Subject: Mills Remainder Parcels: Archaeology Summary

Kimbal and Mark,

Archaeological fieldwork for the Mills Remainder Parcels was conducted on March 11 through 13, 2019 by AINW archaeologists Lea Loiselle, B.A., Colin Skinner, B.S., and Vernon J. Veysey, B.A., and directed by AINW Supervising Archaeologist Kristen A. Fuld, M.A., R.P.A. The field crew conducted a pedestrian survey of the property and excavated 19 shovel tests (Table 1; Figures 1 and 2).

During the pedestrian survey, AINW archaeologists walked meandering transects that were roughly oriented northsouth and east-west, at 15-to-20-meter (50-to-65-foot) intervals. Mineral soil visibility was low, less than 10%. No evidence of an archaeological site was found during the pedestrian survey.

Nineteen 30-centimeter (cm) (12-inch [in]) diameter shovel tests were excavated (Table 1; Figure 1). Sediments from the shovel tests were manually screened through nested 6.4- and 3.2-millimeter (¼- and ½-in) mesh hardware cloth. The shovel tests were backfilled upon completion, and were mapped using a Trimble Geo 7X Global Positioning System unit. Soils were shallow and rocky. Soils generally consisted of a surface layer of organic-rich very dark brown sandy silt that was about 15 cm (6 in) thick overlaying brown fine-grained silty sand. Basalt gravels were abundant, representing weathered bedrock. Basalt bedrock was encountered in seven of the shovel tests, between depths of 12 and 31 cm (5 and 12 in) below the surface (Table 1). No evidence of an archaeological site was found during shovel testing.

AINW recommends that a predetermination report will be needed by the City of Camas for development review. The results of this study can be integrated into the predetermination report. Further archaeological fieldwork (e.g. a survey-level study) would not be needed, because an archaeological resource is not likely to be present.

Eva Hulse, Ph.D., R.P.A. || Senior Geoarchaeologist Archaeological Investigations Northwest, Inc. (AINW) 3510 NE 122nd Avenue, Portland, Oregon 97230
From: Eva Hulse
Sent: Wednesday, March 13, 2019 4:39 PM
To: 'Kimbal Logan'
Cc: 'Mark Martel (karenmartel@comcast.net)'; Jo Reese; Kristen Fuld
Subject: Mills Remainder Parcels: Archaeology update

Kimbal and Mark,

AINW has completed the field study of the Mills Remainder Parcels. We'll send our full summary once the map is ready for you tomorrow. Long story short: we did not find an archaeological site.

Eva Hulse, Ph.D., R.P.A. || Senior Geoarchaeologist Archaeological Investigations Northwest, Inc. (AINW) 3510 NE 122nd Avenue, Portland, Oregon 97230 P 503-761-6605 || from Vancouver 696-7473 || F 503-761-6620 Cell 971-645-1939 || email: eva@ainw.com || www.ainw.com



Figure 1. The Mills Remainder Parcels project area in the city of Camas, Washington.



TABLE 1

RESULTS OF SHOVEL TESTS

Shovel Test No.	Depth of Excavation (centimeters below surface)	Results
ST-1	50	No Artifacts
ST-2	50	No Artifacts
ST-3	51	No Artifacts
ST-4	51	No Artifacts
ST-5	50	No Artifacts
ST-6	50	No Artifacts
ST-7	53	No Artifacts
ST-8	31*	No Artifacts
ST-9	31*	No Artifacts
ST-10	15*	No Artifacts
ST-11	50	No Artifacts
ST-12	54	No Artifacts
ST-13	16*	No Artifacts
ST-14	12*	No Artifacts
ST-15	50	No Artifacts
ST-16	23*	No Artifacts
ST-17	15*	No Artifacts
ST-18	50	No Artifacts
ST-19	55	No Artifacts

*Shovel test encountered basalt bedrock and was terminated.

LEGACY LANDS MASTER PLAN

A Vision for Conservation and Recreation

LEGACY LANDS MASTER PLAN: ADVISORY COMMITTEE MEETING #3



A Vision for Conservation and Recreation

2

In the early 1980's talk of a trail around Lacamas Lake surfaced with Clark County parks staff. The early talks and vision led to heritage trail being a part of the Lacamas Shores development.

> 2007 – Parks, Recreation, and, Open Space Comprehensive Plan takes a look at the north shore that was outside city limits at the time

2007 — City Annexes north shore area

2001-Lacamas Corridor Master Plan was developed. Envisioned Parks, Recreation, and Open Space opportunities from Lacamas Creek to the mouth of the Washougal River.

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2018 - Camas receives \$2.6 million to acquire property on the north shore

2008-2012 - First North Shore Acquisition Grant was received (\$783,390) for 72 acres on Lacamas Lake

2014 - Parks, Recreation, and

incorporates north shore land

2014 - Clark County

Conservation Areas Acquisition Plan list north shore as priority project

Open Space Comprehensive Plan

2018 - Camas Strategic Plan was developed and list the protecting the backdrop of Lacamas Lake on the north shore as a key objective

2019 – Legacy Lands · Master Plan Begins

2016 – North Shore Lacamas Lake Vision for Recreation and Conservation Plan was developed in partnership with Columbia Land Trust



sp

Planning Documents and Support Materials

- Lacamas Corridor Master Plan
- City of Camas Capital Facilities Plan
- Camas Parks, Recreation, and Open Space Comprehensive Plan
- Clark County Conservation Areas Acquisition Plan
- 2018-2020 City of Camas Strategic Plan
- North Shore Lacamas Lake Vision Plan



3

Legacy Lands Master Plan: Guiding Principles

- Accommodate Recreational Trails and Promote Bicycle and Pedestrian Connectivity.
- Connect to the Planned Regional Trail Network.
- Provide Access and Facilities for Active Recreational Uses.
- Preserve and Restore High Quality Native Habitats.
- Preserve the Visual Quality and Key Landmarks along the North Shore of Lacamas Lake.







Transportation Connections

wsp

Northbound Lane Southbound Lane Proposed Trail Existing Trail Future Transportation Parking/Trailheads









What we heard.

- Leadbetter Road:
 - Preference is to close Leadbetter Road to vehicle traffic
 - Might need short-term or one-way access (TBD)
 - Maintain access to shoreline and boat launch areas
 - Leadbetter Road transfers into Multi-use Trail
- Future Development Connection:
 - What does the infrastructure look like for new development?
 - Transportation Plan in process
 - Subarea Plan in process





Northbound Lane Southbound Lane Proposed Trail **Existing Trail** Future Transportation ____ Parking/Trailheads

Lamas



7

Exhibit 6 CPA20-02 Page84 **NSD** Transportation Section Legacy Lands Master Plan | Camas, WA | January 2020 8'Trail Bank Restoration 12'Trail





What we heard.

