

PLANNING DEPARTMENT
STAFF REPORT
TO CITY OF LAKE FOREST PARK HEARING EXAMINER

The following review by the City of Lake Forest Park Planning Department is based on information contained in the application and supplemental correspondence, information in the file, comments and letters received, on-site investigation, applicable scientific reports, applicable codes, development standards, adopted plans, and other information on file with the City.

SUMMARY INFORMATION

City File Numbers: 2020-CDSP-0001

Hearing Date: December 13, 2021; 2pm by virtual connection

Requested Action: Approval of a Commercial Site Development Permit (CSDP) to construct an eight-unit townhome development with associated utility installation and site improvements.

Applicant: Michael Pearce
LFP LLC and Re-volve LLC
210 NW 52 ST
Seattle, WA 98107

Site Location: 3507 NE 153 ST
Lake Forest Park, WA

Comprehensive Plan Designation: Multi-family, High (Exhibit 4)

Zoning Classifications: RM 900 (Exhibit 3)

Recommendation: Approval with Conditions

APPLICABLE CODES AND REGULATIONS FOR THE COMMERCIAL SITE DEVELOPMENT PERMIT REQUEST (This list may not be exhaustive.)

Lake Forest Park Municipal Code Sections Directly Applicable to the Proposal:

1. LFPMC 16.14.080 Environmentally Critical Areas and Buffers
2. LFPMC 16.16.170 Critical Areas- Markers and Signs
3. LFPMC 16.16.180 Critical Areas- Conservation Easements and critical area tracts
4. LFPMC 16.16.190 Disclosure and notice to title
5. LFPMC 16.16.230 –Authorized Work in Critical Areas
6. LFPMC 16.16.240- Setback Exception
7. LFPMC 16.16.280- Erosion hazard areas – Development standards – Permitted alterations.

8. LFPMC 16.16.290- Landslide hazard areas – Development standards – Permitted alterations
9. LFPMC 16.16.310- Steep slope hazard areas – Development standards – Permitted alterations
10. LFPMC 16.16.350- Streams – Classifications
11. LFPMC 16.26.030- Classification of Decisions
12. LFPMC 16.26.040- Applications
13. LFPMC 16.26.080- Type I applications – Code administrator’s recommendation
14. LFPMC 16.26.090- Type I – Notice of code administrator’s recommendation
15. LFPMC 16.26.100- Type I – Hearing examiner – Open record pre-decision hearing
16. LFPMC 16.26.110- Type I – Hearing examiner – Decision – Effect
17. LFPMC 18.30- RM-900 Residential Multifamily
18. LFPMC 18.48- Commercial Site Development Permits
19. LFPMC 18.58- Off-street Parking
20. LFPMC 18.62- Screening and Landscaping

BACKGROUND INFORMATION:

Description of the proposal: The permittee proposes to demolish the existing single-family residence and construct an eight-unit townhome building with structured parking and associated site improvements. Improvements for the project will include half street improvements along NE 153 ST for the length of the parcel consisting of paved travel lane, curb, gutter, and sidewalk. The design also includes a 4-foot gravel shoulder on the south side of NE 153 ST (within the existing right-of-way) which is a requirement of the King County Roadway Standards. Construction of the gravel shoulder portion will require regrading of the existing access driveway which serves the parcel directly south of the NE 153 ST, and construction of a retaining wall. Potential impacts to root zones of trees within the right of way and on private property are expected within this area and the need to obtain temporary construction easements is a possibility. A 20-foot-wide emergency and fire department access hammerhead turn-around is also proposed to be constructed within the area that is now public right-of-way, just west of the development site’s western property line. Impacts to trees and associated root zones within that portion of the right-of-way are expected.

A new water main is required to serve the site. A certificate of water availability has been approved via a contract with the utility provider (see Exhibit 13), Seattle Public Utilities. The certificate requires that the developer design and install approximately 760 feet of 8” ductile iron water main pipe which will extend north from a connection within Bothell Way NE along 35 AVE NE and NE 153 ST to the site. New side services for both water and sewer will also be installed to serve the building.

A deviation from the 2016 King County Surface Water Design Manual has been approved by the City’s development review consulting engineer as the permittee cannot meet Core Requirement #9 in the King County Surface Water Design Manual. The permittee will be providing an underground detention vault beneath the structure that will provide level 2 flow control in lieu of meeting Core Requirement #9. This will provide flow attenuation so downstream properties and adjacent stormwater systems are not overloaded.

A twenty-foot-wide access driveway will provide vehicular access to the structured parking area from the public street, and the site is proposed to be landscaped with trees, shrubs and vegetation along the site and building perimeter. The proposed project will impact slopes on the site. The project is designed to avoid critical areas but is the subject of a slope buffer reduction request and a building setback exception request which can be approved administratively. The permittee also proposes to remove 12 trees of varying size and species to construct the project.

Site Characteristics: The project site contains one single family home and is located within a multi-family zoned area (RM 900) where access is provided by NE 153 ST. The parcel is adjacent to two other multi-family complexes along NE 153 ST. An undesignated type Np stream flows off site near the property's boundary and the required 15-foot wide building setback from the stream buffer extends onto the northeast corner of the parcel. There are also several sloped portions of the property that are regulated and require buffers and setbacks. The sloped areas are mainly designated as steep slopes and slopes more than 40% are common throughout the site.

Adjacent Land Use Characteristics: The properties located directly to the north and east of the site are zoned RM 900, with a comprehensive land use designation of Multi-family, High. NE 153 ST is located directly south of the parcel and there is an unimproved right of way located directly west of the site. South of NE 153 ST is an occupied single-family home that is on a parcel zoned Southern Gateway Corridor Transition. Beyond the unimproved right of way to the west exists a large cemetery (named Acacia Memorial).

Project Review Timeline:

The Commercial Site Development Permit application was submitted on May 22, 2020. The application was considered complete as of August 17, 2020. A combined Notice of Application (NOA) and notice of the planned SEPA Determination (using the optional DNS process) was mailed to properties within 300 feet of the subject site; posted at the subject property; posted online; posted at the required locations of City Hall, Third Place Books, the LFP Library; and published in the Seattle Times on August 31, 2021.

On October 9, 2020, the city's development review staff provided comments and requested additional information from the permittee citing inconsistencies with the city's municipal code. On January 29, 2021, the permittee provided additional information responding to city comments, as well as design changes incorporating alternative elements for the proposed project.

On February 26, 2021, the city (and its consulting engineer) provided comments and requested additional information from the permittee citing the need for adequate responses to the city's previous comments which stated that the project's design was inconsistent with the required code provisions for perimeter landscaping and the critical area setback exception criteria in LFPMC 16.16.240 (C). At that time, the city's consulting engineer requested adequate responses and/or additional design changes which were needed to address the inconsistencies in the project's design relative to the 2016 King County Surface Water Design Manual and its Core Requirement #9. Also, at that time the city's consulting engineer requested the permittee provide information consistent with the required public street improvements via the 2016 King County Road

Standards. On April 11, 2021, the permittee provided additional information responding to city comments, as well as design changes incorporating alternative design elements for the proposed project.

On April 29, 2021, the city (and its consulting engineer) reviewed the permittee's revised design and provided additional comments and requested revised information from the permittee citing the project's inconsistencies with the 2016 King County Surface Water Design Manual and Core Requirement #9 as well as required public street improvements via the 2016 King County Road Standards. On May 26, 2021, the permittee provided additional information responding to city comments, as well as design changes incorporating a request for a drainage adjustment from the 2016 King County Surface Water Design Manual section 1.2.9.2.1 (5) and Section C.2.9 which proposed compliance with the Manual's Core Requirement #9. At this time, the permittee also proposed a road standards deviation as an alternative design for the required public street improvements deviating from sections 2.02 and 2.03 in the 2016 King County Road Standards.

On June 14, 2021, the city (and its consulting engineer) reviewed the permittee's revised design and its request for drainage adjustments and road standard deviations. The city's consulting engineer ultimately provided additional comments (which were transmitted to the permittee via email) that indicated the permittee's previous requests did not comply with the mandates in the 2016 King County Surface Water Design Manual and Core Requirement #9 or the requirements for public street improvements via the 2016 King County Road Standards.

On September 8, 2021, the permittee provided responses to the city's most recent requests which addressed the remaining city comments and provided a design that staff could recommend for approval as it was consistent with the city's municipal code.

LFPMC 16.26.040 (F) (2) (a) states that any period during which the permittee is correcting plans, conducting studies, or providing additional information at the request or direction of the city and up to 14 days after the information has been provided shall be excluded as application processing time.

The Notice of Hearing was mailed, published, and posted on November 29, 2021 (Exhibit 9).

The review time from complete application to public hearing has equaled 158 days.

CRITERIA ANALYSIS

The permittee has demonstrated through their application for a CDSP and the requirements of the critical areas code, tree canopy preservation and enhancement code, zoning code and the city's land use and procedural codes that the proposed project complies with the necessary regulatory elements. The project requires a CDSP because its scope meets all the applicability criteria in LFPMC 18.48.030 (D) (1) through (5). Staff finds that the proposal qualifies as a type I permit decision per LFPMC 18.48.040.

The following criteria are found in LFPMC 18.48.060 of the Lake Forest Park Municipal Code. The Permittee has the burden of meeting all the criteria for an approval. Staff's analysis with supporting findings and conclusions of the relevant criteria are listed below:

Lake Forest Park Municipal Code 18.48.060 Approval or Denial (Commercial Site Development Permits)

A. The hearing examiner may approve, deny, or approve with conditions an application for a commercial site development. The decision shall be based on the following factors:

1. Conformity with adopted city and state rules and regulations including but not limited to those listed in LFPMC Titles 15, 16, 17 and 18.

Findings: The city issued an Optional Determination of Non-Significance (ODNS) for the project on December 10, 2020. A comment period for the ODNS was supplied via the notice of application using the optional DNS process, and the city did not receive any public comments during the noticing period. City staff has conducted a review of the application and proposed project pursuant to the requirements in LFPMC Titles 15, 16, 17, and 18.

The City's Fire Marshal has reviewed the application and design for compliance with the required 20-foot-wide access standards in Title 15 of the LFPMC and has determined the design as represented in Exhibit 5 complies with those standards. The City's Building Official will, as a recommended condition of this project, review the building's design for compliance with the standards in Title 15 of the LFPMC when the required building permit is sought.

Staff has conducted a review of the project to determine compliance with the environmental requirements in LFPMC Title 16. Staff's review of the application as well as staff's site visits determined that the project and site are subject to slope regulations and the environmental components in LFPMC Title 16. An undesignated type Np stream flows off site near the property's boundary and the required 15-foot-wide building setback from the stream buffer extends onto the northeast corner of the parcel. The proposed project will not impact the stream, buffer, or the required building setback areas.

The permittee has also sought a setback exception for the project under LFPMC 16.16.240. Typically, environmental regulations such as the slope regulations and setback exceptions are administered through the type III permit decision process using staff's administrative authority. This project is required to have a Commercial Site Development Permit because it meets all of the applicability criteria in LFPMC 18.48.030 (D) (1) through (5). Elements of the project's site plan and layout, including those environmental elements that would typically be administered directly by staff, should be decided through the type I decision making process, because a CSDP is a type I application.

Staff's review of the regulated critical area elements imposed on this site have been performed with the application for CSDP and staff has verified that the design complies with the applicable critical area code provisions, subject to

several conditions, which are supported, illustrated, and reflected by the version of the site plan in Exhibit 5. The project site contains regulated slopes as (see site plan and Exhibit 2-critical area/geo-tech report for classifications and locations) defined in the City's critical areas code, specifically slopes classified as steep slope hazard areas and class III landslide hazard areas. These areas would typically require a 50-foot-wide buffer. Staff has determined that a slope buffer reduction to 25 feet wide as allowed in LFPMC 16.16.290 (A) and LFPMC 16.16.310 (A) can be approved pursuant to the recommendations in the permittee's geo-tech/critical area report (Exhibit 2). Staff would typically grant this type of buffer reduction administratively if the permittee can demonstrate compliance with the buffer reduction criteria, which is essentially the same for both landslide hazard areas and steep slope hazard areas. In this case, staff has determined that the permittee has met the criteria for a slope buffer reduction because the permittee has provided the appropriate documentation in their critical area report (see Exhibit 2). Specifically, the permittee's report indicates that the development will not decrease slope stability on the site or on adjoining properties; a licensed geologist or geotechnical engineer has certified that the landslide and steep slope hazard area can be safely modified and the development proposal has been designed so the landslide and steep slope hazard risk to the property or adjacent property has been eliminated or mitigated; the alteration will not adversely impact other critical areas, such as streams; and that the alteration will not result in an increase in peak surface water flows or sedimentation to adjacent properties.

The permittee proposes to avoid impacts to the slopes themselves and impact only the reduced buffer, as needed. Staff has confirmed through the proposed design plans that no portion of the proposed building will be located closer to the critical area relative to the existing structure when the reduced buffer is applied. Therefore, staff has determined that the proposed building can be located in the manner illustrated by Exhibit 5.

Staff has determined that the setback exception described in LFPMC 16.16.240 can be granted because the presence of the regulated sloped areas makes it impractical to locate a building pad on the lot except by intruding into required zoning setbacks. The permittee has provided sufficient documentation that supports the necessary approval criteria for this type of setback exception as contained in LFPMC 16.16.240 (C) (1) through (5) (see Exhibit 13- setback reduction request).

Staff has determined that in order for compliance with LFPMC 16.16.170 to be achieved a condition of approval is necessary which dictates signage be posted to delineate the location of the slope buffer areas. Staff recommends that a plan with specific locations of the proposed signage be submitted to the city for review prior to installation of the signs. Staff also recommends that installation of the signage occur prior to the building receiving a certificate of occupancy.

Staff has determined that compliance with LFPMC 16.16.180 will require condition of approval to record a critical area easement on the property's The easement shall be recorded upon a newly drafted property title prior to certificate of occupancy of the building permit.

The site contains a total of 21 significant trees and the applicant has proposed removal of 11 trees noted as #1-7 and #9-12 on the Tree Retention Plan (Exhibit 17). The trees proposed for removal are two landmark Douglas firs, five significant Douglas firs, one significant English laurel and three significant big leaf maples. None of the trees proposed for removal meet the size criteria to be considered an exceptional tree under 16.14.030 and therefore, would be eligible for removal. Two trees (#1 and #2) originate on the adjacent right of way to the west, where the hammerhead turnaround is proposed for construction. The City Engineer has confirmed that no future city projects exist for this area at this time and that the proposed development's hammerhead configuration can occur on city property.

The canopy coverage goal for the lot is 15% of the total area (LFPMC 16.14.070). The plan shows that the remaining trees will provide adequate canopy coverage and so replacement trees under 16.14.090 is not required. To remove trees for development, the applicant will need obtain a tree removal permit for all tree removal activity. Final approval of the tree permit application shall be provided when all elements of the criteria and conditions set forth in 16.14.070 are met.

The project application does not propose any subdivision of land as described in LFPMC Title 17.

Staff has also performed a review of those elements contained in LFPMC Title 18 that apply to the project proposal. The site plan (Exhibit 5) and project details have been designed to meet the area and dimensional requirements in LFPMC 18.30. Required setbacks (with the exception of the proposed 10-foot-wide front setback via the setback reduction allowed by LFPMC 16.16.240) meet the 20-foot-wide side and rear yard minimums. The proposed land coverage of 33% does not exceed the maximum 55% required for corner lots, and the proposed building height of 35 feet is precisely meets the maximum allowed. It is not anticipated that the building would exceed the maximum of 35 feet for this zoning designation and the building department routinely requires building height surveys at the framing stage of the project to determine if any alterations to the building's height are required to meet the 35-foot height limit.

Staff's review also confirmed the project's compliance with those regulatory elements governing off-street parking (see LFPMC 18.58) where each residential unit (eight proposed units) is required to provide 1.5 parking spaces. The project proposes 12 parking stalls, all of which have been evaluated for spacing and dimensional standards and as designed comply with those applicable standards.

Finally, staff has reviewed the application and design to verify compliance with the landscaping and vegetation standards in LFPMC 18.62 and the required 6-foot-wide perimeter landscaping has been conceptually shown on the site plan (Exhibit 5). The design also illustrates the required 15-foot-wide sight distance triangle at the intersection where vehicles exiting the parking garage area onto the public street must be able to determine safe visibility and sight conditions within areas around required perimeter landscaping. Perimeter landscaping within this area is shown to be below 40 inches in height, which meets the standards in LFPMC 18.62.060.

Conclusions: Staff concludes that in support of the above findings, the project complies with the applicable project elements in LFPMC Titles 15, 16, 17, and 18. Specifically the project has been found to comply with the requirements of the City's environmental code (Title 16), the zoning code (Title 18), and the construction code (Title 15). The project isn't regulated by the subdivision code (Title 17) because it doesn't propose any subdivision.

With recommended conditions, this criterion is met.

2. Consideration of the recommendations or comments of interested parties and those agencies or departments having pertinent expertise or jurisdiction, consistent with the requirements of this title.

Findings: During the public comment period the city did not receive any public comments on the project application.

Conclusions: This criterion is met.

B. Subsequent permits for a site that is the subject of an approved CSDP shall be issued only for development that complies with the approved commercial site development plan. Additional site development conditions and land use site review will not be required for subsequent permits provided the approved plan is not altered.

Findings: The findings listed in section (A) (1) above illustrate this project's compliance with the criteria for commercial site development permit approval. A building permit will be needed to construct the building. A site plan is required as an element of a building permit application. Review of any building permit application determines compliance with any underlying land use approval and conditions.

Conclusions: With recommended conditions, this criterion is met.