- Trail Connection:
 - Multi-use trails for recreation and commuting
 - Variety of trail experience wide multi-use vs. narrow rustic
 - Maintain the natural, primitive setting and experience
 - Consider cost and maintenance requirements: paved, gravel, natural
 - Trails with a natural meandering, curvy theme with varies elevations
 - Give people options to connect to different trails, creating loops rather than out-and-backs
 - Spread out users to keep a more secluded feel
- Water Connection:
 - Provide a paddling launch and water access near Camp Currie
 - Improve the WDFW boat launch -motorized, paddle launch, and water access
 - Recommend: Round Lake paddling launch site off 35th Ave
 - Maximize parking to north side of the lake
 - Increased and Improved access to the shoreline



\\SD

10















Next Steps

- Parks Commission Presentation Jan. 16th, 2020
- North Shore Subarea Plan Visioning Feb. 4th, 2020
- Incorporate into Subarea Plan
- Finalize coordination with property owners
- Partnerships and Funding











PURCHASE AND SALE AGREEMENT AND ESCROW INSTRUCTIONS

This AGREEMENT OF PURCHASE AND SALE OF REAL PROPERTY AND ESCROW INSTRUCTIONS (the "Agreement") is made and entered into effective as of December $\frac{11/30}{2018}$, 2018 (the "Effective Date"), by and between The Mills Family LLC ("Seller"), and The City of Camas, Washington ("Buyer") with reference to the following facts:

RECITALS:

- A. Seller is the owner of that certain real property located in the City of Camas (the " City"), County of Clark (the " County"), State of Washington, consisting of the following five Tax Lots:
 - Tax Lot #38, Section 27, Township 2 North, Range 3 East, Willamette Meridian, also described as Property Identification Number (PIN) 175720000 containing approximately 3.02 acres and containing the approximate approximately 3,864 square foot Leadbetter House plus an approximate 1,152 square foot unfinished basement plus an approximate 1,800 square foot general purpose building, plus a storage shed and gazebo, hereinafter Tax Lot #38.
 - Tax Lot #27, Section 34, Township 2 North, Range 3 East, Willamette Meridian, also described as Property Identification Number (PIN) 177903000 containing approximately 3.96 acres and containing the approximate approximately 1,867 square foot Pomaria House plus an approximate 495 square foot detached garage, hereinafter Tax Lot #27 shall.
 - Tax Lot #7, Section 34, Township 2 North, Range 3 East, Willamette Meridian, also described as Property Identification Number (PIN) 177884000 containing approximately 35.7 acres, hereinafter Tax Lot #7.
 - Tax Lot #8, Section 34, Township 2 North, Range 3 East, Willamette Meridian, also described as Property Identification Number (PIN) 177885000 containing approximately 21.02 acres, hereinafter Tax Lot #8.
 - Tax Lot #28, Section 34, Township 2 North, Range 3 East, Willamette Meridian, also described as Property Identification Number (PIN) 177904000 containing approximately 26.46 acres, hereinafter Tax Lot #28.
- **B.** It is the intention of the Buyer and Seller to have the Buyer buy from Seller Tax Lot 38, Tax Lot 27, the portion of Tax Lot 7 designated as Public Property in Exhibit B to this Agreement, and the portion of Tax Lot 28 designated as Public Property in said Exhibit B, hereinafter "properties".
- **C.** The purpose of this Agreement is to set forth the terms and conditions agreed upon between Seller and Buyer with respect to the purchase and sale of the properties.

AGREEMENT:

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. **Survey Completion**. In order to create the legal lots of correct size to correspond as closely as possible to the lot lines depicted in Exhibit B, Seller shall hire a licensed surveyor to complete a



Mills to City of Camas

survey of the different properties to help create the parcels as depicted. The survey shall be completed to allow timely closing. The costs of the survey work and other special professional services to complete the survey and record the adjusted lots shall be shared by Buyer and Seller equally.

- 2. **Purchase and Sale**. Subject to the terms and conditions set forth in this Agreement, Seller hereby agrees to sell to Buyer, and Buyer hereby agrees to purchase from Seller, the properties.
 - 2.1. **Purchase Price**. The purchase price shall be Two Million Five Hundred Thousand Dollars (\$2,500,000).
 - 2.2. Payment. The Purchase Price shall be payable as follows:

2.2.1. **Earnest Money Deposit**. Concurrently with the "Opening of Escrow" (as that term is defined below), Buyer shall deposit with "Escrow Holder" (as that term is defined below), in immediately available funds, the amount of Twenty Five Thousand Dollars (\$25,000) (the "Earnest Money Deposit"), which shall be held in an interest bearing account, with interest accruing thereon becoming a part of the Earnest Money Deposit for all purposes hereunder. The Earnest Deposit shall be held by Escrow in accordance with the following instructions: (i) The Deposit shall be considered earnest money and shall be fully refundable to Buyer during the Feasibility Period, as that term is defined in Section 4.1.1 below (the "Earnest Money"); (ii) In the event that Buyer delivers the "Approval Notice," as that term is defined in Section 5.1.1 below, the Earnest Money Deposit shall be deemed non-refundable to Buyer and the Escrow Holder shall promptly release all such Earnest Money to Seller. The Earnest Money Deposit Earnest Money released to Seller hereunder shall be applicable as a credit toward the Purchase Price.

2.2.2. **Remaining Cash Payment**. On or before the Closing Date, Buyer shall deposit with Escrow Holder the full Purchase Price less the amount of the Initial Deposit (\$2,500,000 less \$25,000 or \$2,475,000), plus Buyer's share of the closing costs set forth in Section 5.6 below. All funds deposited in Escrow shall be disbursed by Escrow Holder in accordance with Section 6 below. For purposes of this Agreement, the amount required to be deposited by Buyer for the Closing pursuant to this Section 2.2.2 shall be referred to herein as the "Remaining Cash Payment".

3. **Opening of Escrow**. Concurrently with the mutual execution of this Agreement, Seller and Buyer shall open an escrow (the "Escrow") with First American Title Insurance Company at its Greenwood Drive Branch in Vancouver, WA ("Escrow Holder") with Shelby Caufman as Escrow Officer, by delivering an executed copy of this Agreement to Escrow Holder. As used in this Agreement, the term "Opening of Escrow" shall mean the date on which a fully executed copy of this Agreement is delivered to Escrow Holder by Seller and Buyer, and Escrow Holder has received the Earnest Money Deposit. Upon receipt of the fully executed copy of this Agreement and the Earnest Money Deposit, Escrow Holder is hereby instructed to open the Escrow, to advise the parties of the date of the Opening of Escrow, to sign the last page of this Agreement, and to deliver a signed copy of the last page of this Agreement to both Seller and Buyer. This Agreement shall constitute escrow instructions to Escrow Holder, together with Escrow Holder's general provisions. If there is any

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Mills to City of Camas

Exhibit 6 CPA20-02 Page98 Page 3 of 17

conflict between the provisions of this Agreement and Escrow Holder's general provisions, the provisions of this Agreement shall control.

4. CONDITION OF TITLE:

- 4.1. Preliminary Title Report. On or before the end of the Feasibility Period, Buyer shall have approved those covenants, conditions, restrictions, rights of way, easements, reservations and other matters of record, as disclosed in the Preliminary Title Report for the Property to be issued by Escrow Holder (the "Title Company"), promptly following the Effective Date, together with copies of the documents of record evidencing such title exceptions and plotted easements (collectively, the "Title Report"). In the event Buyer objects to or disapproves any exceptions in the Title Report, Buyer shall deliver written notice to Seller of Buyer's objections ("Buyer' s Notice") prior to the expiration of the Feasibility Period. Seller shall have five (5) business days from receipt of Buyer's Notice to either (i) cure or agree to cure at or prior to the Closing Buyer's objection(s), or (ii) elect not to cure such objection(s). In the event Seller elects not to cure any of Buyer's objections or fails to respond to Buyer's Notice within such five (5) business day period (which shall be deemed Seller's election not to cure any of Buyer's objections other than monetary encumbrances, as provided below), Buyer shall have five (5) business days thereafter to either: (a) waive such objection(s), or (b) cancel the escrow and terminate this Agreement. In the event of the termination of this Agreement pursuant to the foregoing, Escrow Holder shall promptly disburse any amount remaining in the Due Diligence Fund to Seller, return the Earnest Money to Buyer, and neither party shall have any further rights, duties or obligations under this Agreement, except those that by their express terms survive the termination of this Agreement. The exceptions to title that Buyer approves or is deemed to have approved shall be referred to as "Permitted Title Exceptions;" provided, however, that the Permitted Title Exceptions shall not include, and Seller shall remove at or before the Closing, and shall cause the Property to be delivered free and clear of, any deeds of trusts, mortgages, delinquent taxes and assessments, mechanics' liens and/or any other monetary liens encumbering the Property, and Buyer need not object thereto.
- 4.2. **Buyer's Investigation**. During the term of the Escrow, Buyer shall have the right, at Buyer's sole expense, to conduct such independent investigations as Buyer deems necessary or appropriate concerning the condition, use, sale, development or suitability of the Property for Buyer's intended purposes.
- 4.3. **Right to Enter**. Seller hereby grants to Buyer, and its agents, employees, contractors and consultants, the right to enter upon the Property during the term of the Escrow for the purpose of conducting feasibility studies and physical examinations of the Property at Buyer's sole cost and expense, including environmental testing and soils and geotechnical analyses and tests. Buyer hereby agrees to indemnify, protect, defend and hold Seller and the Property free and harmless from and against any and all loss, cost, liability or expense (including reasonable attorneys' fees) to the extent caused by or arising from such entry by Buyer, its agents, employees, contractors or consultants, upon the Property, and from all mechanic's, material men's and other liens resulting from any such entry; provided that such obligations of Buyer will not apply to the extent any loss, cost, liability or expense (i) is caused by the negligence or intentional misconduct of Seller or its agents, employees, contractors or



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consultants, or (ii) relates to preexisting conditions, including any environmental conditions, affecting the Property that were merely discovered and not exacerbated by Buyer or its agents, employees, contractors or consultants. Buyer shall promptly repair any damage to the Property caused by Buyer, its agents, employees, contractors, or consultants, reasonable wear and tear excepted.

- 4.4. **"As-Is" Sale**. Except for Seller's covenants, representations, warranties and other obligations set forth in this Agreement, Buyer acknowledges and agrees that, in the event Buyer acquires the Property, Buyer is acquiring the Property in its "AS IS" condition.
- 5. CONDITIONS:
 - 5.1. **Conditions for the Benefit of Buyer**. Buyer's obligation to acquire the Property and the Closing of each parcel, shall be conditional and contingent upon the satisfaction, or waiver by Buyer, as and when required below, of each of the following conditions (collectively, the "Buyer Conditions"):
 - 5.1.1. Feasibility Review. On or before the date that is forty-five (45) days following the Effective Date or January 15, 2019 whichever date is sooner (the "Feasibility Period"), Buyer shall have approved, in Buyer's sole and absolute discretion, the feasibility of Buyer's acquisition and development of the Property based on Buyer's inspection, review and analysis of the Property, the Property Documents and any other documents, materials, studies, reports, agreements, matters of record or otherwise that Buyer desires to review. In the event Buyer approves of its feasibility review of the Property, Buyer shall deliver written notice thereof to Seller and Escrow Holder prior to the expiration of the Feasibility Period (the "Approval Notice"). If Buyer has not delivered the Approval Notice prior to the expiration of the Feasibility Period, or in the event Buyer elects to terminate this Agreement prior to the expiration of the Feasibility Period by written notice of such termination to Seller, this Agreement shall automatically terminate, in which event the Earnest Money Deposit shall be returned to Buyer, and the parties shall have no further rights, duties or obligations under this Agreement, except those that by their express terms survive the termination of this Agreement. In the event Buyer delivers the Approval Notice on or prior to the expiration of the Feasibility Period, this Buyer Condition shall be deemed satisfied for the closing of the Property.
 - 5.1.2. **Surveying and Short Platting of the Property**. The new Tax Lots to be purchased by the Buyer shall be created and recorded.
 - 5.1.3. **Representations and Warranties**. On the Closing Date, the representations and warranties of Seller set forth in Article 7 below shall be true and correct in all material respects.
 - 5.1.4. **No Default.** As of the applicable Closing, Seller shall not be in default under this Agreement.



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- 5.1.5. **Deliveries**. With respect to the Closing, Seller shall have delivered to Escrow Holder those documents and funds required to be delivered by Seller pursuant to Section 5.2 below.
- 5.1.6. Title Insurance. Title Company shall be unconditionally committed to issue to Buyer, as of the applicable Closing, an ALTA Standard Owner's Policy of Title Insurance, with liability limits equal to the Purchase Price of the parcel(s) being purchased at such Closing, insuring fee title to such parcel(s) vested in Buyer, subject only to the " Permitted Title Exceptions" (the "Title Policy"). Notwithstanding the foregoing, Buyer shall have the right to obtain an ALTA Extended Owner's Policy of Title Insurance in lieu of the ALTA Standard Owner's Policy of Title Insurance provided Buyer pays all excess costs in connection therewith and the obtaining of any survey necessary for the substitution of such title policy does not delay the applicable Closing Date.
- 5.1.7. **Approval of Camas City Council**. Closing of this sale is subject to and contingent upon approval of this Agreement by the City of Camas City Council
- 5.1.8. Failure of Buyer Conditions. If any of the Buyer Conditions with respect to the parcel(s) being purchased at a Closing has not been satisfied as of the applicable Closing Date, then Buyer shall have the right to (a) waive such Buyer Condition as a condition precedent to the Closing, which waiver must be by written notice to Seller and Escrow Holder prior to the Closing Date, or (b) terminate this Agreement and the Escrow by written notice of termination delivered to Seller and Escrow Holder. In the event of the termination of this Agreement by reason of the failure of any Buyer Condition, the Deposit shall be returned to Buyer, each party shall pay one- half of any escrow and title cancellation charges, and neither party shall have any further rights, duties or obligations under this Agreement.
- 5.2. **Conditions for the Benefit of Seller**. Seller's obligation to sell the Property and the Closing of each parcel, shall be conditional and contingent upon the satisfaction, or waiver by Seller, as and when required below, of each of the following conditions (collectively, the "Seller Conditions"):
 - 5.2.1. Leadbetter House and Pomaria House. During the Feasibility Period, Buyer shall confirm to Seller that Buyer intends to use the Leadbetter Properties and the Pomaria Properties for public purposes that meet with the intentions of the Mills Family in selling the properties to a public entity like the Buyer, with the exception of short term residential tenancy at Buyer's discretion. Buyer shall also confirm to Seller that the Leadbetter House will retain the name Leadbetter House and that some type of memorial commemorating the history of the Mills Family and their ancestors and their role in creating and maintaining the property on the Lake will be dedicated on the Property. Use of the property by the City of Camas for retreats, rentals, and outdoor recreation are all uses acceptable to the Mills Family.
 - 5.2.2. **Modification of DA / Comp Plan and Zone Amendment.** At any point prior to or following closing, Seller may pursue modification of the existing Development Agreement by execution of all parties thereto for review and approval by the City,



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subject to the applicable procedural rules and regulations on the condition that in the event the Development Agreement with acceptable signatures is submitted to the City on or before March 1, 2019, the City will use best efforts to include consideration of comp plan zoning consistent with Exhibit B during the 2019 City of Camas annual comp plan review cycle. Should no final amended Development Agreement be recorded by July 15, 2019, the City shall have no further obligations associated with comp plan review for 2019. After closing of the sale herein, the City of Camas would consent to a modified Development Agreement being submitted for consideration and approval by City Council through the requisite public hearing process.