C. Approval of the proposed commercial site development shall not provide the applicant with vested rights. Subsequent permits shall be subject to the applicable codes and regulations in effect at the time of application for those permits, including without limitation the building, fire, clearing and grading, SEPA, drainage, and environmentally sensitive areas regulations set forth in LFPMC Title 15 and in Chapters 16.08, 16.16, and 16.24 LFPMC.

Findings: The permittee has not applied for a building permit to construct this project. Elements such as structural compliance, drainage, environmental compliance, and earthwork elements are subject to further review should regulations change.

Conclusions: With recommended conditions, this criterion is met.

D. The city shall transmit a copy of the CSDP decision to the applicant and any other person who has presented written comment to the department on the CSDP application. (Ord. 1057 § 4, 2013)

Findings: As a matter of practice the administration copies all interested parties and the applicant on any decision made. There were no interested parties designated for this project.

Conclusions: This criterion is met.

PUBLIC COMMENT

During the comment period for the Notice of Application, the city did not receive any public comments.

CONCLUSIONS AND RECOMMENDATION

Planning Staff recommends allowing construction of the 8-unit town home building and associated site improvements.

The City of Lake Forest Park Planning Department recommends approval of the proposal, subject to the conditions listed below:

1. All site work, frontage improvements and construction shall conform with Exhibit 5.1 through 5.4, the approved site plan versions for this development. The Permittee must apply for and receive all necessary permits from the Lake Forest Park Department of Planning and Building prior to commencing any proposed work.
2. The permittee shall provide a signage plan and install signage that delineates all critical area buffers prior to receiving a certificate of occupancy.
3. The permittee shall record a critical area easement which indicates the presence of critical areas on the property and that they are regulated by LFPMC 16.16 on the property's title.

The easement shall be recorded upon a newly drafted property title and be recorded prior to receiving a certificate of occupancy.

4. All recommendations within the critical area/geo-tech report (Exhibit 2) shall be followed.
5. The permittee shall attempt to obtain a temporary construction easement from the property owner to the south of NE 153 ST if construction or staging is required on that property.

ATTACHMENTS

The following documents are attached to or referenced, and made a part of this report:

Attached:

- Exhibit 1: Staff Report and Recommendation
- Exhibit 2: Critical Area Report
- Exhibit 3: Zoning Map
- Exhibit 4: Comprehensive Plan Land Use Map
- Exhibit 5: Site Plan Recommended for Approval
- Exhibit 6: Aerial Photo
- Exhibit 7: Letter of Complete Application
- Exhibit 8: Notice of Application
- Exhibit 9: Notice of Public Hearing
- Exhibit 10: SEPA Checklist
- Exhibit 11: SEPA Optional Determination of Non-Significance
- Exhibit 12: Setback exception request
- Exhibit 13: Certificate of Water Availability
- Exhibit 14: Application for Commercial Site Development Permit

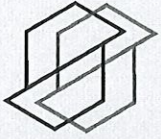
Submitted:



Nick Holland
Senior Planner

Date: November 29, 2021

For information about this proposal or questions about this staff report, please contact the Lake Forest Park Planning Department at Lake Forest Park City Hall, 17425 Ballinger Way NE, (206) 368-5440 or e-mail aplanner@cityoflfp.com.



a s s o c i a t e d
e a r t h s c i e n c e s
i n c o r p o r a t e d

EXHIBIT # 2.1



*Subsurface Exploration, Geologic Hazard, and
Geotechnical Engineering Report*

3507 NE 153RD STREET

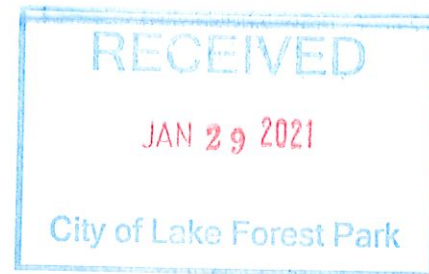
Lake Forest Park, Washington

Prepared For:

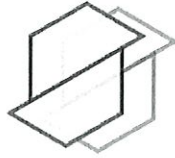
RE-VOLVE LLC

Project No. 20180533E001

January 14, 2021



Associated Earth Sciences, Inc.
911 5th Avenue
Kirkland, WA 98033
P (425) 827 7701



a s s o c i a t e d
e a r t h s c i e n c e s
i n c o r p o r a t e d

EXHIBIT # 2.2

January 14, 2021
Project No. 20180533E001

Re-Volve LLC
210 NW 52nd Street
Seattle, Washington 98107

Attention: Mr. Michael Pearce

Subject: Subsurface Exploration, Geologic Hazard, and
Geotechnical Engineering Report
3507 NE 153rd Street
Lake Forest Park, Washington

Dear Mr. Pearce:

We are pleased to present this copy of the above-referenced report. This report summarizes the results of our subsurface exploration, geologic hazard, and geotechnical engineering studies, and offers recommendations for the design and development of the proposed project.

We have enjoyed working with you on this study and are confident the recommendations presented in this report will aid in the successful completion of your project. If you should have any questions or if we can be of additional help to you, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



Anthony W. Romanick, P.E.
Senior Engineer

AWR/ms - 20180533E001-5

EXHIBIT # 2.3

**SUBSURFACE EXPLORATION, GEOLOGIC HAZARD, AND
GEOTECHNICAL ENGINEERING REPORT**

3507 NE 153RD STREET

Lake Forest Park, Washington

Prepared for:

Re-Volve LLC

210 NW 52nd Street

Seattle, Washington 98107

Prepared by:

Associated Earth Sciences, Inc.

911 5th Avenue

Kirkland, Washington 98033

425-827-7701

January 14, 2021

Project No. 20180533E001

EXECUTIVE SUMMARY

Associated Earth Sciences, Inc. (AESI) has prepared this report on behalf of Re-Volve, LLC.

The Subject Property is occupied by a single-family residence which, according to the online King County iMap tool, was built in 1951. Other site features include outbuildings, detached carport, utilities, and driveway. A north-facing slope is present north of the existing building. The slope is approximately 25 feet high with an inclination of 60 percent or flatter and meets the City's definition for treatment as a Steep Slope hazard and a Class III Landslide hazard.

Review of King County records indicate a shallow slump-style landslide occurred on the north slope in March of 1997. The disturbed area was approximately 50 feet by 30 feet and was approximately 2 feet deep. The report indicates the possible causes for the slump to be a combination of roof drains discharging on the slope at the disturbed area, the active drain field located near the disturbed area, placement of fill soils at the top or on the slope.

We understand the project will consist of the demolition of the existing structures and the construction of a multi-family residential building. The building will consist of four stories with a first-story parking level. The parking level has a proposed elevation of 228 feet, up to 8 feet below existing site grades.

AESI completed slope stability modeling using the SLOPE/W software of the hazard slope. The results of our static and seismic slope stability analysis indicate that the safety factors for failure are equal to or exceed the minimum acceptable values.

Our subsurface explorations consisted of four borings advanced to depths ranging from 21.5 to 31.5 feet below the surface. Relatively thick existing fill soils were encountered on the south side of the existing structure and south of the existing carport ranging in thickness from 7.5 to 10 feet. Existing fill soils are not suitable for foundation support.

Based on the proposed elevation of the parking level, we anticipate that most of the existing fill soils will be removed during site grading. Remaining fill soil present under new foundations after grading should be removed and replaced with structural fill, as recommended in this report. Alternatively, if the remaining fill present after grading is too thick for removal and replacement, a pin pile foundation system could be used.

This executive summary is presented solely for introductory purposes and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the Subject Property conditions, assessment methods, and results are contained within this report.

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our subsurface exploration, geologic hazard, and geotechnical engineering study for the subject project. The location of the subject site is shown on the "Vicinity Map," Figure 1. The approximate locations of the explorations accomplished for this study are presented on the "Site and Exploration Plan," Figure 2. For preparation of this report, we were provided with a topographic and boundary survey for "Zhang Residence," prepared by GeoDimensions, dated May 12, 2015; an architectural plan set for "8 MF Family Residences;" prepared by Re-Volve, LLC, dated November 3, 2020; and a civil site plan for "Lake Forest Park 10," prepared by Core Design, dated August 2020. In the event that any changes in the nature or design of the proposed layout is planned, the conclusions and recommendations contained in this report should be reviewed and modified, or verified, as necessary.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface data to be used in the design and development of the subject project. Our study included a review of available geologic literature, observing four exploration borings, a site survey, Light Detection and Ranging (LIDAR) imagery of the site and surrounding slopes, and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and shallow groundwater conditions. Geotechnical engineering studies were also conducted to assess the type of suitable foundations, allowable foundation soil bearing pressures, anticipated settlements, retaining wall lateral pressures, floor support recommendations, drainage considerations, and steep slope considerations. This report summarizes our current fieldwork and offers geotechnical recommendations based on our present understanding of the project.

1.2 Authorization

Authorization to proceed with this study was granted by Mr. Michael Pearce. This report has been prepared for the exclusive use of Re-Volve LLC and their agents for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally accepted geotechnical engineering and engineering geology practices in effect in this area at the time our report was prepared. No other warranty, express or implied, is made.

2.0 SITE AND PROJECT DESCRIPTION

The subject site consists of King County Tax Parcel No. 6744700100 located at 3507 NE 153rd Street in Lake Forest Park, Washington. The parcel is close to rectangular in shape and has an approximate area of 0.34 acres. Currently, the parcel is occupied by a single-family residence which, according to the online King County iMap tool, was built in 1951. The existing residence has a partially buried basement level. Other site features include a detached carport, shed, driveway and walkway areas, utilities, and landscaping.

Site topography slopes downward in all directions from a central high area which is generally located within the vicinity of the existing home and carport. We understand that the existing slope north of the existing residence meets the City's requirement for treatment of a Landslide hazard area and Steep Slope hazard area. The north slope drops downward toward the north, has an approximate height of 20 to 25 feet, and is generally inclined at a 60-percent inclination or flatter.

Review of King County records indicate a relatively small, shallow slump-style landslide occurred on the north slope in March of 1997. The disturbed area was approximately 50 feet by 30 feet and was approximately 2 feet deep. The report indicates the possible causes for the slump to be a combination of roof drains discharging on the slope at the disturbed area, the active drain field located near the disturbed area and the placement of fill soils near the top of the slope.

We understand that the project will consist of a new multi-family residential building located in the vicinity of the existing structure. We also understand that the north side of the new building will be located the same or greater horizontal distance from the top of the northern steep slope as the existing building, ranging from approximately 23 to 32 feet.

3.0 SUBSURFACE EXPLORATION

Our field study included observing four exploration borings drilled November 5, 2018, to gain subsurface soil and shallow water information at the project site. The various types of materials and sediments encountered in the exploration borings, as well as the depths where characteristics of these materials changed, are indicated on the exploration logs presented in Appendix A. The depths indicated on the logs where conditions changed may represent gradational variations between sediment types in the field. If changes occurred between sample intervals in our borings, they were interpreted. The approximate locations of the exploration borings are shown on Figure 2. The locations of our explorations were approximated by measuring from known site features.

The conclusions and recommendations presented in this report are based, in part, on the exploration borings completed for this study. The number, locations, and depths of the explorations were completed within site and budgetary constraints. Because of the nature of exploratory work below ground, interpolation of subsurface conditions between field explorations is necessary. It should be noted that subsurface conditions differing from those depicted on the logs may be present at the site due to the random nature of deposition and the alteration of topography by past grading and/or filling. The nature and extent of variations between the field explorations may not become fully evident until construction. If variations are observed at that time, it may be necessary to re-evaluate specific recommendations in this report and make appropriate changes.

3.1 Exploration Borings

Exploration borings EB-1 and EB-4 were drilled using hollow-stem augers with a hand-portable drill (Acker), and exploration borings EB-2 and EB-3 were drilled using a Mini-Track-Bobcat hollow-stem auger drill rig. During the drilling process, samples were obtained at 2.5- and 5-foot intervals. The borings were continuously observed and logged by a geologist from our firm. The interpretive exploration logs presented in Appendix A are based on the field logs, drilling action, and observation of the samples collected.

Disturbed, but representative samples were obtained by using the Standard Penetration Test (SPT) procedure in accordance with *American Society for Testing and Materials* (ASTM) D-1586. This test and sampling method consists of driving a standard, 2-inch outside-diameter, split-barrel sampler a distance of 18 inches into the soil with a 140-pound hammer free-falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded, and the number of blows required to drive the sampler the final 12 inches is known as the Standard Penetration Resistance ("N") or blow count. If a total of 50 blows is recorded at or before the end of one 6-inch interval, the blow count is recorded as the number of blows for the corresponding number of inches of penetration. The resistance, or N-value, provides a measure of the relative density of granular soils or the relative consistency of cohesive soils. These values are plotted on the attached boring logs.

The samples obtained from the split-barrel sampler were classified in the field and representative portions placed in water-tight containers. The samples were then transported to our laboratory for further visual classification and geotechnical laboratory testing.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions at the project site were inferred from the field explorations accomplished for this study, visual reconnaissance of the site, and review of applicable geologic literature. The sediments encountered in our explorations generally consisted of medium-stiff

to stiff pre-Fraser fine-grained deposits. Existing fill soils were encountered overlying the pre-Fraser sediments in several of the borings with thicknesses ranging from 2.5 feet to approximately 10 feet in depth. The following section presents more detailed subsurface information organized from the shallowest (youngest) to the deepest (oldest) sediment types.

4.1 Stratigraphy

Grass/Topsoil

A surficial layer of grass and organic topsoil was encountered in all of our explorations. This organic layer was generally encountered to be 6 inches in thickness. Due to their high organic content, these materials are not considered suitable for foundation, roadway, or slab-on-grade floor support, or for reuse in a structural fill.

Fill

Existing fill was observed in exploration borings EB-1 through EB-3 to depths of 2.5 to 10 feet below the ground surface. Fill was highly variable and generally consisted of unsorted stiff sandy silt to silt. All fills contained organic material. The thicker fills observed in explorations EB-2 are likely a result of backfill placed against the foundation wall of the existing home to create a daylight basement. Existing fill soils are not suitable for foundation or slab support and warrant remedial preparation below new paving.

Pre-Fraser Fine-Grained Deposits

Sediments encountered below the fill, where observed, or near the surface consisted of massive to laminated, stiff silty clay to clayey silt with varying amounts of sand and gravel. We interpret these sediments to be representative of pre-Fraser fine-grained deposits. These sediments were deposited sometime prior to the Fraser Glaciation period approximately 10,000 to 30,000 years ago and subsequently compacted by the weight of the overlying glacial ice. High angled and relatively clean fractures were observed in our samples and, in our opinion, is consistent with fracturing that occurs during post-glacial rebound. During the retreat of the overlying ice-sheet, the weight of the ice is unloaded from the soil and results in the ground surface to rebound causing fracturing in the subsurface soils. At the locations of the borings, the pre-Fraser fine-grained sediments extended beyond the maximum depths explored of approximately 30 feet.

With proper preparation, these sediments are suitable for slab, paving, and foundation support. The pre-Fraser sediments have a high silt/clay content and are considered moisture-sensitive. At the time of our explorations, these sediments were considered to have moisture contents that were above the optimum level to achieve proper compaction to be used as structural fill.

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4.2 Geologic Map Review

Review of the regional geologic map titled *The Geologic Map of Seattle – A Progress Report* K.G. Troost, and others (2005) indicates that the area of the subject site is underlain by pre-Fraser fine-grained deposits. Our interpretation of the sediments encountered in our explorations is in general agreement with the geologic map.

4.3 Hydrology

No groundwater seepage was encountered within any of our explorations. It should be noted that the presence or level of groundwater seepage below the site may vary in response to such factors as changes in season, precipitation, and site use. Our exploration was conducted in early November when groundwater levels in shallow, unconfined aquifers in the Puget Lowlands are typically at or near their seasonal low.

4.4 Laboratory Testing

As a part of our study, we completed one Atterberg limit test on a representative sample from EB-4, at a depth of 10 feet. A copy of the result of this test is included in Appendix B.

II. GEOLOGIC HAZARDS AND MITIGATIONS

The following discussion of potential geologic hazards is based on the geologic, slope, and shallow groundwater conditions, as observed and discussed herein.

5.0 LANDSLIDE HAZARDS AND MITIGATION

The slope north of the existing structure is in excess of 40 percent with greater than 10 feet of vertical relief and consisting of fine-grained, impermeable shallow sediments. As such, it is considered a Class III Landslide hazard area and Steep Slope hazard area by the City of Lake Forest Park.

Portions of the site have been subject to past grading, including excavation for the daylight basement of the home, and the likely placement of fill in the vicinity of the residence and top of the hazard. The presence of the existing fill indicates the final configuration of the north slope was constructed during legal grading activities.

As previously mentioned, the section of slope adjacent to the north side of the existing home experienced a small, shallow slide or slump in March of 1997. Review of records from King County indicate the slide was likely caused from roof drains discharging onto the slope in combination with groundwater discharge from a nearby active drain field. The report indicates most of the disturbed material consisted of old fill, the placement of which also likely contributed to the slide.

We understand that the proposed multi-family building will have foundations that are situated no closer to the hazard area than the existing structure. The following paragraphs discuss the stability of the slope and recommendations to mitigate risks to the public health, safety, or welfare. It must be understood that no recommendations or engineering design can yield a guarantee of stable slopes. Our observations, findings, and opinions are a means to identify and reduce the inherent risks to the owner.