In the alternative, Seller and City agree to proceed in good faith and with best efforts to pursue related Comprehensive Plan amendments and Zoning Map changes during the City of Camas annual review cycle beginning January 2020, with the intent of best efforts to amend the comp plan and zoning consistent with Exhibit B within the same year and upon expiration of the existing Development Agreement.

5.2.3. Failure of Seller Conditions. If any of the Seller Conditions with respect to the parcel(s) being purchased at a Closing has not been satisfied as of the applicable Closing Date, then Seller shall have the right to (a) waive such Seller Condition as a condition precedent to the Closing, which waiver must be by written notice to Buyer and Escrow Holder prior to the Closing Date, or (b) terminate this Agreement and the Escrow by written notice of termination delivered to Buyer and Escrow Holder. In the event of the termination of this Agreement by reason of the failure of any Seller Condition, the Deposit shall be returned to Buyer, each party shall pay one- half of any escrow and title cancellation charges, and neither party shall have any further rights, duties or obligations under this Agreement.

6. CLOSE OF ESCROW:

- 6.1. **Date of Closing**. Buyer and Seller agree to close this transaction on or before 10 days from the date of Buyer's approval of its Feasibility Review in accordance with Section 4.2 above, but in no event shall any Closing occur after January 31, 2019 (the "Outside Closing Date"), unless the Outside Closing Date has been extended in a writing signed by both Buyer and Seller. In the event Buyer desires to proceed to Closing prior to the Outside Closing Date, Buyer shall provide written notice of such election to Seller and Escrow Holder identifying the Closing Date of such purchase, which Closing Date shall be no earlier than ten (10) days following delivery of such written notice.
- 6.2. **Deliveries by Seller to Escrow Holder**. With respect to each Closing, Seller hereby covenants and agrees to deliver to Escrow Holder, at least one (1) business day prior to the Closing Date applicable to such Closing, the following instruments and documents, the delivery of each of which shall be a condition to the applicable Close of Escrow for the benefit of Buyer:
 - 6.2.1. **Grant Deed**. Seller's Statutory Warranty Deed for the parcel being purchased at such Closing (the "Deed") in the form as agreed to by the parties.



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- 6.2.2. **Non-Foreign Certificate**. An affidavit satisfying the requirements of Section 1445 of the Internal Revenue Code of 1986, as amended, and the regulations thereunder, duly executed by Seller (the "Certificate of Non-Foreign Status").
- 6.2.3. **Closing Costs**. Seller's portion of the escrow fees, prorations, and other charges relating to the Closing, except that Seller may instruct Escrow Holder to deduct such closing costs and prorations from the amount due Seller at the Close of Escrow.
- 6.2.4. **Other Documents**. All other documents required hereunder or otherwise reasonably required by Escrow Holder to be deposited by Seller to close the Escrow, including, but not limited to, an Owner's Affidavit regarding the status of the Property and title thereto.
- 6.3. **Deliveries by Buyer to Escrow Holder**. With respect to each Closing, Buyer hereby covenants and agrees to deliver to Escrow Holder, at least one (1) business day prior to the Closing Date applicable to such Closing, the following items, the delivery of each of which shall be a condition to the Close of Escrow for the benefit of Seller:
 - 6.3.1. **Remaining Cash Payment**. The Remaining Cash Payment applicable to the parcel being purchased at such Closing, in immediately available funds.
 - 6.3.2. **Closing Costs.** All funds necessary to pay Buyer's share of the closing costs and prorations for the parcel being purchased at such Closing in accordance with the terms of this Agreement.
 - 6.3.3. **Other Documents**. All other documents required hereunder or otherwise reasonably required by Escrow Holder to be deposited by Buyer to close the Escrow.

6.4. **Disbursements and Other Actions by Escrow Holder**. At each Closing, when all required funds and documents applicable to such Closing have been deposited into Escrow by the appropriate parties, Escrow Holder shall promptly undertake each of the following actions in the following order:

- 6.4.1. **Record the Deed**. Cause the Deed to be recorded in the Official Records of the County;
- 6.4.2. **Disburse Closing Funds**. Disburse all funds deposited with Escrow Holder by Buyer in payment of the Purchase Price (including, with respect to the Final Closing, the applicable portion of the Deposit), and in payment of Buyer's share of any Escrow closing costs and prorations, as follows:
- 6.4.3. **Disburse Seller Proceeds**. Disburse to Seller the Purchase Price due Seller less the amount of all items chargeable to the account of Seller, including, without limitation, the amount of any deeds of trust, mechanic's liens or other monetary encumbrances to be paid by Seller, and Seller's share of any Escrow closing costs and prorations;
- 6.4.4. **Disburse Buyer's Expenses or Proceeds.** Deduct from the Remaining Cash Payment all items chargeable to the account of Buyer, including, without limitation, Buyer's share of Escrow closing costs and all other such items chargeable to the account of Buyer, returning the excess of such funds, if any, to Buyer;



- 6.4.5. **Deliver Copies of Buyer's Documents**. Deliver a conformed copy of the Deed, a copy of the Certificate of Nonforeign Status, and copies of all other closing documents to Buyer;
- 6.4.6. **Deliver Copies of Seller's Documents**. Deliver copies of all closing document to Seller; and
- 6.4.7. **Deliver Title Policy**. Cause the Title Policy to be issued and delivered to Buyer.
- 6.5. **Escrow Cancellation.** If Escrow is not in condition to close each escrow by the agreed upon Closing Date, Escrow Holder shall continue to comply with the instructions contained herein until a written demand has been made by a party hereto for the cancellation of the Escrow, as described below. Escrow Holder shall notify the other party of any such demand.
- 6.6. Costs and Prorations.
 - 6.6.1. Escrow and Other Costs. Buyer shall share equally the Escrow Holder's escrow fees for the Escrow. Buyer shall bear the cost of all documentary transfer taxes. Seller shall pay cost of the of the ALTA Standard Title Policy. Buyer shall pay the additional cost of any extended coverage (including without limitation any additional survey cost), ALTA lender's or other title policy in excess of the cost of the ALTA Standard Title Policy, including the cost of any title endorsements desired by Buyer. Buyer and Seller shall each bear their own respective legal and accounting costs, if any, outside of Escrow. All recording costs or fees and all other costs or expenses not otherwise provided for in this Agreement shall be paid pursuant to normal charges as determined by the Escrow Officer. As provided by law, this transaction will be exempt from any real estate excise tax.
 - 6.6.2. **Property Taxes and Assessments**. If applicable and otherwise not exempt by law, Purchaser shall assume and pay when due all deferred open space, timber or other deferred taxes or assessments for the Property including, but not limited to, so-called "Rollback" or "Recapture" taxes which may become due upon transfer of the Property. At Closing, excepting the deferred taxes and assessments being assumed by Purchaser, all general and special taxes, assessments, fees and charges of any type (including without limitation, any for water, sewer, irrigation and special districts) including Real Property taxes and assessments shall be prorated between Purchaser and Seller as of the date of Closing.
- 6.7. **Reporting Responsibilities**. Any returns, statements or reports required to be filed under Section 6045(e) of the Internal Revenue Code of 1986 (or any similar reports required by state or local law) relating to the Property shall be filed by Escrow Holder. In no event shall this Agreement be construed so as to require that such returns, reports or statements be filed by Buyer or Buyer's counsel, or by Seller or Seller's counsel. Escrow Holder shall provide evidence to Buyer and Seller of its compliance with the provisions of this Section 6.7.
- 7. **REPRESENTATIONS and WARRANTIES OF SELLER.** Seller hereby represents and warrants to Buyer as of the date of this Agreement, as follows:



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- 7.1. **Due Formation: Requisite Action.** Seller has legal title to the Property and has the legal power, right and actual authority to bind Seller to the terms hereof.
- 7.2. **Enforceability**. This Agreement constitutes the legal, valid and binding obligation of Seller, enforceable against Seller in accordance with its terms, subject only to applicable bankruptcy, insolvency, reorganization, moratorium or similar laws or equitable principles affecting or limiting rights of contracting parties generally.
- 7.3. **No Conflict**. Neither this Agreement nor the consummation of the transactions contemplated by this Agreement will violate, be in conflict, or otherwise result in a default under any agreement or instrument to which Seller is a party or by which Seller is bound, or any judgment, decree, order, statute, rule or regulation applicable to Seller.
- 7.4. Income Tax Information. Seller is not a non-resident alien, a foreign corporation, a foreign partnership, a foreign trust, or a foreign estate (as those term s are defined in the United States Internal Revenue Code and Income Tax Regulations) for purposes of United States income taxation.
- 7.5. **Hazardous Materials**. Seller has not introduced, or knowingly permitted any other party to introduce, any hazardous materials, hazardous substances or hazardous waste on or under the Property, and Seller has no actual knowledge of the past or present existence of any hazardous materials, hazardous substances or hazardous waste on or under the Property.
- 7.6. Litigation. There is no pending or, to Seller's actual knowledge, threatened lawsuits, legal actions, administrative proceedings, or claims affecting or relating to the Property or any portion thereof.
- 7.7. **Condemnation**. There are no condemnation proceedings, eminent domain proceedings or similar actions or proceedings now pending against the Property, and, to Seller's actual knowledge, Seller is not aware that any such proceedings or actions have been threatened against the Property.
- 7.8. **No Rights**. Seller has not granted any option, right of first refusal, or other similar rights to acquire the Property or any portion thereof to any other person or entity, and has not entered into any lease for all or any portion of the Property with any other person or entity, and Seller has no actual knowledge of any lease of or claim of right to possession of the Property or any portion thereof. There exists no contract, option, right of first refusal, or other agreement or instrument of any kind which grants to any person or entity other than Buyer the present or future right to purchase or otherwise acquire any interest in the Property or any part thereof.
- 7.9. **No Survival**. The representations and warranties of Seller contained in this Article 7 and any other representations and warranties of Seller contained elsewhere in this Agreement shall be true and correct on and as of the date of this Agreement and shall be true and correct on and as of the date of this Agreement and shall be true and correct on and as of the date of t
- 8. **REPRESENTATIONS AND WARRANTIES OF BUYER**. Buyer hereby represents and warrants to Seller as of the date of this Agreement, as follows:



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- 8.1. **Due Formation; Requisite Action**. Buyer is a legal entity in the State of Washington. Buyer has taken all necessary action to authorize the execution, delivery and performance of this Agreement. The individuals executing this Agreement on behalf of Buyer have the legal power, right and actual authority to bind Buyer to the terms hereof.
- 8.2. **Enforceability**. This Agreement constitutes the legal, valid and binding obligation of Buyer, enforceable against Buyer in accordance with its terms, subject only to applicable bankruptcy, insolvency, reorganization, moratorium or similar laws or equitable principles affecting or limiting rights of contracting parties generally.
- 8.3. **No Conflict**. Neither this Agreement nor the consummation of the transaction contemplated by this Agreement will violate, be in conflict, or otherwise result in a default under any agreement or instrument to which Buyer is a pa1iy or by which Buyer is bound, or any judgment, decree, order, statute, rule or regulation applicable to Buyer.
- 8.4. **No Survival**. The representations and warranties of Buyer contained in this Article 8 and any other representations and warranties of Buyer contained elsewhere in this Agreement shall be true and correct on and as of the date of this Agreement and shall be true and correct on and as of the date of this Agreement and shall be true and correct on and as of the date of the

9. CERTAIN OBLIGATIONS REGARDING PROPERTY.

- 9.1. **General Assignment and Bill of Sale**. Seller agrees on closing to assign to Buyer all of Seller's right, title and interest, if any, in and to all warranties, guaranties, indemnities, licenses, permits, plans, maps, deposits, credits, reimbursements, approvals, and rights pertaining to the parcel(s) being purchased at such Closing.
- 9.2. **Processing of Entitlements**. From and after the date hereof, both Buyer and Seller shall have the right to process entitlements with the City and other appropriate governmental agencies necessary for the development of the Property they will end up owning as contemplated by each. Seller and Buyer agrees to cooperate with each other in connection with all aspects of the processing of the entitlements necessary for their respective Properties and agrees to assist each other as needed in connection with each party's efforts to obtain necessary governmental approvals for such entitlements, including executing any and all applications to the City and other governmental agencies and signing such other documents as may be reasonably requested by either party to process the approval of such entitlements.
- 9.3. **Property Entitlements**. In the event the consent of the City or any other governmental entity is required to transfer any agreements or entitlements relating to the development of the Property from Seller to Buyer, Seller and Buyer agree to cooperate to obtain any such consent from the City or other governmental agency as necessary for the transfer of such rights and benefits to Buyer to be effective at the Close of Escrow. Seller agrees not to amend, modify or terminate any agreements or entitlements applicable to the Property without the prior written consent of Buyer, which consent shall not be unreasonably withheld or delayed.
- 9.4. Access to Remainder Property. After the closing of the sale herein to Buyer, Seller will still own the unsold remaining portions of Tax Lots 0000177884 and 0000177885 (the "Remainder Property"). Buyer agrees to grant Seller or future potential Purchasers of said Remaining



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Property access through the Buyer's Property purchased for the purpose of making surveys, soil studies, archeological studies, or other normal feasibility studies related to the development of the Remainder Property upon reasonable conditions to be established by Buyer for a period not to exceed one year. Seller or any future prospective Purchaser of the Remainder Property shall agree to hold Buyer harmless from any liability coming from such investigations and to return the Buyer Property to its original condition or better on conclusion of such investigations.