As with all steep slopes, surface drainage should be properly controlled and directed away from sloping areas. All stormwater from downspouts, footing drains, surface ditches, etc., should not discharge onto the slope. Surface water drainage should be directed away from the north slope or tightlined to the bottom of the slope to an approved discharge. Also, it is our past experience that water discharges from fractured irrigation lines have caused shallow slides at steep sites. We recommend that any sprinkler/irrigation systems include an automatic shut-off valve at the building to mitigate the flow of water into the slope soils, should a pipe break.

5.1 Slope Reconnaissance

We completed a visual reconnaissance of slope during our subsurface exploration program. During our visual slope reconnaissance, we did not observe obvious indications of past or ongoing deep-seated slope failures. There was no evidence of leaning trees or stumps and no visible landslide features, such as ground cracks, scarps, or hummocks. No groundwater seepage was observed in our exploration borings drilled near the top of the slope and no seepage was observed during our reconnaissance of the surface of the steep slope. The only evidence of the reported shallow landslide observed was a section of the slope adjacent to the home had much younger vegetation when compared to the adjacent sections of the slope.

In addition to the subsurface explorations and slope reconnaissance, we reviewed recent LIDAR-based topographic information for the site and vicinity. LIDAR provides high-resolution topographic aerial images of the ground surface. The LIDAR imagery can detect geomorphic features, such as landslides scarps, even in heavily vegetated areas like the subject site. No large-scale geomorphic features indicative of historic deep-seated landslides were observed in the LIDAR image of the site. The reported shallow slide is too small in extent to be observed on the LIDAR image.

5.2 Slope Modeling

We analyzed the proposed static and seismic stability of the northern existing slope using the computer software program SLOPE/W Version 8.16.2.14053. SLOPE/W allows several options for modeling different slope failures. For this study, the Morgenstern-Price method of a rotational failure mechanism was selected as a representative model. The effect of a 0.27g seismic acceleration ($\frac{1}{2}$ Amax horizontal acceleration) applied to the slope during a potential design-level earthquake was also evaluated in accordance with the 2015 *International Building Code* (IBC). The slope geometry used for the analysis was based on the provided site survey, along a cross-section, designated A-A', shown on Figure 2.

In general, the factor of safety calculated by the model is the ratio of the available resisting forces to driving forces that tend to produce movement. When the resisting forces are equal to the slide-producing forces, a factor of safety of 1.0 would exist and the slope would be in a state of incipient movement. Minimum factors of safety of 1.5 and 1.1 are considered suitable for static and seismic conditions, respectively, with respect to accepted local geotechnical engineering practice and per the *Lake Forest Park Municipal Code* (LFPMC).

The following soil strength parameters were used in the analysis. These parameters were chosen to be representative of strength properties based on published information and on our experience with similar soil types.

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Existing Fill Soils (medium stiff to stiff silt)

Angle of Internal Friction	26 degrees
Cohesion	50 pounds per square foot (psf)
Moist Unit Weight	120 pounds per cubic foot (pcf)

Weathered Pre-Fraser Fine-Grained Deposits

Angle of Internal Friction	24 degrees
Cohesion	200 psf
Moist Unit Weight	120 pcf

Unweathered Pre-Fraser Fine-Grained Deposits

Angle of Internal Friction	28 degrees
Cohesion	400 psf
Moist Unit Weight	120 pcf

The slope stability model allows the user to perform an automatic search for the critical failure surface that yields the lowest factor of safety. Using this methodology, the analysis indicated minimum factors of safety as listed in Table 1 below. Graphical representations of each cross-section are attached to this report in Appendix C. The potential failure circles shown in Appendix C represent those with the lowest factor of safety.

Table 1
Slope Stability Minimum Calculated Factors of Safety (FOS)

Section	Condition	Static Factor of Safety (FOS)
A-A'	Static Conditions	2.1
A-A'	Seismic Conditions (0.27g)	1.2

The results of our static and seismic slope stability analysis indicate that the safety factors for failure surfaces under proposed conditions are equal to or exceed the minimum acceptable values provided in the LFPMP of 1.5 and 1.1 for static and seismic conditions, respectively.

5.3 Hazard Area Buffers

The LFPMP requires a buffer width of 50 feet from hazard areas which can be reduced to 25 feet, "when a qualified professional demonstrates to the planning director's satisfaction that the reduction will adequately protect the proposed development, adjacent developments, uses and the hazard area." Based on our slope reconnaissance and slope modeling, and provided the recommendations presented in this report are followed, the project will have a minimal impact to the hazard area, adjacent properties, and proposed structure with the reduced buffer width

of 25 feet. LFP MC Section 16.16.310 requires a 15-foot building setback in addition to the reduced Steep Slope hazard buffer. Where buffer alteration will occur to construct the new building, the 15-foot setback is not applicable.

For the purpose of this section, we have split the identified slope hazards into two areas: Hazard Area 1 and Hazard Area 2 (Figure 2). Hazard Area 1 consists of the identified hazard area located adjacent to the northwest portion of the existing carport. Hazard Area 2 consists of the remaining hazard areas north of the proposed building. Generally, the limits of the second hazard area encroach south onto the site past the northern property line and extend from the northwest property corner toward the flat bench area north of the existing building and the two detached shed buildings on the east side of the property. Both hazard areas consist of Steep Slope hazard and Class III Landslide hazard.

Hazard Area 1

This hazard area slopes downward from the carport approximately 14 feet vertically before reaching a flat bench feature adjacent to the northwest property corner. From the opposite side of the bench, topography continues sloping downward toward the north. Based on our review of the topographic survey and our exploration borings completed nearest to the carport, this hazard area was likely created during legal grading activities. The topographic survey indicates that a flat area was built for the carport by the way the contours abruptly wrap around the carport when compared to the relatively linear contours of the slope hazard area not adjacent to the carport. Further evidence of grading is present in explorations EB-1 and EB-3, which encountered existing fill extending from the surface to depths of 2 feet and 7 feet, respectively.

Section 16.16.290 of the LFP MC "Landslide Hazard Areas - Development Standards - Permitted Alterations," contains the following subsections:

- 16.16.290(D)(2): *Landslide hazard areas located on a slope of 40 percent or steeper may only be altered if the alteration meets the standards and limitations established for steep slope hazard areas.*
- 16.16.290(D)(3): *Where such alterations are approved, buffers may not be required.*

As mentioned in subsections above, alterations to the Landslide hazard area in Hazard Area 1 are allowed provided the standards and limitations established for steep slope hazards are followed. Section 16.16.310 of the LFP MC "Steep Slope Hazard Areas - Development Standards - Permitted Alterations," Subsection C allows for alterations to Steep Slope hazards and their buffers that have vertical heights less than 20 feet. Subsection C also allow for regrading of hazard areas that were constructed during legal grading activities. We have provided the provisions in Subsection C below.

- 16.16.310(C)(1): Alteration of slopes that are 40 percent or steeper with a vertical elevation change of up to 20 feet; provided, that a soils report prepared by a qualified professional satisfies the planning director that no adverse impact will result from the exception;
- 16.16.310(C)(2): Any slope that was created through legal grading activity may be regraded as part of an approved development plan; provided, that any slope that remains 40 percent or steeper following site development shall be subject to all requirements for steep slopes.

Hazard Area 2

The current project plan proposes a portion of the new building within the 25-foot buffer for Hazard Area 2. The project will pursue a critical areas permit for replacement of a legally constructed structure following subsection 16.16.230(C) of the LFPMC, which is presented below:

Structural modification of, addition to, or replacement of an existing legally constructed structure, constructed on or before the effective date of the ordinance codified in this chapter as long as the structure is enlarged not more than the lesser of 10 percent or 250 square feet than its footprint as of the effective date of the ordinance codified in this chapter, and that no portion of the modification or replacement is located closer to the critical area; provided, that restoration of structures damaged by fire, flood, or act of nature must be initiated within one year of the date of such damage, as evidenced by the issuance of a valid building permit, and diligently pursued to completion

The proposed building is not located closer to Hazard Area 2 than the existing structure and will not have an increased building footprint within the buffer more than the lesser of 10 percent of the original footprint, or 250 square feet.

5.3 Hazard Area Conclusion

The north slope consists of Steep Slope and Landslide hazard areas. Based on our site reconnaissance, we observed no signs of deep-seated instability and our slope modeling resulted in factors of safety greater than the minimum required by the LFPMC. As evident by the reported small, shallow landslide in 1997, the slope is prone to shallow slope movement or creep, especially when shallow groundwater or surface water is introduced. It is imperative that construction and project design follows the recommendations in this report including recommendations for temporary erosion and sediment control, permanent stormwater control, and placement of fills. Provided the project follows the recommendations in this report and the approved project plans, the proposed project:

- will not decrease slope stability on the project site or neighboring sites,
- Landslide hazard area can be modified with minimal risk to the Landslide and Steep Slope hazard areas,
- will not adversely impact other critical areas such as streams, and
- will not result in an increase in peak surface water flows or sedimentation to adjacent properties.

The proposed building will not be located closer to the hazard areas than the existing structures. Based on the conclusion that the proposed project will have minimal impact to the hazard area, mitigation plans and mitigation monitoring are not necessary, in our opinion.

6.0 SEISMIC HAZARDS AND MITIGATION

Earthquakes occur in the Puget Upland relatively frequently. The majority of these events are small and are usually not felt by people. However, large earthquakes do occur, as evidenced by the 1949, 7.2-magnitude event; the 1965, 6.5-magnitude event; and the 2001, 6.8-magnitude event. The 1949 earthquake appears to have been the largest in this region during recorded history and was centered in the Olympia area. Evaluation of earthquake return rates indicates that an earthquake of the magnitude between 5.5 and 6.0 is likely within a given 20- to 40-year period.

Generally, there are four types of potential geologic hazards associated with large seismic events: 1) surficial ground rupture, 2) seismically induced landslides, 3) liquefaction, and 4) ground motion. The potential for each of these hazards to adversely impact the proposed project is discussed below.

6.1 Surficial Ground Rupture

The nearest known fault trace to the project site is part of the Southern Whidbey Island Fault Zone located approximately 0.5 miles to the northwest.

We reviewed a map of possible geologic fault traces on the U.S. Geological Survey (USGS) Interactive Fault Map web application and identified a trace of the Southern Whidbey Island Fault Zone mapped approximately half of a mile northwest of the site. According to USGS studies, the recurrence interval of movements along the Southern Whidbey Island Fault Zone is unknown, but it is speculated to be on the order of 1,000 years. Due to the distance of the project site from mapped fault traces, the risk to the proposed project due to surficial ground rupture during a seismic event is low, in our opinion.

6.2 Seismically Induced Landslides

As discussed in the previous sections, it is our opinion that the risk of damage from seismically induced landslides to the proposed new multi-family residence building, constructed in accordance with the recommendations contained in this report, is low. See Section 5.0 "Landslide Hazards and Mitigation."

6.3 Liquefaction

Liquefaction is a process through which unconsolidated soil loses strength as a result of vibratory shaking, such as that which occurs during a seismic event. During normal conditions, the weight of the soil is supported by both grain-to-grain contacts and by the pressure within the pore spaces of the soil below the water table. Extreme vibratory shaking can disrupt the grain-to-grain contact, increase the pore pressure, and result in a decrease in soil shear strength. The soil is said to be liquefied when nearly all of the weight of the soil is supported by pore pressure alone. Liquefaction can result in deformation of the sediment and settlement of overlying structures. Areas most susceptible to liquefaction include those areas underlain by clean sand or silt with low relative densities accompanied by a shallow water table.

Based on our exploration completed for this study, the native sediments at the site pose low risk of liquefaction-induced settlements due to the absence of shallow groundwater and the medium stiff to stiff relative densities of the native sediments. No quantitative liquefaction analysis was completed as part of this study, and none is warranted, in our opinion.

6.4 Ground Motion

It is our opinion that any earthquake damage to the proposed structures, when founded on suitable bearing strata in accordance with the recommendations contained herein, will likely be caused by the intensity and acceleration associated with the event. Structural design of the building should follow 2015 IBC standards using Site Class "D" as defined in Table 20.3-1 of *American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures*.

7.0 EROSION HAZARDS AND MITIGATION

Review of the LFPMC's definition for erosion hazards indicates that the site qualifies for treatment as an erosion hazard. The definition states:

"Erosion hazard area" means an area with soil characteristics that, according to the USDA Soil Conservation Service Soil Classification System, may experience severe to very severe erosion hazard, including slopes greater than 15 percent with erodible soils that are exposed.

Slopes do exist north of the existing building that exceed 15 percent. We have provided erosion mitigation recommendations in the following section. We recommend the following best management practices (BMPs) to mitigate erosion hazards and potential for off-site sediment transport:

1. Construction activity should be scheduled or phased as much as possible to avoid earthwork activity during the wet season. The LFPMC allows clearing of erosion hazard areas only between April 1st and September 30th (LFPMC 16.16.280).
2. The winter performance of a site is dependent on a well-conceived plan for control of site erosion and stormwater runoff. The site plan should include ground-cover measures and staging areas. The contractor should be prepared to implement and maintain the required measures to reduce the amount of exposed ground.
3. Temporary erosion and sedimentation control (TESC) elements and perimeter flow control should be established prior to the start of grading.
4. During the wetter months of the year, or when significant storm events are predicted during the summer months, the work area should be stabilized so that if showers occur, it can receive the rainfall without excessive erosion or sediment transport. The required measures for an area to be "buttoned-up" will depend on the time of year and the duration that the area will be left unworked. During the winter months, areas that are to be left unworked for more than two days should be mulched or covered with plastic. During the summer months, stabilization will usually consist of seal-rolling the subgrade. Such measures will aid in the contractor's ability to get back into a work area after a storm event. The stabilization process also includes establishing temporary stormwater conveyance channels through work areas to route runoff to the approved treatment/discharge facilities.
5. Track out of sediment onto City streets should be avoided.
6. Removal of vegetation on the slope should be avoided. Removal of vegetation within the reduced buffer areas should be the minimum required to construct the project.
7. All disturbed areas should be revegetated as soon as possible. If it is outside of the growing season, the disturbed areas should be covered with mulch. Straw mulch provides a cost-effective cover measure and can be made wind-resistant with the application of a tackifier after it is placed.
8. Surface runoff and discharge should be controlled during and following development. Uncontrolled discharge may promote erosion and sediment transport. At no point should surface water be directed toward steep slopes.

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9. Soils that are to be reused around the site should be stored in such a manner as to reduce erosion from the stockpile. Protective measures may include, but are not limited to, covering stockpiles with plastic sheeting, or the use of silt fences around pile perimeters.

It is our opinion that with the proper implementation of the TESC plans and by field-adjusting appropriate erosion mitigation (BMPs) throughout construction, the potential adverse impacts from erosion hazards on the project may be mitigated.

III. PRELIMINARY DESIGN RECOMMENDATIONS

8.0 INTRODUCTION

Our explorations indicate that, from a geotechnical standpoint, the site is suitable for the proposed project provided that the geologic hazard mitigation and design/construction recommendations contained herein are properly followed. The near-surface soils north of the existing structure, consisted of glacially consolidated pre-Fraser sediments that are suitable for foundations support when properly prepared. Relatively thick existing fill soils were encountered on the south side of the existing structure and south of the existing carport ranging in thickness from 7.5 to 10 feet. Existing fill soils are not suitable for foundation support and will require mitigation efforts where encountered under new foundations, such as removal and replacement with structural fill, or installing a pin pile foundation system. The subsequent report sections provide additional recommendations regarding site preparation, grading, foundations, floor support, and drainage.

9.0 SITE PREPARATION

Site preparation of planned building and pavement areas should include removal of all trees, grass, brush, demolition debris, and any other deleterious material. Additionally, the upper organic topsoil and any existing fill under areas of new foundations should be removed (if encountered) and the remaining roots grubbed. The actual observed in-place depth of grass and topsoil at the exploration locations is presented on the exploration logs in Appendix A. The topsoil sediments are not suitable for use in structural fill applications and should be removed. Areas where loose, surficial soils exist due to grubbing or demolition operations should be considered as fill to the depth of disturbance and treated as subsequently recommended for structural fill placement.

9.1 Temporary and Permanent Cut Slopes

In our opinion, stable construction slopes should be the responsibility of the contractor and should be determined during construction based on the local conditions encountered at that time. For planning purposes, we anticipate that temporary, unsupported cut slopes within the stiff pre-Fraser deposits can be made at a maximum slope of 1.5H:1V (Horizontal:Vertical). Flatter inclinations may be recommended in areas of seepage. As is typical with earthwork operations, some sloughing and raveling may occur, and cut slopes may have to be adjusted in the field. In addition, WISHA/OSHA regulations should be followed at all times. Permanent cut slopes should not exceed an inclination of 2H:1V.

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9.2 Site Disturbance

The pre-Fraser deposits contain a high percentage of fine-grained soils and are very moisture sensitive and subject to disturbance when wet.

Consideration should be given to protecting access and staging areas with an appropriate section of crushed rock or asphalt treated base (ATB). If crushed rock is considered for the access and staging areas, it should be underlain by engineering stabilization fabric (such as TenCate Mirafi 500X or approved equivalent) to reduce the potential of fine-grained materials pumping up through the rock during wet weather and turning the area to mud. The fabric will also aid in supporting construction equipment, thus reducing the amount of crushed rock required. We recommend that at least 10 inches of rock be placed over the fabric. Crushed rock used for access and staging areas should be of at least 2-inch size.

10.0 STRUCTURAL FILL

Placement of structural fill may be necessary to establish desired grades in some areas or to backfill utility trenches or around foundations. The placement of fill on or near the top of the north steep slope should be avoided. All references to structural fill in this report refer to subgrade preparation, fill type, and placement and compaction of materials as discussed in this section. If a percentage of compaction is specified under another section of this report, the value given in that section should be used.