10. DEFAULT.

10.1. Buyer's Default. In the event the Final Closing for either the Purchase of Parcel 1 or Parcel 2 does not occur by the Closing Date agreed upon herein by reason of the Default of Buyer, which default is not cured within ten (10) business days after written notice is given by Seller to Buyer, Seller shall be entitled to the following remedies; (i) to enforce Specific Perfo1mance of this Agreement or (ii) to other relief to which Seller may otherwise be entitled by virtue of this Agreement or by operation of law arising by reason of Buyer's Default or, (iii) to terminate this Agreement and the Escrow by giving written notice to Buyer and Escrow Holder and to receive the Deposit(s) in Escrow as Liquidated Damages. In the event Seller chooses to terminate the Agreement on Buyer's Default and to accept the Earnest Money Deposit(s) as Liquidated Damages, then Seller and Buyer agree to recognize and acknowledge that the Property has been and will be removed from the market for a substantial period of time by reason of this Agreement, that Seller is relying on Buyer's Agreement to purchase both Parcel 1 and Parcel 2 of the Property, and that Seller would otherwise suffer substantial detriment in the event Buyer fails to perform Buyer's obligations under this Agreement. Buyer specifically agrees that Seller shall be entitled to compensation for the detriment that would be caused to Seller by reason of Buyer's Default hereunder thereby allowing the remedies provided to Seller herein. -DS -DS

MM ML Seller's Initials

Buyer's Initials

10.2. **Seller's Default**. If Seller defaults in performing Seller's obligations hereunder which default is not cured within ten (10) business days after written notice is given by Buyer to Seller, Buyer shall be entitled, as Buyer's sole and exclusive remedy, to (i) waive the contractual obligations of Seller in writing and proceed to Closing; (ii) extend the time for performance by such period of time as may be mutually agreed upon in writing by the Parties hereto; (iii) terminate this Agreement and receive a return of the Deposit made prior to such termination (including any amounts released to Seller prior to such termination), in which event the parties shall be released therefrom and have no further rights, obligations, or responsibilities under this Agreement , except for those obligations that by their express terms survive termination of this Agreement; or (iv) enforce specific performance of this Agreement. Seller shall not be liable for, and Buyer hereby waives and covenants not to assert any right to seek or obtain, any consequential, incidental, exemplary, or punitive damages as a result of Seller's breach of this Agreement. Any lawsuit for specific performance must be filed (if Buyer elects to pursue such remedy) within ninety (90) days following Seller's breach of this Agreement, and Buyer's failure to file such lawsuit within that time period shall constitute an irrevocable election by



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Buyer not to pursue its remedy of specific performance, in which event this Agreement shall automatically terminate, the Deposit shall be returned to Buyer (including any amounts released to Seller), and neither party shall have any further rights or obligations under this Agreement, except those that by their express terms survive the tern1ination of this Agreement. Notwithstanding anything to the contrary herein, this limitation on remedies does not apply to any indemnity provision in favor of Buyer or breach of any representation or warranty of Seller provided for in this Agreement, and Buyer is entitled to recover its actual, direct damages from such breach, but in no event shall Buyer be entitled to recover any consequential, incidental or punitive damages for any breach by Seller of any obligations under this Agreement. This Section 9.2 shall survive the Closing(s) or earlier termination of this Agreement.

- 11. BROKER'S COMMISSION. In connection with this Agreement, on Closing, Seller shall pay a real estate brokerage commission to Kimbal Logan (the "Broker") pursuant to the terms of a separate agreement between Seller and Kimbal Logan Real Estate & Investment. Said commission shall be paid in cash on closing through Escrow. Seller and Buyer each represents to the other that, except for Seller's Broker (whose real estate commission shall be the sole obligation of Seller, as provided above), no brokerage commission, finder's fee or other compensation of any kind is due or owing to any person or entity in connection with the transactions covered by this Agreement. Each party agrees to and does hereby indemnify, defend and hold the other free and harmless from and against any and all costs, liabilities, losses, damages, claims, causes of action or proceedings (including reasonable attorneys' fees) which may result from any other broker, agent or finder, licensed or otherwise, claiming through, under or by reason of the conduct of the indemnifying party in connection with this transaction.
- 12. **POSSESSION**. Possession of each parcel comprising the Property shall be delivered to Buyer at the Closing of such parcel, in the condition required pursuant to the provisions of this Agreement, subject only to the Permitted Title Exceptions.

13. MISCELLANEOUS.

- 13.1. Attorneys' Fees. If any legal action is instituted between Seller and Buyer in connection with this Agreement, the prevailing party shall be entitled to recover from the losing party all the prevailing party's costs and expenses incurred, including court costs and reasonable attorneys' and expert witness' fees.
- 13.2. Further Documents and Acts. Each of the parties hereto agrees to cooperate in good faith with each other, and to execute and deliver such further documents and perform such other acts as may be reasonably necessary or appropriate to consummate and carry into effect the transactions contemplated under this Agreement.
- 13.3. Entire Agreement. This Agreement and its exhibits constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and the final, complete and exclusive expression of the terms and conditions thereof. All prior agreements, representations, negotiations and understandings of the parties hereto, oral or written, express or implied, are hereby superseded and merged herein.



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13.4. **Notices**. All notices, requests, demands, and other communications required or permitted under this Agreement shall be in writing (including faxed or emailed communications) and shall be (as elected by the person giving such notice) hand delivered by messenger or sent by overnight courier service, or sent by facsimile or email transmission, addressed as follows:

lf to Buyer:	Peter Capell City Administrator The City of Camas Washington 616 NE 4th Avenue, Camas, Washington 98607 Telephone: (360) 834-6864 Email: administration@cityofcamas.net					
With a copy						
to:	Shawn MacPherson City Attorney Knapp, O'Dell & MacPherson					
	430 NE Everet Telephone:	t Street, Camas, Washir (360) 834-4611	igton 9860 Email:	7 macphe	ersonlaw@comcast.net	
If to Seller:	John Mills Address: 2738 NE 31st Ave Address: Portland, OR 97212-3604					
With a conv	relephone: _	503-577-8084	Emailad	iuress:		
to:	Michael Mills Address: 1930 SW River Drive, #506 Address: Portland, Oregon 97201-8055 Telephone: 503-522-1269 Email address: mpmills18@gmail.com					
If to Escrow	·					
Holder:	First American Title Insurance Company7710 NE Greenwood Drive, Suite 160, Vancouver, WA 98662Attention:Shelby CaufmanTelephone:(360) 553-3013Email address: scaufman@firstam.com					

13.5. **Further Documents and Acts**. Each of the parties hereto agrees to cooperate in good faith with each other, and to execute and deliver such further documents and perform such other acts as may be reasonably necessary or appropriate to consummate and carry into effect the transactions contemplated under this Agreement.

13.6. Entire Agreement. This Agreement and its exhibits constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and the final, complete and exclusive expression of the terms and conditions thereof. All prior agreements, representations, negotiations and understandings of the parties hereto, oral or written, express or implied, are hereby superseded and merged herein.


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- 13.7. **Governing Law**. This Agreement has been negotiated and executed in the States of Oregon and Washington and shall be governed by and construed in accordance with the laws of the State of Washington.
- 13.8. Invalidity of Provision. If any provision of this Agreement as applied to either party or to any circumstance shall be adjudged by a court of competent jurisdiction to be void or unenforceable for any reason, the same shall in no way affect (to the maximum extent permissible by law) any other provision of this Agreement, the application of any such provision under circumstances different from those adjudicated by the court, or the validity or enforceability of the Agreement as a whole; provided that the invalidity or unenforceability of such provision does not materially adversely affect the benefits accruing to, or the obligations imposed upon, any party hereunder.
- 13.9. **Amendments**. No addition to or modification of any provision contained in this Agreement shall be effective unless fully set forth in writing by both Buyer and Seller.
- 13.10. **Counterparts**. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute but one and the same instrument.
- 13.11. **Construction of Agreement**. The agreements contained herein shall not be construed in favor of or against either party but shall be construed as if both parties prepared this Agreement.
- 13.12. **Binding Effect**. This Agreement shall be binding only upon its execution and delivery by both Seller and Buyer.

IN WITNESS WHEREOF, Seller and Buyer have executed this Agreement as of the day and year first above written.

SELLER:		MILLS FAMILY LLC	
By:	DocuSigned by: John Mills		
	4BD602D182104B4 John Mills		
	Its Member		
_	DocuSigned by: Michael Mill	5	

Michael Mills Its Member

Bv:

Mills to City of Camas

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BUYER:

THE CITY OF CAMAS WASHINGTON

By:

Pete Capell City Administrator

DS ML

Mills to City of Camas

ESCROW CONSENT:

First American Title Insurance Company, the Escrow Holder under this Agreement, hereby agrees to (i) accept the foregoing Agreement, (ii) be Escrow Holder under the Agreement, and (iii) be bound by the Agreement in the performance of its duties as Escrow Holder. Pursuant to Article 2 of the Agreement, November _____, 2018 is the date of the Opening of Escrow and the Escrow Number for this transaction is ______

"Escrow Holder"

FIRST AMERICAN TITLE INSURANCE COMPANY

Dated: _____

Ву: _____

Shelby Caufman Its Escrow Officer



EXHIBIT "A" to AGREEMENT OF PURCHASE AND SALE OF REAL PROPERTY AND ESCROW INSTRUCTIONS Legal Descriptions:

Correct legal descriptions for each property being purchased sale to be supplied in escrow from the survey to be completed.

See Exhibit B for a map and further description.



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Mills Family LLC to City of Camas Exhibit B (map of new parcels)





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Technical Memo

- To: Mark Martel 2001 SE Columbia River Drive Suite 100 Vancouver, WA 98661
- Re: Preliminary Critical Areas Assessment Parcel Numbers 177884-000, 177885-000 & 177904-000

Location:	Near 811 SE Leadbetter Road, Camas, WA 98607
Legal Location:	NE ¼ of Section 34, T2N, R3E
Assessment by:	Ryan Thiele & Alex Sherman
Site Visit(s):	March 20, 2019
Report Date:	April 9, 2019

INTRODUCTION

Olson Environmental, LLC (OE) was requested to determine the presence of priority habitats/species and wetlands within the areas identified as tax parcel numbers 177885-000 (approx. 21 ac.), 177884-000 (approx. 35.7 ac.) and 177904-000 (approx. 26.5 ac.). The study area that overlaps with the three parcels totals to approximately 55 acres. The properties are located near 811 SE Leadbetter Road in Clark County (Fig. 1). The following memo generally describes field observations from March 20, 2019. Priority Habitat Areas are regulated by the City of Camas Municipal Code (CMC) 16.61 – Fish and Wildlife Habitat Conservation Areas, while wetlands are regulated under CMC 16.53 – Wetlands.

METHODS

Prior to the field investigations, a review of existing information related to designation of habitat and wetland areas was conducted. This review included Clark County GIS Environmental Atlas, WDFW Priority Habitat & Species maps, and aerial photographs.

Following the background information review, an on-site investigation was conducted in which the entire study area was traversed on foot to determine the presence of any wetlands, habitat types or species that have been mapped, known to occur in the area, and those previously

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unidentified. Sampling was conducted by generally characterizing any habitat features of particular importance to wildlife (i.e. snags, large downed woody debris, etc.) and identifying any priority plant species and wetland conditions occurring within the study site. The approximate location and relative size of each feature of interest was marked on an aerial photograph and/or pinpointed with a GPS unit. Approximate locations of the wetland boundaries were delineated through observations of hydrology and vegetation.

It should be noted that this report describes a preliminary assessment of the features on-site and the attached graphics do not show exact locations or measured sizes of observed habitats, species and wetlands. Further, this on-site investigation was less-intensive than a detailed habitat and wetland assessment; some habitat areas or individual species may not be shown in attached graphics.

FINDINGS & OBSERVATIONS

The study area is forested land containing no residential structures or development, north of 811 SE Leadbetter Road in Camas, WA. A foot trail can be found circulating the property, and a dirt road with a turnaround area exists on the eastern edge. The southern half of the study area is a sloped forest, while the northern half can be described as a craggy landscape with varying topography; rock outcroppings protrude through the surface, shaping a landscape composed of small plateaus, valleys, and cliffs. Elevation varies from approximately 280 ft. above sea level to 324 ft (Figure 2). Wetter conditions occur at the lower elevations as the lower-lying basin receives drainage from surrounding areas; standing water can be found at both the northern side is a dairy farm. Lacamas Lake is located just south of the study area on the opposite side of Leadbetter Road.

The study area can be characterized as a predominantly conifer secondary-growth forest. Dominant vegetation in the area includes an overstory of Douglas fir (*Pseudotsuga menziesii*) with the understory mainly composed of sword fern (*Polystichum munitum*). Certain areas exhibit extensive cover of non-native and invasive species such as Himalayan blackberry (*Rubus armeniacus*) and English ivy (*Hedera helix*). Large expanses of ivy can be found masking the ground and conifer trees in the southern and more shaded part of the project area. Western hemlock (*Tsuga heterophylla*) was observed occupying the mid-story habitat sporadically throughout the forest. A grove of red alder (*Alnus rubra*) with an understory of salmonberry (*Rubus spectabilis*) was observed in the southeast quarter of the study area. Multiple Oregon white oaks of various sizes were observed, having associations with the herbaceous balds habitat. Many conifer trees inhabiting higher elevations with more exposure suffered burns and loss of foliage on the tip of their crowns.

During the field investigation, the following features were observed: Oregon white oak (*Quercus garryana*), multiple herbaceous balds, the mapped wetland, and an unmapped wetland occurring on the northeastern corner of the study area. These features are considered Priority Habitat by WDFW and are discussed below.

Oak woodlands provide habitat and serve as a significant food source for various species of wildlife, including mammals, birds, reptiles, and amphibians. Woodland areas with oak/conifer

222 E Evergreen Blvd Vancouver, WA 98660 ~ Phone 360.695.1385 ~ Fax 360.695.8117 www.olsonenvironmental.com associations provide contiguous aerial pathways, as well as important roosting, nesting, and feeding habitat for birds and mammals. Dead oaks and dead portions of live oaks harbor insect populations and provide nesting cavities. Acorns, oak leaves, fungi, and insects provide food for associated species (Larsen et al. 1998). The accelerated decline of Oregon white oak woodlands has been associated with human activities, particularly oak removal resulting from urban development. WDFW defines priority oaks as the following:

Stands of oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%; or where total canopy coverage of the stand is 0.4 ha (1.0 ac) in size. East of the Cascades, priority oak habitat consists of stands > 2 ha (5 ac) in size. In urban or urbanizing areas, single oaks or stands < 0.4 ha (1 ac) may also be considered a priority when found to be particularly valuable to fish and wildlife (WDFW 2008).