10.1 Subgrade Compaction

After overexcavation/stripping has been performed to the satisfaction of the geotechnical engineer/engineering geologist, the upper 12 inches of exposed ground should be recompacted to a firm and unyielding condition. If the subgrade contains too much moisture, suitable recompaction may be difficult or impossible to attain and should probably not be attempted. In lieu of recompaction, the area to receive fill should be blanketed with washed rock or quarry spalls to act as a capillary break between the new fill and the wet subgrade. Where the exposed ground remains soft and further overexcavation is impractical, placement of an engineering stabilization fabric may be necessary to prevent contamination of the free-draining layer by silt migration from below.

After recompaction of the exposed ground is tested and approved, or a free-draining rock course is laid, structural fill may be placed to attain desired grades.

10.2 Structural Fill Compaction

Structural fill is defined as non-organic soil, acceptable to the geotechnical engineer, placed in maximum 8-inch loose lifts, with each lift being compacted to at least 95 percent of the modified Proctor maximum dry density using ASTM D-1557 as the standard. Utility trench backfill should be placed and compacted in accordance with applicable municipal codes and standards. The top of the compacted fill should extend horizontally a minimum distance of 3 feet beyond footings or pavement edges before sloping down at an angle no steeper than 2H:1V. Fill slopes should either be overbuilt and trimmed back to final grade or surface-compact to the specified density.

10.3 Moisture-Sensitive Fill

Soils in which the amount of fine-grained material (smaller than No. 200 sieve) is greater than approximately 5 percent (measured on the minus No. 4 sieve size) should be considered moisture-sensitive. Use of moisture-sensitive soil in structural fills should be limited to favorable dry weather conditions.

The on-site soils are silty and fine-grained and are considered highly moisture-sensitive. The pre-Fraser sediments are too high in moisture content to be used as structural fill and will require moisture-conditioning. Such moisture-conditioning could consist of spreading out and aerating the soil during periods of warm, dry weather, or treating with cement, if allowed by the City.

Construction equipment traversing the site when the silty natural sediments are very moist or wet can cause considerable disturbance. If fill is placed during wet weather or if proper compaction cannot be attained, a select import material consisting of a clean, free-draining gravel and/or sand should be used. Free-draining fill consists of non-organic soil with the amount of fine-grained material limited to 5 percent by weight when measured on the minus No. 4 sieve fraction.

10.4 Structural Fill Testing

AESI is available to observe and test fill placement during construction. Some form of testing or observations may be required by the City of Lake Forest Park. Any proposed fill soils should be evaluated by AESI prior to their use in fills. This would involve providing us with a sample of the material at least 3 business days in advance to perform a Proctor test to determine its field compaction standard.

A representative from our firm should observe the stripped subgrade and be present during placement of structural fill to document the work and perform a representative number of in-place density tests. In this way, the adequacy of the earthwork may be evaluated as filling

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progresses and problem areas may be corrected at that time. It is important to understand that taking random compaction tests on a part-time basis will not assure uniformity or acceptable performance of a fill. As such, we are available to aid the owner in developing a suitable monitoring and testing frequency.

11.0 FOUNDATIONS

Foundations for the new building should be supported by properly prepared native sediments or structural fill placed over the native sediments. Existing fill is not suitable for foundation support and should be overexcavated down to suitable native sediments and replaced with structural fill. Alternatively, pin piles could be used to support new foundations where existing fill is encountered and considered too deep to overexcavate and replace with structural fill. We have provided recommendations for conventional shallow foundations below; we are able to provide recommendations for pin piles, if desired.

11.1 Conventional Shallow Foundations

Spread footings may be utilized for building support when founded directly on stiff pre-Fraser sediments, or on structural fill placed over these sediments. For footings founded either directly upon the native sediments or structural fill, we recommend that an allowable foundation soil bearing pressure of 2,000 psf be utilized for design purposes, including both dead and live loads. An increase of one-third may be used for short-term wind or seismic loading.

Perimeter footings for the proposed building should be buried a minimum of 18 inches into the surrounding soil for frost protection. No minimum burial depth is required for interior footings; however, all footings must penetrate to the prescribed stratum, and no footings should be founded in or above loose, organic, or existing fill soils.

The area bounded by lines extending downward at 1H:1V from any footing must not intersect another footing or intersect a filled area that has not been compacted to at least 95 percent of ASTM D-1557. In addition, a 1.5H:1V line extending down from any footing must not daylight because sloughing or raveling may eventually undermine the footing. Thus, footings should not be placed near the edges of steps or cuts in the bearing soils.

Anticipated settlement of footings founded as described above should be on the order of $\frac{3}{4}$ inch or less. However, disturbed soil not removed from footing excavations prior to footing placement could result in increased settlements. All footing areas should be inspected by AESI prior to placing concrete to verify that the design bearing capacity of the soils has been attained and that construction conforms to the recommendations contained in this report. Such inspections may be required by the governing municipality. Perimeter footing drains should be provided, as discussed in Section 12.2 of this report.

12.0 LATERAL WALL PRESSURES

All backfill behind walls or around foundations should be placed following our recommendations for structural fill and as described in this section of the report. Horizontally backfilled walls that are free to yield laterally at least 0.1 percent of their height may be designed using an equivalent fluid equal to 35 pcf. Fully restrained, horizontally backfilled, rigid walls that cannot yield should be designed for an equivalent fluid of 55 pcf. Walls that retain sloping backfill at a maximum angle of 50 percent should be designed for 45 pcf for yielding conditions and 65 pcf for restrained conditions. If areas to receive vehicle traffic (e.g., parking areas or driveways) are located adjacent to walls, a surcharge equivalent to 2 feet of retained soil should be added to the wall height in determining lateral design forces.

12.1 Wall Backfill

The lateral pressures presented above are based on the conditions of a uniform backfill consisting of either the on-site native sediments, or imported sand and gravel compacted to 90 to 95 percent of ASTM D-1557. A higher degree of compaction is not recommended, as this will increase the pressure acting on the walls. A lower compaction may result in unacceptable settlement behind the walls. Thus, the compaction level is critical and must be tested by our firm during placement.

12.2 Wall Drainage

All retaining and perimeter footing walls should be provided with a drain at the footing elevation. The drains should consist of rigid, perforated, polyvinyl chloride (PVC) pipe surrounded by washed gravel. The level of the perforations in the pipe should be set approximately 2 inches below the bottom of the footing, and the drains should be constructed with sufficient gradient to allow gravity discharge away from the building. All retaining walls should be lined with a minimum, 12-inch-thick, washed gravel blanket provided to within 1 foot of finish grade, and which ties into the footing drain. Roof and surface runoff should not discharge into the footing drain system, but should be handled by a separate, rigid, tightline drain.

Exterior grades adjacent to walls should be sloped downward away from the building to achieve surface drainage. Final exterior grades should promote free and positive drainage away from the building at all times. Water must not be allowed to pond or to collect adjacent to the foundation or within the immediate building area. It is recommended that a gradient of at least 3 percent for a minimum distance of 10 feet from the building perimeter be provided, except in paved locations. In paved locations, a minimum gradient of 1 percent should be provided unless provisions are included for collection and disposal of surface water adjacent to the structure. Additionally, pavement subgrades should be crowned to provide drainage toward catch basins and pavement edges.

3507 NE 153rd Street
Lake Forest Park, Washington

*Subsurface Exploration, Geologic Hazard,
and Geotechnical Engineering Report
Preliminary Design Recommendations*

12.3 Passive Resistance and Friction Factor

Lateral loads can be resisted by friction between the foundation and the supporting natural sediments or structural fill soils, or by passive earth pressure acting on the buried portions of the foundations. The foundations must be backfilled with compacted structural fill to achieve the passive resistance provided below. We recommend the following design parameters:

- Passive equivalent fluid = 250 pcf
- Coefficient of friction = 0.30

The above values are allowable and include a factor of safety.

12.4 Seismic Surcharge

As required by the 2015 IBC, retaining wall design should include a seismic surcharge pressure in addition to the equivalent fluid pressures presented above. We recommend a seismic surcharge pressure of 10H and 13H psf where H is the wall height in feet for the active and at-rest loading conditions, respectively. The seismic surcharge should be modeled as a rectangular distribution with the resultant applied at the midpoint of the wall.

13.0 FLOOR SUPPORT

Slab-on-grade floors may be constructed directly on the stiff, native sediments or on structural fill placed over these materials. In those areas where floor slabs will be placed where subgrade soils are disturbed, the surface of the subgrade should be recompact to a firm and unyielding condition prior to placing the capillary break as described below. If moisture intrusion through the floor slabs is to be controlled, the floors should be constructed atop a capillary break consisting of a minimum thickness of 4 inches of washed, crushed rock. The pea gravel or crushed rock should be overlain by a 10-mil (minimum thickness) plastic vapor retarder.

14.0 PROJECT DESIGN AND CONSTRUCTION MONITORING


We are available to provide geotechnical engineering and monitoring services during construction. The integrity of the foundations depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of this current scope of work. If these services are desired, please let us know, and we will prepare a proposal.

3507 NE 153rd Street
Lake Forest Park, Washington

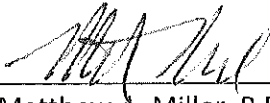
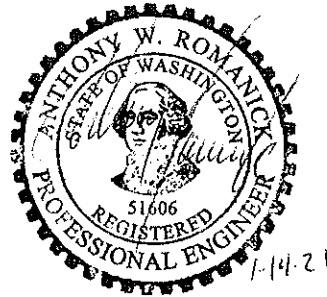
*Subsurface Exploration, Geologic Hazard,
and Geotechnical Engineering Report
Preliminary Design Recommendations*

We have enjoyed working with you on this study and are confident these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington



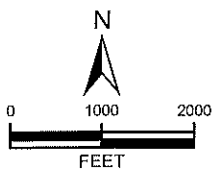
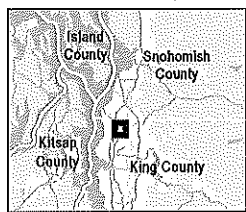
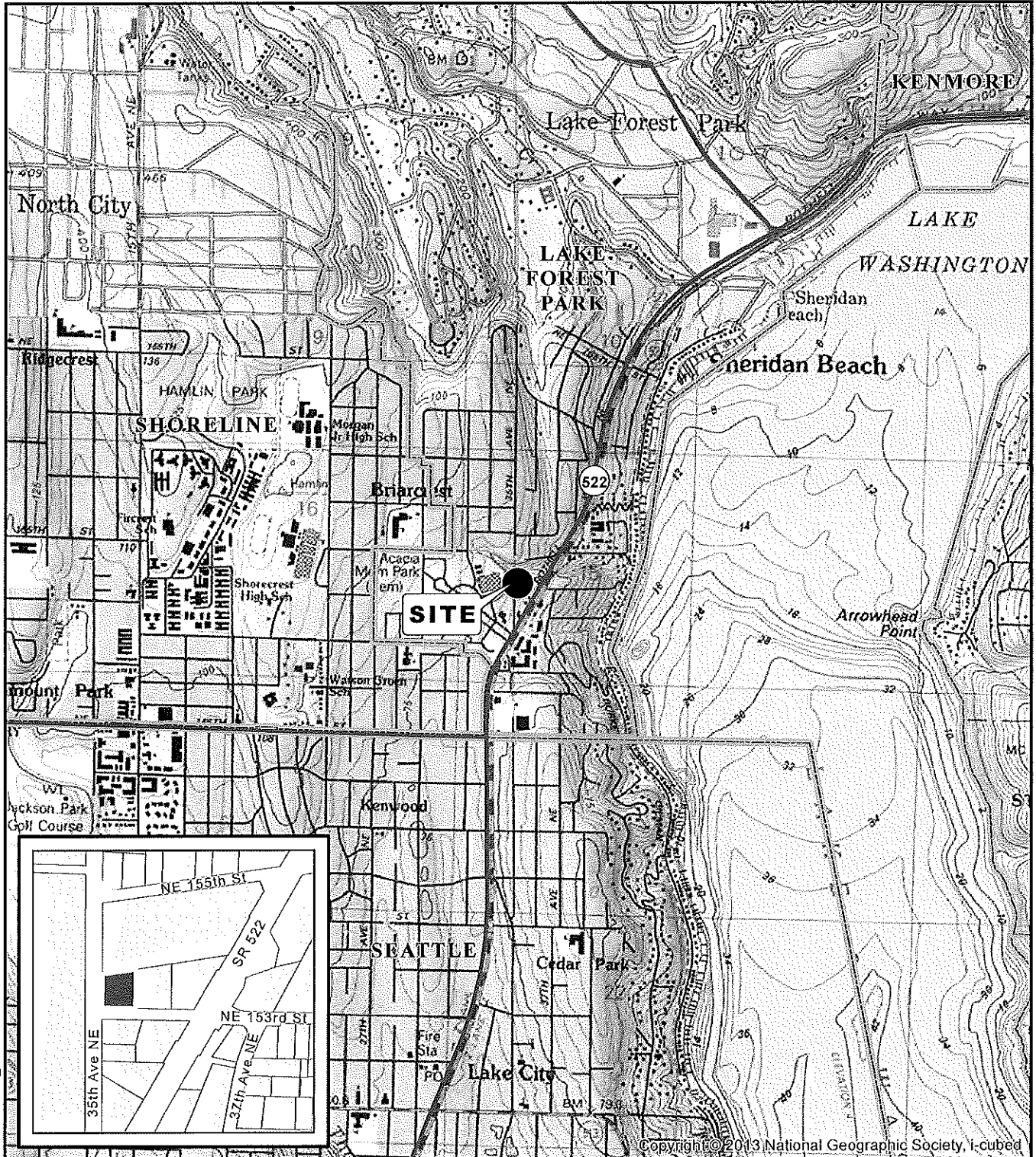
Charles R. Christopher, G.I.T.
Senior Staff Geologist



Matthew A. Miller, P.E.
Principal Engineer

Anthony W. Romanick, P.E.
Senior Engineer

Attachments: Figure 1: Vicinity Map
 Figure 2: Site and Exploration Plan
 Appendix A: Exploration Logs
 Appendix B: Laboratory Test Results
 Appendix C: Slope Modeling Results



associated
earth sciences
incorporated

VICINITY MAP

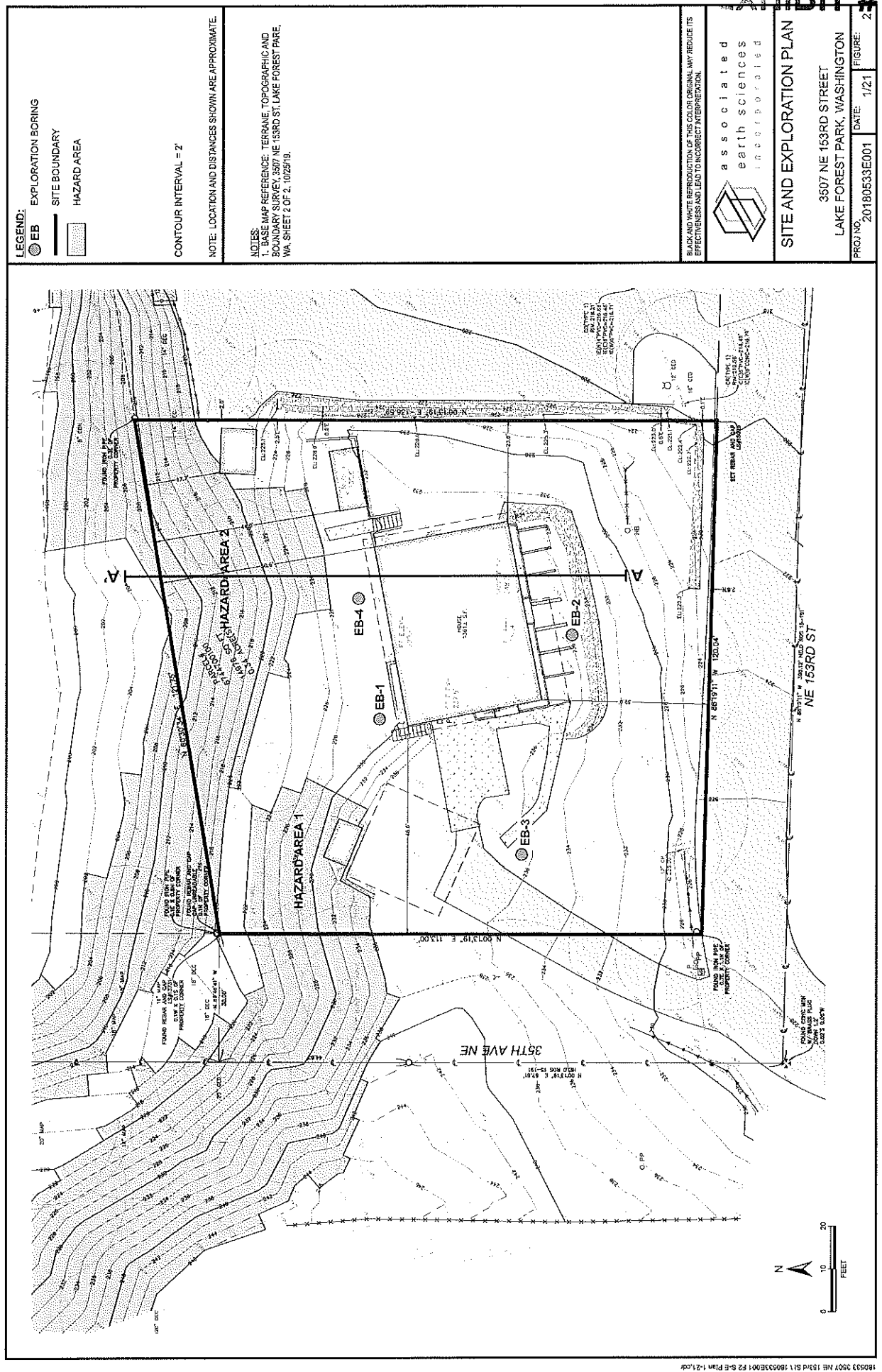
3507 NE 153RD STREET
LAKE FOREST PARK, WASHINGTON

DATA SOURCES / REFERENCES:
USGS: 7.5' SERIES TOPOGRAPHIC MAPS, ESRI/I-CUBED/NGS 2013
KING CO: STREETS, CITY LIMITS 1/18, PARCELS 8/18

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE

NOTE: BLACK AND WHITE
REPRODUCTION OF THIS COLOR
ORIGINAL MAY REDUCE ITS
EFFECTIVENESS AND LEAD TO
INCORRECT INTERPRETATION

PROJ. NO.	DATE:	FIGURE:
180533E001	11/18	1



APPENDIX A

Exploration Logs

Coarse-Grained Soils - More than 50% ⁽¹⁾ Retained on No. 200 Sieve				Terms Describing Relative Density and Consistency		
Gravels - More than 50% ⁽¹⁾ of Coarse Fraction Retained on No. 4 Sieve	≤ 5% Fines ⁽⁵⁾	GW	Well-graded gravel and gravel with sand, little to no fines	Coarse-Grained Soils	Density	SPT ⁽²⁾ blows/foot
					Very Loose	0 to 4
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≤ 5% Fines ⁽⁵⁾	GP	Poorly-graded gravel and gravel with sand, little to no fines	Fine-Grained Soils	Loose	4 to 10
					Medium Dense	10 to 30
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≤ 5% Fines ⁽⁵⁾	GM	Silty gravel and silty gravel with sand		Dense	30 to 50
					Very Dense	> 50
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾	GC	Clayey gravel and clayey gravel with sand		Consistency	SPT ⁽²⁾ blows/foot
					Very Soft	0 to 2
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾	SW	Well-graded sand and sand with gravel, little to no fines		Soft	2 to 4
					Medium Stiff	4 to 8
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≤ 5% Fines ⁽⁵⁾	SP	Poorly-graded sand and sand with gravel, little to no fines		Stiff	8 to 15
					Very Stiff	15 to 30
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾	SM	Silty sand and silty sand with gravel		Hard	> 30
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾	SC	Clayey sand and clayey sand with gravel		Component Definitions	
					Size Range and Sieve Number	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Descriptive Term	Size Range and Sieve Number
					Boulders	Larger than 12"
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Cobbles	3" to 12"
					Gravel	3" to No. 4 (4.75 mm)
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Coarse Gravel	3" to 3/4"
					Fine Gravel	3/4" to No. 4 (4.75 mm)
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
					Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
					Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Silt and Clay	Smaller than No. 200 (0.075 mm)
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				⁽³⁾ Estimated Percentage	
					Component	Percentage by Weight
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Trace	<5
					Some	5 to <12
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Modifier (silty, sandy, gravelly)	12 to <30
					Very modifier (silty, sandy, gravelly)	30 to <50
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Moisture Content	
					Dry - Absence of moisture, dusty, dry to the touch	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Slightly Moist - Perceptible moisture	
					Moist - Damp but no visible water	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Very Moist - Water visible but not free draining	
					Wet - Visible free water, usually from below water table	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Symbols	
					Sampler Type	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Description	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Sampler Type	
					Description	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
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					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows/6" or portion of 6"	
					Blows/6" or portion of 6"	
Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	≥ 12% Fines ⁽⁵⁾				Blows	

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.



associated
earth sciences
incorporated

EXPLORATION LOG KEY

FIGURE A1

<div style="display: inline-block; vertical-align: middle; text-align: left;"> associated earth sciences incorporated </div>		Exploration Log			
		Project Number 180533E001	Exploration Number EB-1	Sheet 1 of 1	

Project Name 3507 NE 153rd St	Location Lake Forest Park, WA	Ground Surface Elevation (ft) ~229
Driller/Equipment Geologic Drill / Acker	Date Start/Finish 11/5/18, 11/5/18	Datum NAVD 88
Hammer Weight/Drop 140# / 30"	Hole Diameter (in) 4.25 inches	

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/ft	Blows/Foot				Other Tests
								10	20	30	40	
				Grass / Topsoil - 6 inches								
				Fill								
				Moist, tan, fine, sandy, SILT (ML).								
				Weathered Pre-Fraser Fine-Grained								
				Top 6 inches: moist, dark brown, silty, fine SAND; frequent rootlets (ML). Lower 12 inches: moist, slightly grayish brown with iron oxide staining, sandy, SILT to SILT, trace sand, trace gravel; abundant organics; mica; laminated (ML).								
				Pre-Fraser Fine-Grained Deposits								
				Moist, gray with oxidation staining on high angle joint, SILT ranging to clayey, SILT; massive; single high angle joint fractured (ML-CL).								
				Moist, gray, SILT ranging to clayey, SILT; massive; silty, fine sand interbeds; charcoal in some joints; mild reaction with hydrochloric acid; slightly laminated; high angle fractures (ML-CL).								
				Moist, gray, SILT ranging to clayey, SILT; reacts with hydrochloric acid; high angle joint fractures; slightly laminated (ML-CL).								
				As above; fracture joints of very silty, fine SAND; reacts with hydrochloric acid; high angle joint fractures (ML-CL).								
				Moist, gray, SILT ranging to clayey, SILT; massive; reacts with hydrochloric acid; slight high angle fracture joints (ML-CL).								
				Bottom of exploration boring at 21.5 feet No groundwater encountered.								

Sampler Type (ST): <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> 2" OD Split Spoon Sampler (SPT) <input type="checkbox"/> 3" OD Split Spoon Sampler (D & M) <input type="checkbox"/> Grab Sample </div> <div> <input type="checkbox"/> No Recovery <input checked="" type="checkbox"/> Ring Sample <input checked="" type="checkbox"/> Shelby Tube Sample </div> <div> M - Moisture <input checked="" type="checkbox"/> Water Level () <input checked="" type="checkbox"/> Water Level at time of drilling (ATD) </div> </div>				Logged by: CRC Approved by: JHS
--	--	--	--	------------------------------------



associated
earth sciences
incorporated

Exploration Log

Project Number
180533E001

Exploration Number
EB-2

Sheet
1 of 1

Project Name 3507 NE 153rd St
Location Lake Forest Park, WA
Driller/Equipment Geologic Drill / Mini Track
Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) ~236
Datum NAVD 88
Date Start/Finish 11/5/18, 11/5/18
Hole Diameter (in) 5.5 inches

Depth (ft)	S	T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/ft	Other Tests
								10 20 30 40	
					Grass / Topsoil Fill				
5			S-1		Slightly moist to moist, orangish brown to grayish tan with oxidation staining, sandy, SILT, trace gravel; abundant roots in top 1 foot ranging to occasional in bottom 6 inches; unsorted (ML).	4		9	
			S-2		Slightly moist, orangish light tan with oxidation staining, SILT, some sand, trace gravel; occasional organics; unsorted (ML).	6		10	
			S-3		Slightly moist to moist, slightly grayish orangish tan with splotted oxidation staining, SILT, trace sand; occasional fine woody debris; slight hydrocarbon odor; unsorted (ML).	6		15	
10			S-4		Pre-Fraser Fine-Grained Deposits Moist, grayish orangish light brown with oxidation staining, SILT ranging to clayey, SILT, trace sand; occasional woody debris; massive; single joint fracturing; hydrocarbon odor (ML-CL).	8		25	
			S-5		Moist, oxidized orangish light brown to grayish blue in bottom 6 inches, SILT ranging to clayey, SILT, some sand; massive; hydrocarbon odor (ML-CL).	5		25	
20			S-6		Moist, gray, SILT ranging to clayey, SILT; massive to slightly stratified; reacts with hydrochloric acid; high angle joint fracturing (ML-CL).	4		15	
25			S-7		Moist, gray, SILT ranging to clayey, SILT; slightly stratified to massive; reacts with hydrochloric acid; high angle joint fracturing (ML-CL).	5		22	
30			S-8		As above; massive; reacts with hydrochloric acid (ML-CL).	4		18	
35					Bottom of exploration boring at 31.5 feet No groundwater encountered.				

Sampler Type (ST):



2" OD Split Spoon Sampler (SPT)



No Recovery

M - Moisture



3" OD Split Spoon Sampler (D & M)



Ring Sample

Water Level ()



Grab Sample



Shelby Tube Sample



Water Level at time of drilling (ATD)

Logged by: CRC

Approved by: JHS

associated earth sciences incorporated		Exploration Log			
		Project Number 180533E001	Exploration Number EB-3	Sheet 1 of 1	
Project Name		3507 NE 153rd St		Ground Surface Elevation (ft) ~236	
Location		Lake Forest Park, WA		Datum NAVD 88	
Driller/Equipment		Geologic Drill / Mini Track		Date Start/Finish 11/5/18, 11/5/18	
Hammer Weight/Drop		140# / 30"		Hole Diameter (in) 5.5 inches	

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests	
							10	20	30	40		
				Grass / Topsoil Fill								
5		S-1		Moist, slightly oxidized tannish brown, sandy, SILT, some sand, trace gravel; occasional rootlets and fine woody debris; unsorted (ML).	6 8 12		▲20					
		S-2		Moist, grayish brown with oxidation staining, SILT, some to trace fine sand; occasional rootlets and fine woody debris; unsorted (ML).	4 8 13		▲21					
		S-3		Weathered Pre-Fraser Fine-Grained Deposits	7 12 17			▲29				
10		S-4		Moist, grayish brown with oxidation staining, SILT ranging to clayey, SILT; occasional rootlets; single high angle joint fracturing; chaotic structure (ML-CL). As above; ranges to silty, fine SAND; tip of core contained moist, bluish gray, SILT ranging to clayey, SILT; massive; single high angle joint fracturing (ML-CL).	7 12 15			▲27				
15		S-5		Pre-Fraser Fine-Grained Deposits	7 10 12			▲22				
20		S-6		Moist, gray, SILT ranging to clayey, SILT; reacts with hydrochloric acid; high angle fracture joints; lens of silty, fine sand within fracture joint; reacts with hydrochloric acid (ML-CL).	5 10 13			▲23				
25		S-7		As above; laminated (ML-CL).	4 5 11			▲15				
30		S-8		As above (ML-CL).	4 7 11			▲18				
35				Bottom of exploration boring at 31.5 feet No groundwater encountered.								

Sampler Type (ST):

2" OD Split Spoon Sampler (SPT)
 3" OD Split Spoon Sampler (D & M)
 Grab Sample

No Recovery
 Ring Sample
 Shelby Tube Sample

M - Moisture
 Water Level ()
 Water Level at time of drilling (ATD)

Logged by: CRC
Approved by: JHS



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earth sciences
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Exploration Log

Project Number
180533E001

Exploration Number
EB-4

Sheet
1 of 1

Project Name 3507 NE 153rd St
Location Lake Forest Park, WA
Driller/Equipment Geologic Drill / Acker
Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) ~229
Datum NAVD 88
Date Start/Finish 11/5/18, 11/5/18
Hole Diameter (in) 4.25 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6" Blows/ft	Blows/Foot				Other Tests
								10	20	30	40	
				Grass								
				Weathered Pre-Fraser Fine-Grained Deposits								
5		S-1		Moist, grayish light brown with oxidation staining, SILT, trace fine sand; occasional rootlets and woody debris; slightly massive; chaotic structure (ML). Water added to aid in drilling at 2.5 feet.		7 10 13			▲23			
		S-2		Top 6 inches: moist, heavily oxidized orangish gray, sandy, SILT, trace gravel; occasional organic debris; unsorted (ML). Lower 12 inches: moist, light brownish gray, SILT, some fine sand; slight oxidation staining in lenses; laminated (ML).		4 6 8			▲14			
		S-3		Moist, light brownish gray ranging to gray with depth with slight oxidation staining in top 6 inches, SILT ranging to clayey, SILT, trace fine sand; reacts with hydrochloric acid; laminated to massive; high angle joint fractures (ML-CL).		4 7 7			▲14			
10		S-4		Pre-Fraser Fine-Grained Deposits Moist, gray, silty, CLAY, some fine sand; reacts with hydrochloric acid; laminated (CL).		4 8 9			▲7			
15		S-5		Moist, gray, clayey, SILT, trace to some fine sand; reacts with hydrochloric acid; laminated (ML).		4 11 13			▲24			
20		S-6		Moist, gray, SILT ranging to clayey, SILT; reacts with hydrochloric acid; single joint fractures; laminated (ML-CL).		8 10 9			▲19			
25				Bottom of exploration boring at 21.5 feet No groundwater encountered.								
30												
35												

Sampler Type (ST):



2" OD Split Spoon Sampler (SPT)



No Recovery

M - Moisture



3" OD Split Spoon Sampler (D & M)



Ring Sample

▽ Water Level ()



Grab Sample



Shelby Tube Sample

▼ Water Level at time of drilling (ATD)

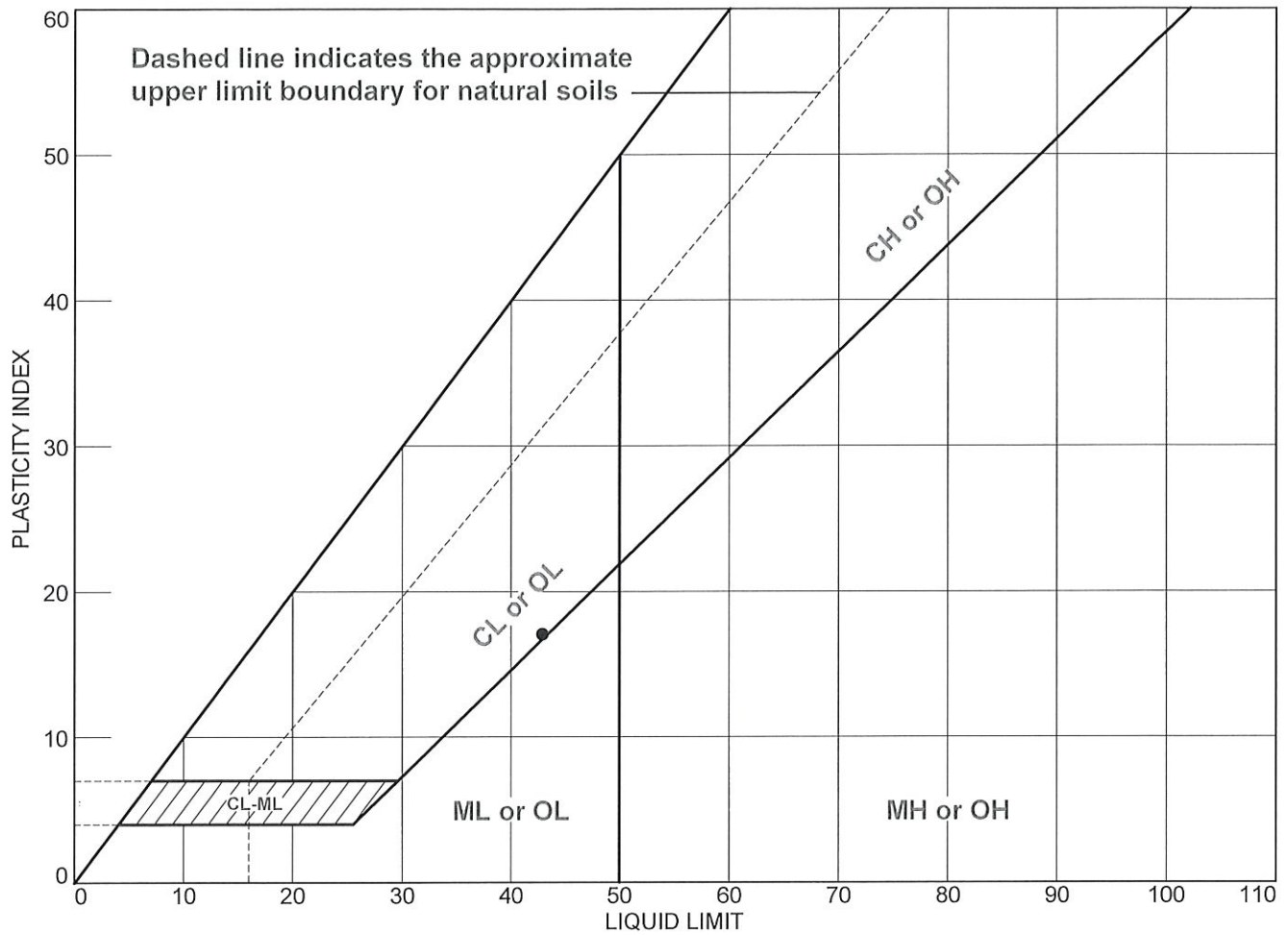
Logged by: CRC

Approved by: JHS

APPENDIX B

Laboratory Test Results

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		EB-4	10'	29.5	26	43	17	



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Client: Re-Volve LLC
Project: 3507 NE 153rd St