Occurrences of Oregon white oak observed within the study site are shown in Figure 5. The approximate location of the oaks in relation to the herbaceous balds suggests that this species has high habitat fidelity with herbaceous balds in this area. Other species closely associated with the balds included tall Oregon grape (*Mahonia aquifolium*) and salal (*Gaultheria shallon*).

Multiple unmapped herbaceous balds were also observed with the study area. This habitat type is considered ecologically valuable in that it hosts species that may not occur in the surrounding habitat, enhancing species biodiversity and habitat heterogeneity. WDFW defines herbaceous balds as the following:

Herbaceous balds occur as variable-sized patches of grass and forb vegetation located on shallow soils over bedrock that commonly is fringed by forest or woodland. Typically consists of low-growing vegetation adapted for survival on shallow soils amid seasonally dry conditions, and is often on steep slopes. Dominant flora includes herbaceous vegetation, dwarf shrubs, mosses, and lichens. Rock outcrops, boulders, and scattered trees are often present, especially Douglas-fir, Pacific madrone, and Oregon white oak. Balds occur within mid-montane to lowland forest zones. On slopes near saltwater shorelines in the northern Puget Trough, herbaceous balds and herbaceous bluffs can sometimes be difficult to differentiate. Balds typically are smaller than 5 ha (12 ac), although some can be up to about 100 ha (\cong 250 ac) (WDFW 2008).

A review of the National and Local Wetland Inventory maps from Clark County GIS Environmental Atlas indicates the presence of a single depressional wetland occurring within the northwestern portion of the site (Figure 3). Priority Habitat and Species maps provided by WDFW also indicate the presence of wetlands, as well as caves adjacent to the wetlands (Figure 4). According to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE, 2010.), wetlands are defined as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

222 E Evergreen Blvd Vancouver, WA 98660 ~ Phone 360.695.1385 ~ Fax 360.695.8117 www.olsonenvironmental.com Two ponds were observed in the study area during the site visit. One pond is located in the northeast corner (unmapped) and a second along the northwestern border of the study area. (Figure 3). Both aquatic habitats have potential to provide breeding grounds for amphibious species, and are a source of freshwater for both mammalian and avian species. Vegetation observed surrounding the ponds suggests the area exhibits wetland characteristics. Ponding appears to remain for extended periods in the growing season and likely creates hydric conditions that support hydric vegetation. Both wetlands are geomorphic depressions receiving runoff from the surrounding landscape and precipitation.

DISCUSSION

A review of background information and a preliminary on-site field investigation suggests that areas of oak woodland habitat, herbaceous balds, and wetlands occur within the study area. Over a dozen of Oregon white oaks were observed, having various sizes and growth forms. Multiple trees observed were of significant size (canopy & dbh) and capable of providing food sources and nesting opportunities for associated wildlife. Five areas were characterized as herbaceous balds, all varying in size and found in parts of higher elevation. These balds are found to be particularly valuable to the local ecosystem by hosting species that would not otherwise be found in their absence, especially the Oregon white oak.

Wetlands found on the site provide valuable functions and services such as flood mitigation, water quality treatment, and provision of habitat for various species. The wetlands will need to be rated to determine the appropriate buffer sizes that are based on the category that the wetland belongs to and the land use intensity proposed in the project.

Fish & wildlife habitat conservation areas ordinances (CMC 16.61) and wetlands ordinances (CMC 16.53) provide protection guidelines for certain activities within and adjacent to designated habitat and wetland areas, respectively. Ordinances specify that certain permits must be obtained for projects containing the aforementioned habitats and wetlands with the associated buffers. Impacts within these areas should be avoided if possible; however, unavoidable impacts should be minimized and are subject to review by the City of Camas and/or WDFW. Additionally, it is suggested that management recommendations outlined by WDFW (Larsen et al. 1998) be considered when proposing any alterations to the priority habitat areas.

LITERATURE CITED

Clark County, c2007-2018. <u>Environmental Atlas</u>. Clark County Department of Assessment and GIS. 34pp. [accessed 2019 March 19].

Larsen, E. M., and J. T. Morgan. 1998. Management recommendations for Washington's priority habitats: Oregon white oak woodlands. Wash. Dept. Fish and Wildlife, Olympia. 37pp.

Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 288pp.

Washington Department of Fish and Wildlife, c2018. <u>PHS on the Web.</u> Olympia (WA): Conservation Program. [accessed 2019 March 19].



APPLICANT: Mr. Mark Martel Martel Wealth Advisors 2001 SE Columbia River Drive Ste. 10 Vancouver, WA 98661

Project Location Map (Clark County GIS) Mills Property Camas, Washington



PROPOSED ACTIVITIES IN: Lacamas Creek Watershed LEGAL: NW/NE ¼, S34, T2N, R3E, W.M. NEAR: Camas, Washington COUNTY: Clark County DATE: April 9, 2019

PURPOSE: Preliminary Critical Areas Assessment

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Topographic Map (Clark County GIS) Mills Property Camas, Washington



PURPOSE: Preliminary Critical Areas Assessment

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APPLICANT: Mr. Mark Martel Martel Wealth Advisors 2001 SE Columbia River Drive Ste. 10 Vancouver, WA 98661

 National Wetland Inventory Map (Clark County GIS)
 PROPOSED ACTIVITIES IN:

 Mills Property
 Lacamas Creek Watershed

 Camas, Washington
 LEGAL: NW/NE ¼, S34, T2N, R3E, W.M.

 NEAR: Camas, Washington
 COUNTY: Clark County

 OLSON
 DATE: April 9, 2019

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APPLICANT: Mr. Mark Martel

Mr. Mark Martel Martel Wealth Advisors 2001 SE Columbia River Drive Ste. 10 Vancouver, WA 98661 Priority Habitats Map (WDFW) Mills Property Camas, Washington



PURPOSE: Preliminary Critical Areas Assessment

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APPLICANT: Mr. Mark Martel

Martel Wealth Advisors 2001 SE Columbia River Drive Ste. 10 Vancouver, WA 98661 Approximate Critical Area Locations Mills Property Camas, Washington



PROPOSED ACTIVITIES IN: Lacamas Creek Watershed LEGAL: NW/NE ¼, S34, T2N, R3E, W.M. NEAR: Camas, Washington COUNTY: Clark County DATE: April 9, 2019

PURPOSE: Preliminary Critical Areas Assessment





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APPLICANT: Mr. Mark Martel Martel Wealth Advisors 2001 SE Columbia River Drive Ste. 10 Vancouver, WA 98661

Site Photographs Mills Property Camas, Washington

2019 at

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PROPOSED ACTIVITIES IN: Lacamas Creek Watershed LEGAL: NW/NE ¼, S34, T2N, R3E, W.M. NEAR: Camas, Washington COUNTY: Clark County DATE: April 9, 2019

PURPOSE: Preliminary Critical Areas Assessment

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Photo-Sheet 1