Project No.: 180533 E001

Figure

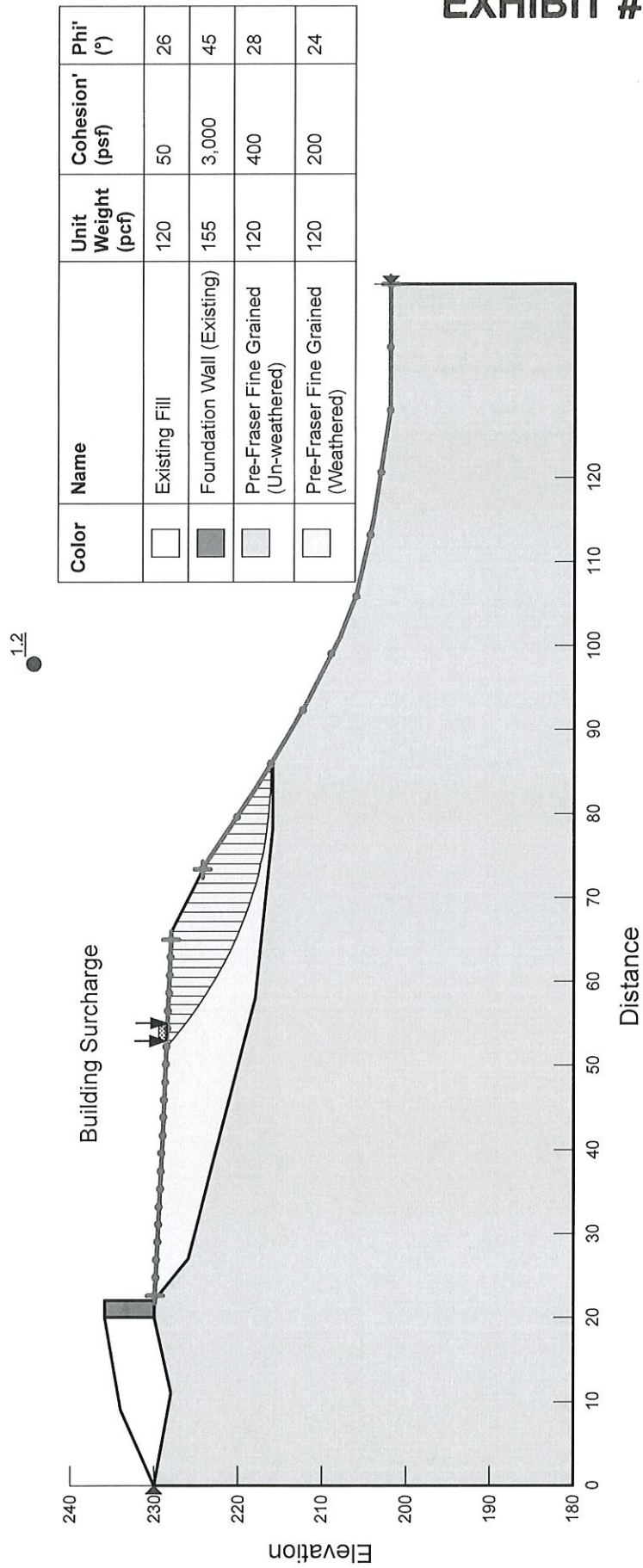
Tested By: BN **Checked By:** AWR

APPENDIX C

Slope Modeling Results

3507 NE153rd Street
 180533E001
 Seismic

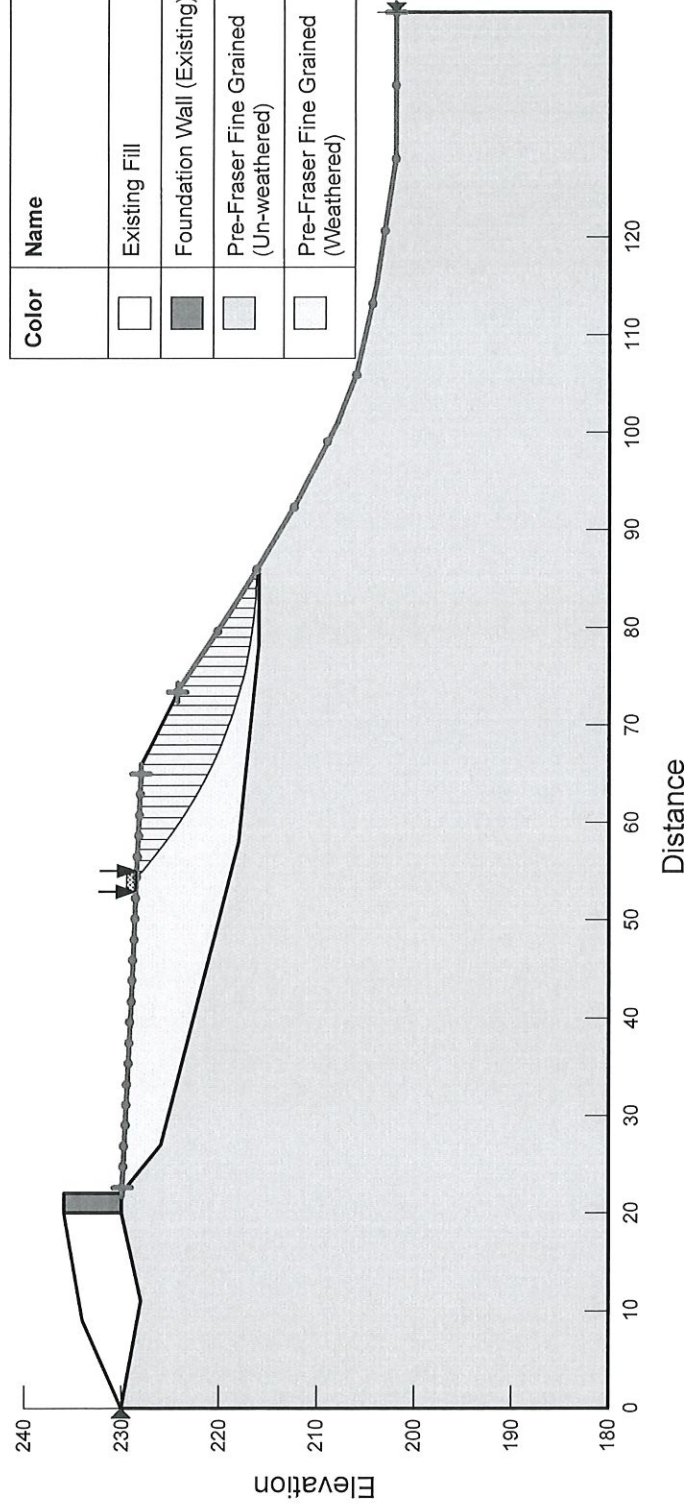
EXHIBIT # 2.37



3507 NE153rd Street
 180533E001
 Static

2.1

Building Surcharge







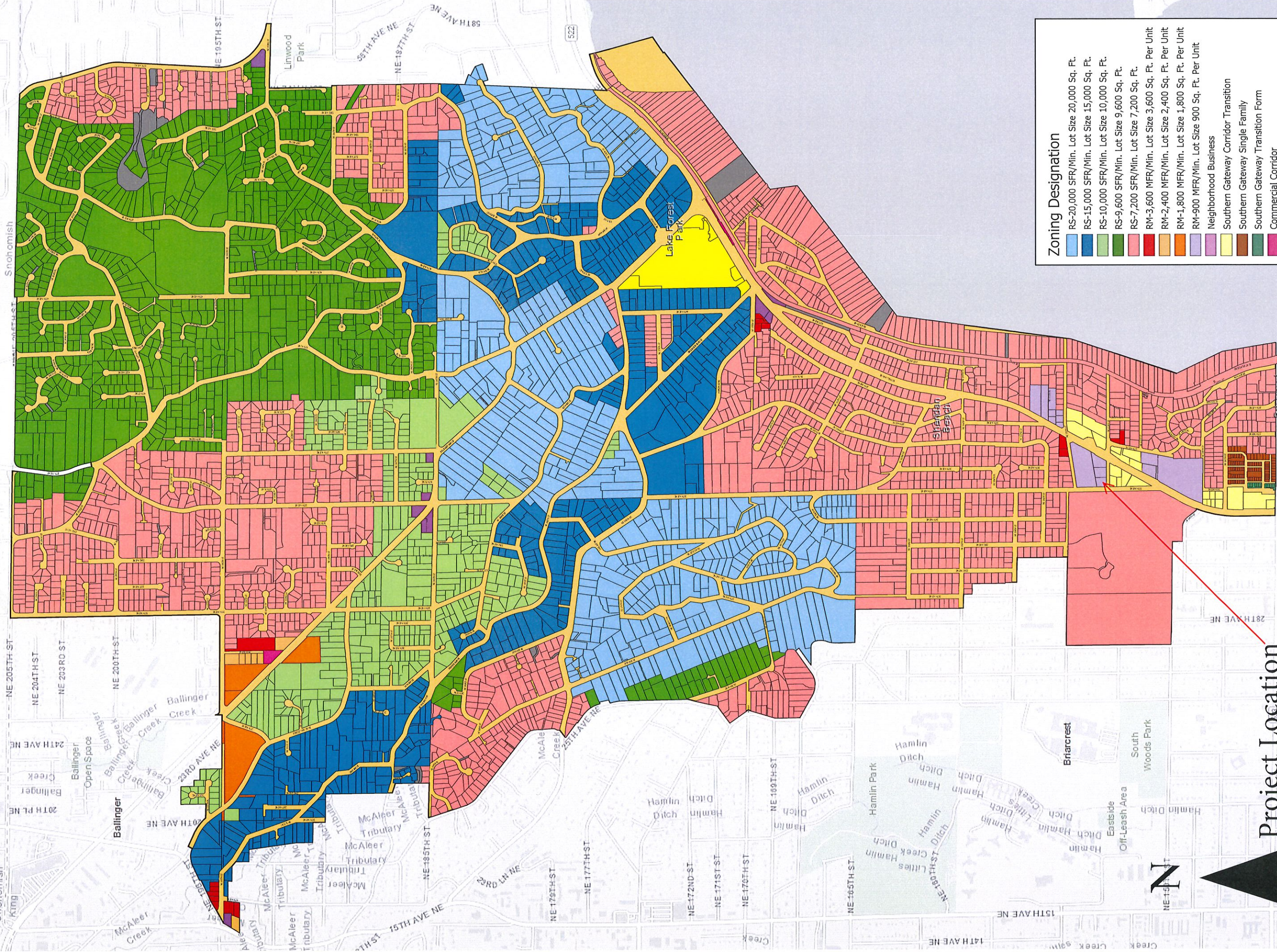
Color	Name	Unit Weight (pcf)	Cohesion' (psf)	Phi' (°)
	Existing Fill	120	50	26
	Foundation Wall (Existing)	155	3,000	45
	Pre-Fraser Fine Grained (Un-weathered)	120	400	28
	Pre-Fraser Fine Grained (Weathered)	120	200	24

EXHIBIT # 2.38

CITY OF LAKE
FOREST PARK
ZONING MAP

INCORPORATED 1961



Project Location



Little

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Figure I.2 Comprehensive Plan Land Use Map

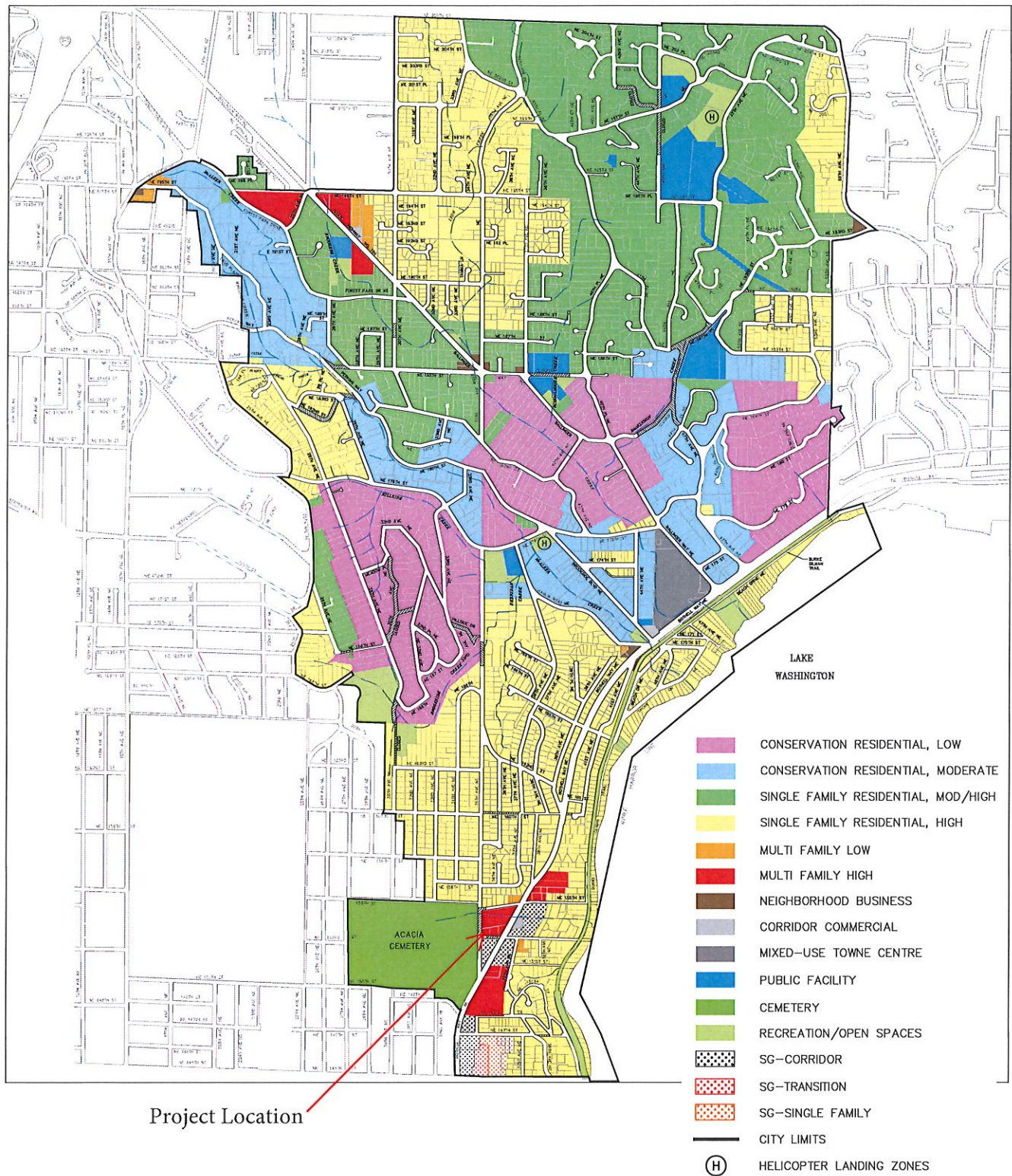
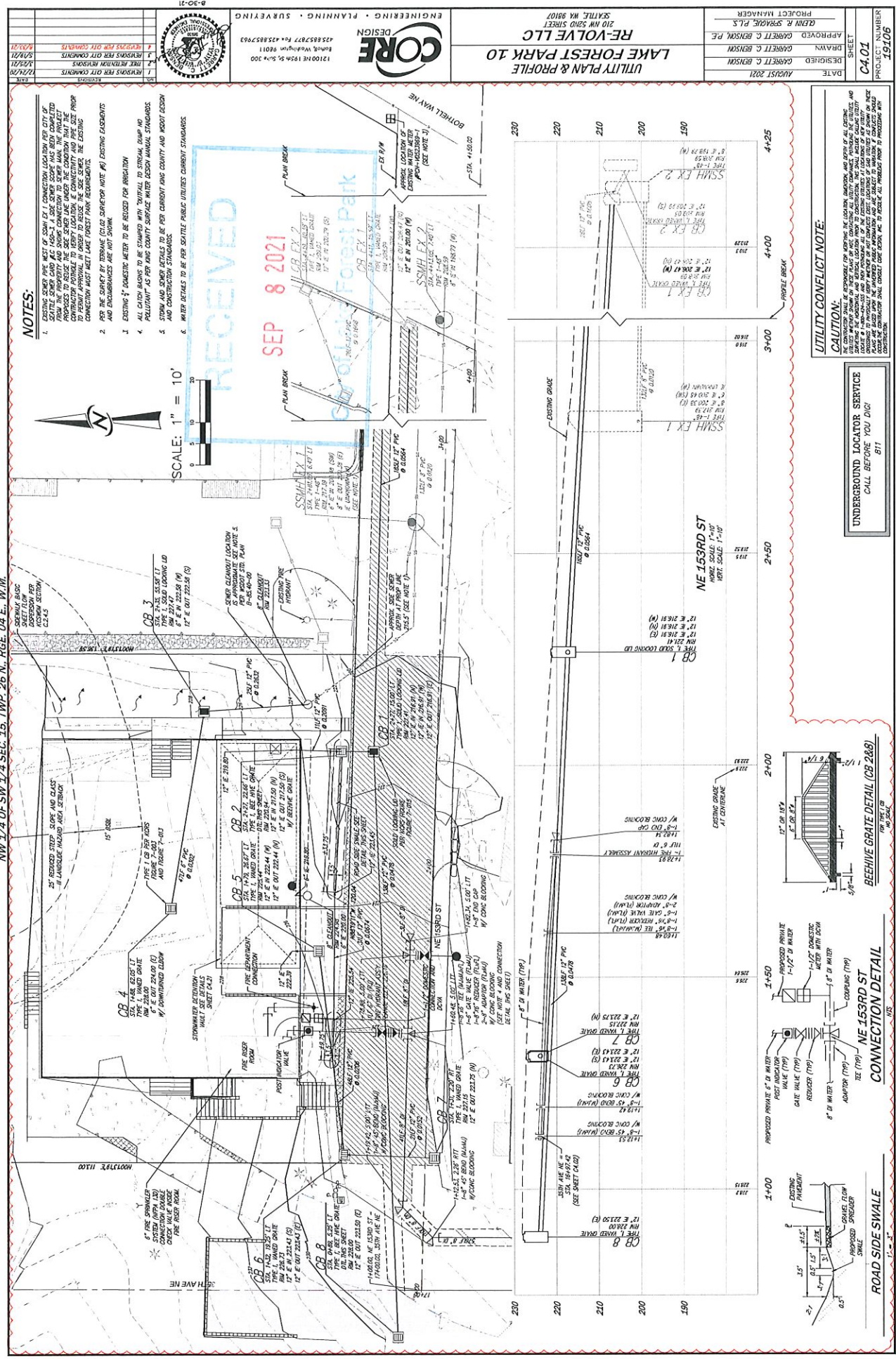




EXHIBIT # 5.2

NW 1/4 OF SW 1/4 SEC. 15, TWP. 26 N., RGE. 04 E., W.M.



UTILITY CONFLICT NOTE:

[illegible]

UNDERGROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!

BEEHIVE GRATE DETAIL (CB 2&8)

NE 153RD ST
CONNECTION DETAIL

ROAD SIDE SWALE

NW 1/4 OF SW 1/4 SEC. 15, TWP. 26 N., RGE. 04 E., W.M.



TREE RETENTION PLAN

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- TREE CRITICAL ROOT ZONE (CRZ)
- 9" TREE SET BACK LINE
- PROPOSED NEW CONSTRUCTION AND EXISTING LIMITS TYPICAL

TREE CANOPY COVERAGE CALCULATIONS

UPPER 15.14.10
MINIMUM CANOPY COVERAGE 15% OF LOT SIZE
TREES TO REMAIN CANOPY COVERAGE
TREES TO BE REMOVED CANOPY COVERAGE

Arborist Report: 3507 N.E. 153RD ST., LAKE FOREST PARK, WA									
Tree #	Off site	On site	Species	Size (DBH)	Condition	Health	CRZ	CRZ	CRZ
1	Off site	On site	Douglas Fir	13	Topped	Yes	27'	27'	27'
2	Off site	On site	Douglas Fir	21	Healthy	Yes	44'	44'	44'
3	Off site	On site	Douglas Fir	21	Healthy	Yes	44'	44'	44'
4	Off site	On site	English Laurel	7	Healthy	No	15'	15'	15'
5	On site	On site	Douglas Fir	30	Healthy	No	62.5'	62.5'	62.5'
6	On site	On site	El. Maple	6	Healthy	No	12.5'	12.5'	12.5'
7	On site	On site	Douglas Fir	12	Healthy	No	44'	44'	44'
8	On site	On site	Douglas Fir	15	Healthy	No	44'	44'	44'
9	On site	On site	Douglas Fir	18	Healthy	No	37.5'	37.5'	37.5'
10	On site	On site	Douglas Fir	24	Healthy	No	50'	50'	50'
11	On site	On site	El. Maple	8	Healthy	Yes	17'	17'	17'
12	On site	On site	El. Maple	12	Healthy	Yes	20'	20'	20'
13	On site	On site	El. Maple	14	Healthy	Yes	20'	20'	20'
14	On site	On site	El. Maple	24	Healthy	Yes	50'	50'	50'
15	On site	On site	El. Maple	11	Healthy	Yes	27'	27'	27'
16	On site	On site	El. Maple	15	Healthy	Yes	27'	27'	27'
17	On site	On site	El. Maple	13	Healthy	Yes	25'	25'	25'
18	On site	On site	Douglas Fir	13	Healthy	Yes	25'	25'	25'
19	On site	On site	Douglas Fir	12	Healthy	Yes	42'	42'	42'
20	On site	On site	El. Maple	20	Healthy	Yes	42'	42'	42'
21	On site	On site	Douglas Fir	28	Healthy	Yes	58'	58'	58'

ARBOREST REPORT WILL BE CHANGED AS REQUIRED TO REFLECT THE CHANGES SHOWN ON THE ABOVE TABLE.



SCALE: 1" = 10'



UNDERGROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

UTILITY CONFLICT NOTE:

CAUTION:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DEPTH, AND SIZE OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATING ANY DAMAGE TO UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIATING ANY DAMAGE TO UTILITIES AND STRUCTURES.

RE-REVOLVE LLC
210 NW 52ND STREET
SEATTLE, WA 98107

ENGINEERING • PLANNING • SURVEYING
12000 15TH AV. SW 300
Burien, WA 98148
425.837.7611 FAX 425.837.7612

DATE: AUGUST 2021

DESIGNED: SHARLA BOWEN

DRAWN: JOSHUA BLAND

PROJECT MANAGER: GARY R. SPANGLER, P.L.S.

SHEET: 11.01

PROJECT NUMBER: 19106

SEP 8 2021

LANDSCAPE AREA CALCULATIONS

3,743 SQ. FT.	3,743 SQ. FT.	3,743 SQ. FT.	3,743 SQ. FT.
15 TREES	15 TREES	15 TREES	15 TREES
19 TREES	19 TREES	19 TREES	19 TREES
0 TREES	0 TREES	0 TREES	0 TREES
3 TREES	3 TREES	3 TREES	3 TREES
12 TREES	12 TREES	12 TREES	12 TREES

SCALE: 1" = 10'

GROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

199

UTILITY CONFLICT NOTE:

11.

[illegible]

LANDSCAPE PLAN

SCALE: 1" = 10'

GROUND LOCATOR SERVICE
CALL BEFORE YOU DIG!
811

199

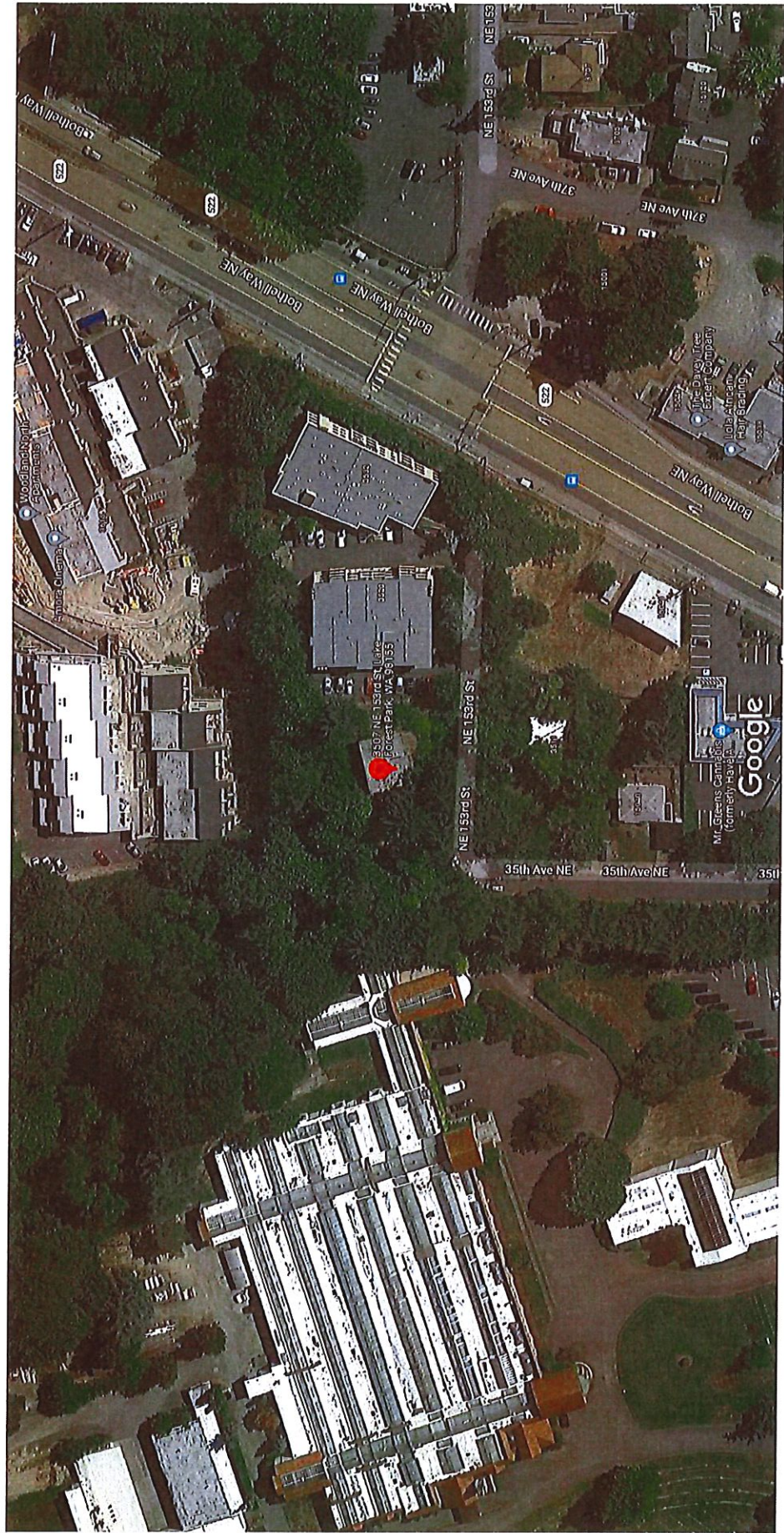
UTILITY CONFLICT NOTE:

11.

[illegible]

EXHIBIT # 6-1

Google Maps 3507 NE 153rd St



Imagery ©2021 Maxar Technologies, U.S. Geological Survey, Map data ©2021 50 ft

Mayor
Jeff R. Johnson

17425 Ballinger Way NE
Lake Forest Park, WA 98155-5
Telephone: 206-368-5440
Fax: 206-364-6521
E-mail: cityhall@ci.lake-forest-park.w



EXHIBIT # 7.1

Councilmembers
Lorri Bodi
Tom French
Phillippa M. Kassover
Mark Phillips
E. John Resha III
Semra Riddle
John A. E. Wright

August 17, 2020

VIA EMAIL: michael@revolvellc.com
Michael Pearce
210 NW 52nd St
Seattle, WA 98107

Re: LFP-10 Commercial Site Development Permit @ 3507 NE 153 ST; 2020-CSD-0001; Letter of Complete Application

Dear Mr. Pearce:

Thank you for submitting your completed SEPA checklist, paying the fee for that determination, and for providing the latest information on your negotiations with the water district regarding the water availability. The Planning Department has finished the third completeness review of your application for a commercial site development permit at 3507 NE 153 ST. Despite the lack of an approved water availability certificate from the utility provider, the City has decided to determine your application complete. Within 14 days, the City will notice this application in accordance with the provisions of LFPMC 16.26.040 (D) (1). The public will be invited to comment on your proposal for a period of (14) days (see LFPMC 16.26.040 (E)).

Sincerely,

Nick Holland
Senior Planner
206-957-2832

Cc: Electronic and Record Files
Steve Bennett, Planning Director (via email)

Mayor
Jeff R. Johnson

17425 Ballinger Way NE
Lake Forest Park, WA 98155-5556
Telephone: 206-368-5440
Fax: 206-364-6521
E-mail: cityhall@ci.lake-forest-park.wa.us
www.cityoflfp.com



Councilmembers
Lorri Bodi
Tom French
Phillippa M. Kassover
Mark Phillips
E. John Resha III
Semra Riddle
John A. E. Wright

PUBLIC NOTICE

NOTICE OF APPLICATION FOR COMMERCIAL SITE DEVELOPMENT PERMIT

File Numbers: 2020-CSDP-0001

Proponent: Revolve, Michael Pearce

Location of proposal:

3507 NE 153 ST

Zoning: RM-900

Proposal: Construct 10-unit townhome development with associated utilities and site/street improvements.

Date of Application: May 22, 2020

Date of Letter of Complete Application: August 17, 2020

Other Approvals Needed: Tree Removal Permit, Right of Way Permit, Clearing and Grading Permit, Critical Area Permit, Building Permit. A public hearing is required for these applications and will be noticed separately.

Environmental Review: The City has reviewed the proposed project for probable adverse environmental impacts and expects to issue a determination of non-significance (DNS) for this project. The optional DNS process in WAC 197-11-355 is being used. This may be your only opportunity to comment on the environmental impacts of the proposed project.

Agencies, tribes, and the public are encouraged to review and comment on the proposed project and its probable environmental impacts. Comments will be accepted for fourteen days following the publication date of this notice.

Public Comment: Interested parties may comment on this application by submitting written comments to Lake Forest Park Planning Department located at City Hall and 17425 Ballinger Way NE, Lake Forest Park, WA 98155 or via email to nholland@cityoflfp.com for fourteen days following the publication date of this notice.

Additional Information: Additional information may be obtained by contacting the Lake Forest Park Planning Department at (206) 957-2837 or at the City's Notices and Announcements webpage (cityoflfp.com/313/Notices-and-Announcements). Materials related to this proposal may be reviewed at City Hall Monday - Friday 9:00 am - 5:00 pm. Contact Nick Holland, Senior Planner, at nholland@cityoflfp.com if you prefer to make an appointment to review the materials with a planner's assistance.

Notice Date: August 31, 2020

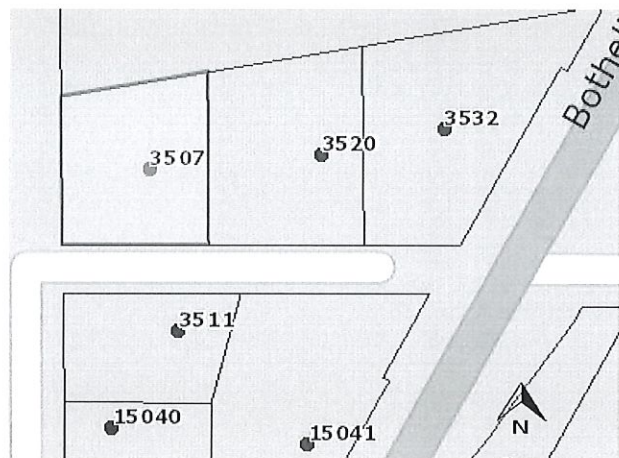


EXHIBIT # 8.2

File Numbers: 2020-CSDP-0001

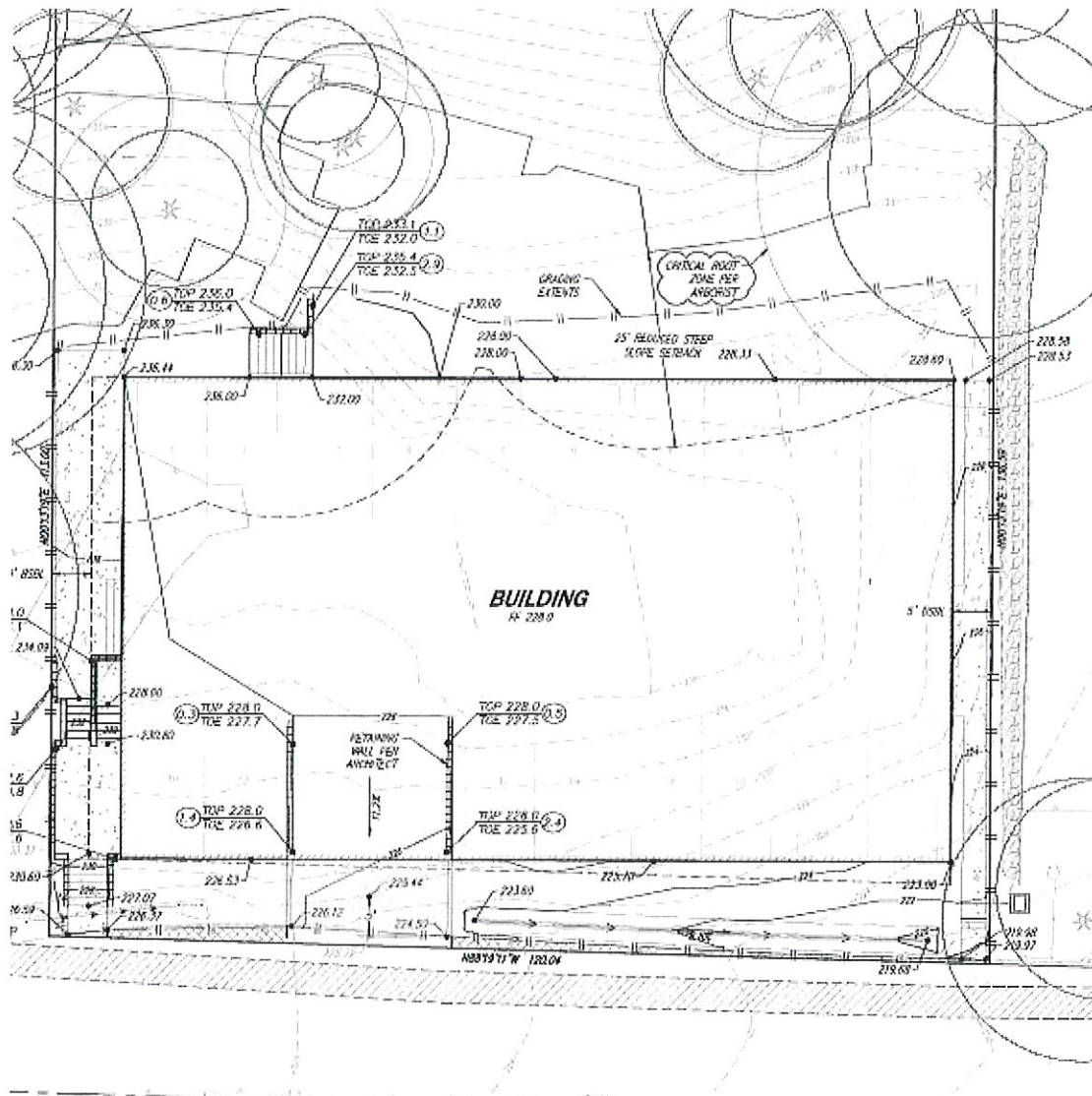
Proponent: Revolve, Michael Pearce

Location of proposal:

3507 NE 153 ST

Zoning: Rm-900

Proposal: Construct 10-unit townhome development.



Notice Date: August 31, 2020

Mayor
Jeff R. Johnson

17425 Ballinger Way NE
Lake Forest Park, WA 98155-5556
Telephone: 206-368-5440
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www.cityofflp.com



Councilmembers
Lorri Bodi
Tom French
Phillippa M. Kassover
Mark Phillips
E. John Resha III
Semra Riddle
John A. E. Wright

PUBLIC NOTICE

NOTICE OF PUBLIC HEARING FOR COMMERCIAL SITE DEVELOPMENT PERMIT

File Numbers: 2020-CSDP-0001

Proponent: Revolve, Michael Pearce

Location of proposal:

3507 NE 153 ST

Zoning: RM-900

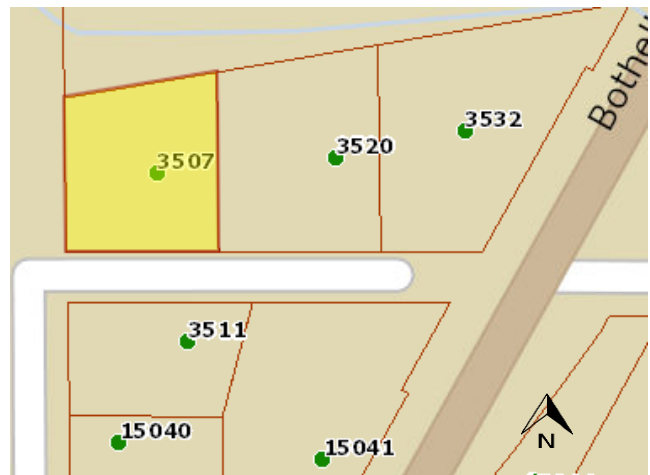
Proposal: Construct 8-unit townhome development with associated utilities and site/street improvements.

Date of Application: May 22, 2020

Date of Letter of Complete Application: August 17, 2020

Other Approvals Needed: Tree Removal Permit, Right of Way Permit, Clearing and Grading Permit, Critical Area Permit, Building Permit.

Date of Hearing: The hearing date is scheduled for **December 13, 2021, at 2pm by virtual connection** (see **ZOOM link below**).



Environmental Review: After review of the proposal and the State Environmental Policy Act (SEPA) checklist, the City issued a Determination of Non-Significance (DNS) on December 10, 2020.

Staff Recommendation: Staff recommends approval of the proposal with conditions. The staff report and accompanying exhibits will be available on the City Notices and Announcements webpage (www.cityofflp.com/313/Notices-and-Announcements) 10 days prior to the hearing date.

Public Comment: Interested parties may submit public comments on this proposal by submitting written comments to Lake Forest Park City Hall, 17425 Bothell Way NE, Lake Forest Park, WA 98155 or via email to nholland@cityofflp.com before 5:00 pm on December 10, 2021. After December 10, 2021, comments must be presented or submitted at the public hearing.

Additional Information: Additional information may be obtained by contacting the Lake Forest Park Planning Department at (206) 368-5440 or at the City's Notices and Announcements webpage (www.cityofflp.com/313/Notices-and-Announcements). Materials related to this proposal may be reviewed at City Hall Monday-Friday 9:00 am-5:00 pm. Contact Nick Holland, Senior Planner, at nholland@cityofflp.com if you prefer to make an appointment to review the materials with a planner's assistance..

Notice Date: November 29, 2021

Join Zoom Meeting

<https://us02web.zoom.us/j/81394058588?pwd=MTVyUVJ2QmxjcWc1Vys2TzRGVFhBUT09>

Meeting ID: 813 9405 8588

Passcode: 548694

One tap mobile

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SEPA Checklist

EXHIBIT # 10.1LAKE FOREST PARK
Washington17425 Ballinger Way NE
Lake Forest Park, WA 98155
206-368-5440Permit # 2020-SEPA-0006

RECEIVED

MAY 22 2020

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Owner of Record:	LFP, llc		
Property Address:	3507 NE 153rd St.		
Property Owner Phone:	206-683-6597	Email:	michael@revolvellc.com
Property Owner Mailing Address (if different than project address):	210 NW 52nd Street Seattle, WA 98107		
Tax Parcel No:	6744700100		

Owner's Authorized Agent:	Kent Smutny: Veer Architecture, PLLC		
Authorized Agent Phone:	425-401-6828 x11	Email:	kent@veerarchitecture.com

PERMIT APPLICATION FEES

Fees must be paid at time of application

Application Fee	\$ 700
Signage Fee	\$ 200
Additional Signage (if required) -----	\$25 each
SUBTOTAL	
Technology Fee (5% of Subtotal)	
TOTAL FEES	

**Please complete the attached checklist
& submit to:**

City of Lake Forest Park, City Hall
17425 Ballinger Way NE
Lake Forest Park, WA 98155
Attn: Planning and Building Department

Questions?

For more information, please contact the Planning Department
aplanner@cityoflfp.com
206-957-2837

Access to Information

Electronic versions of all forms, permits, applications, and codes
are available on the Lake Forest Park website:

<http://www.cityoflfp.com/>

Paper copies of all of the above are available at City Hall:
17425 Ballinger Way Northeast, Lake forest Park, WA 98155
206-368-5440

Instructions for application:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

A. Background

1. Proposed Project:
2. Date checklist prepared: July 12, 2020
3. Agency requesting checklist: City of Lake Forest Park
4. Proposed timing or schedule (including phasing, if applicable): Construction Start 9/2020
5. Do you have any plans for future additions, expansion or further activity related to or connected with proposal?
If yes, please explain. No
6. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal:

Geotechnical Report by Associated Earth Sciences, Inc. dated January 14, 2019
7. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain: No
8. List any government approvals or permits that will be needed for your proposal, if known:
CSDP, Building Permits
9. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

Construction of a 3 story 10 unit multi-family apartment building built over parking.

10. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map and topographic map. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

3507 NE 153rd Street, Lake Forest Park, WA King Co. Parcel #6744700100

B. Environmental Elements

1. Earth

- a.) General description of the site (circle one)

Flat Rolling Hilly Steep Slopes Mountainous Other _____

- b.) What is the steepest slope on the site, and its approximate percent slope?

60%

- c.) What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils

Medium-stiff to stiff pre - Fraser fine-grained deposits, clayey silt with varying amount

- d.) Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe

No

- e.) Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill

Cut = 1,506 CY Fill = 25 CY therefore net export will be 1,481 CY

- f.) Could erosion occur as a result of clearing, construction, or use? If so, generally describe

Yes

TESC measures will be used. By implementing these measures the applic

- g.) About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

53%

- h.) Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Proposal will meet city required clearing and grading regulations. TESC measures w

2. Air

- a.) What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known

During construction: Dust, emissions from equipment and excavation. After construc

- b.) Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. No

- c.) Proposed measures to reduce or control emissions or other impacts to air, if any:

During construction - will maintain all power tools, equipment and construction machi

3. Water

- a.) Surface water

- i. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No

- ii. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. No

- iii. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material

- iv. Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known No

- v. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan No

- vi. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b.) Ground water

- i. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. **No**
- ii. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing chemicals, agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve

None

c.) Water Runoff (including stormwater)

- i. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe

Runoff on the site currently leaves the project site in two different locatic

- ii. Could waste materials enter ground or surface waters? If so, generally describe
No

Runoff from the covered parking garage will be collected in a catch basi

- iii. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe
No

The project will maintain the drainage patterns and discharge locations c

d.) Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

The project proposes to collect and safely convey the portion of ROW stormwater sheet 1

4. Plants

a) Check the types of vegetation found on the site:

- ☒ Deciduous tree: alder, maple, aspen, other
- ☒ Evergreen tree: fir, cedar, pine, other
- ☒ Shrubs
- ☒ Grass
- ☐ Pasture
- ☐ Crop or grain
- ☐ Orchards, vineyards or other permanent crops.
- ☐ Wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ☐ Water plants: water lily, eelgrass, milfoil, other
- ☐ Other types of vegetation

b) What kind and amount of vegetation will be removed or altered?

Some deciduous and evergreen trees will be removed from the site along with grass a

c) List threatened and endangered species known to be on or near the site.

None known

d) Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Landscape areas will be designed to comply with City standards

e) List all noxious weeds and invasive species known to be on or near the site.

Wild black berries

5. Animals

a) List any birds and other animals which have been observed on or near the site or are known to be on or near the site. (i.e. any birds, fish, mammals, specifics if possible)

songbirds

b) List any threatened and endangered species known to be on or near the site.

None known

c) Is the site part of a migration route? If so, explain.

Yes, the Pacific Flyway

d) Proposed measures to preserve or enhance wildlife, if any

N/A

e) List any invasive animal species known to be on or near the site.

None known

6. Energy & Natural Resources

a) What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity for appliances and lighting. Natural gas for heating, hot water, fireplaces.

b) Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. No

c) What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The project will be designed to meet all applicable energy code requirements.

7. Environmental Health

a) Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe

During construction there is a limited risk of fire associated with equipment and vehicle

b) Describe any known or possible contamination at the site from present or past uses

None known

c) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity

None known

d) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project

Some finish products such as paint that are hazardous before they are cured will be used

e) Describe special emergency services that might be required

Occasional aid services will be required by the residents.

f) Proposed measures to reduce or control environmental health hazards, if any:

The project will be constructed in accordance with OSHA regulations. The proposed c

8. Noise

- a) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Typical vehicle traffic noise.

- b) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short term: Associated noise from construction activities during allowed construction hours

- c) Proposed measures to reduce or control noise impacts, if any:

Perform construction during normal working hours established by the City. Any noise

9. Land & Shoreline Use

- a) What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe

Current use of the site is a single-family residence. The proposed multi-family residence

- b) Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to non-farm or non-forest use?

No

- c) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversized equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No

- d) Describe any structures on the site.

There is a single-family residence on the site.

- e) Will any structures be demolished? If so, what?

Yes, the single-family residence.

- f) What is the current zoning classification of the site?

RM-900

- g) What is the current comprehensive plan designation of the site?

High density multi-family

- h) If applicable, what is the current shoreline master program designation of the site?

N/A

- i) Has any part of the site been classified as a critical area by the city or county? If so, specify

Yes

Steep slope

- j) Approximately how many people would reside or work in the completed project?

15 - 30

- k) Approximately how many people would the completed project displace?

8

- l) Proposed measures to avoid or reduce displacement impacts, if any:

None

- m) Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project will be designed to current land-use criteria and reviewed through the City

- n) Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

N/A

10. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing

10 market rate apartments

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing

One single-family residence

- c. Proposed measures to reduce or control housing impacts, if any:

None

11. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

35' is the tallest height as measured from average grade. The primary exterior material is

- b. What views in the immediate vicinity would be altered or obstructed?

None

- c. Proposed measures to reduce or control aesthetic impacts, if any:

The project will be designed to current city design standards.

12. Light & Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Sources of light will include site lighting, interior building lights and automobile headlig

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

- c. What existing off-site sources of light or glare may affect your proposal?

Street lights and automobile lights.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Landscaping to the extent possible will be used to control unwanted light and glare.

13. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Lake Washington and various City parks

- b. Would the proposed project displace any existing recreational uses? If so, describe

No

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The project will be designed to meet City open space requirements.

14. Historic & Cultural Preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe No

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources

No

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

N/A

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

N/A

15. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any

NE 153rd Street is accessed from 35th Ave. N.E. which in turn is accessed from Both

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? Yes

Bothell Way NE is an arterial with frequent transit service.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The proposed project will have 18 parking spaces

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private)

No

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe No

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

Passenger vehicle trips associated to 10 residential units will be produced.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe No

h. Proposed measures to reduce or control transportation impacts, if any:

None

16. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe

Yes

Public services such as fire, police, health care and schools are already available with

b. Proposed measures to reduce or control direct impacts on public services, if any:

Payment of mitigation fees if required.

17. Utilities


a. Circle utilities currently available at the site:

electricity - natural gas - water - refuse service - telephone - sanitary sewer - septic system - other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  PER RE-VOLVE LLC

Name of signee: Michael Pearce per LFP llc + RE-VOLVE LLC

Position and Agency/Organization: managing member

Date Submitted: 7/13/2020

D. Supplemental Sheet for Non Project Actions

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment. When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented.

Respond briefly and in general terms

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise? Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life? Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources? Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands? Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans? Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities? Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.



**CITY OF LAKE FOREST PARK
DETERMINATION OF NONSIGNIFICANCE (DNS)
WAC 197-11-340**

Description of proposal: Construct 8-unit townhome development with associated utilities and site/street improvements. Site contains geological and stream conditions regulated by the City's critical areas ordinance.

File number: 2020-SEPA-0006

Proponent: Michael Pearce, Revolve

Location of proposal, including street address, if any: 3507 NE 153 ST

Lead Agency: City of Lake Forest Park, 17425 Ballinger Way NE, Lake Forest Park, WA 98155

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. Information related to this decision is available to the public upon request.

Public Hearing: The Hearing Examiner will hold a public hearing on this project and the hearing will be noticed separately.

This DNS is issued under WAC 197-11-340. The lead agency will not act on this proposal until the City's Hearing Examiner has issued a decision. This determination was noticed on August 31, 2020 utilizing the optional DNS process.

Responsible official: Steve Bennett **Position/Title:** Planning Director

Address: 17425 Ballinger Way NE, Lake Forest Park, and WA 98155

Date: December 10, 2020

Signature: 

You may appeal this determination to Evelyn Jahed, City Clerk, at 17425 Ballinger Way NE, Lake Forest Park, WA 98155, no later than December 8, 2017 by written appeal and \$500 filing fee. You should be prepared to make specific factual objections. Contact Ande Flower at aflower@cityoflfp.com to ask about the procedures for SEPA appeals.

16.16.240 Setback exception.

A. Whenever in the judgment of the planning director the presence of a critical area makes it impractical to locate a building pad on the lot except by intruding into required setbacks, **the planning director may permit a deviation from the front and rear yard zoning setbacks required by this code for residential development proposals for single lots, long subdivisions, lot line revisions and short subdivisions.**

B. Aggregate setbacks for new short subdivisions, long subdivisions, and lot line revisions shall be recorded on final documents.

C. The decision to grant a deviation shall be based on the following criteria:

1. The aggregate setbacks for the zoning front, rear, and side yard setbacks total 50 feet or more

-Yes - Proposed sides are 10 feet, Front 10+ feet, Rear averages 52+ feet = > 50 feet.

2. Front and rear zoning setbacks are no less than 10 feet;

-Yes - Complies

3. Side zoning setbacks are no less than five feet;

-Yes – proposed side setbacks are now 20 feet – see C1.04

4. Significant vegetation is preserved; **-Yes - Large portion of the lot and vegetation is preserved especially in unbuildable areas.**

5. The applicant demonstrates to the city through submittal of an application and supporting documentation that the use of aggregate zoning setbacks will not:

a. Be materially detrimental to the public welfare or injurious to adjacent property or development or alterations; and

We see no evidence that this is “materially detrimental to public welfare or injurious to adjacent property or development or alterations”. The building is facing south and will not cast any additional shadows in its placement caused by the setback reduction.

b. Alter the neighborhood character or the appropriate use or development of adjacent property; and

The neighborhood character and zoning is zoned multifamily high. It is conducive with the neighboring properties

c. Conflict with the general purposes and objectives of the comprehensive plan; and

“Together, the Comprehensive Plan and Legacy Vision seek to promote, enhance, and preserve the City’s long-term environmental quality and green character.”

Through reduction of the setback we are preserving the treed areas and critical area to the north.

LFP_Comprehensive plan references that directly apply (comments as applicable)

Goal LU-1 Land Use Pattern. Establish a development pattern that preserves the character of Lake Forest Park while allowing for variety in new development.

Policy LU-1.1 Designate the general distribution, location and extent of the uses of land for housing, commerce, recreation, open spaces, public utilities and facilities, and other land uses.

Policy LU-1.2 Establish the land use designations, densities, and intensities shown in Table I.2.

Multi Family, High These categories should serve as the City's highest density multi-family residential categories. Densities may be increased with the inclusion of special needs or senior housing where appropriate. Uses within these categories should be located in close proximity to major arterials and transit routes. Limited commercial and business uses may be allowed in this classification as part of mixed use development, consistent with adopted development standards.

Conforms with zoning and intent

Policy LU-1.3 Maintain a Comprehensive Plan Land Use Map that designates the future distribution, extent, and location of the generalized land uses described above (see Figure I.2, Comprehensive Plan Land Use Map).

Policy LU-1.4 Manage and maintain the City's Official Zoning Map to ensure continued consistency with the Comprehensive Plan Land Use Map.

Policy LU-1.5 Implement land use designations through a clear regulatory process that ensures transparency, fairness, and predictability in the land development process.

Policy LU-2.1 Ensure that land use policies and regulations reflect the importance of the city's natural environment, tree cover, and Lake Washington shoreline in community identity.

Significant Tree cover is preserved reinforcing the structural stability and protection from future development.

Policy LU-2.4 Preserve a sense of place through consistent and compatible development character, while also recognizing the variety of unique neighborhoods in the City.

Development is compatible with zoning and land-use and neighboring buildings.

Policy LU-2.5 Provide for a smooth transition between differing land uses through landscape buffers, site and building design measures, or other appropriate techniques.

Policy LU-2.6 Foster a sense of community through support for formal and informal gathering places, such as in Town Center, local businesses, and public open spaces.

With parking requirement prescribing the size of the building footprint, the topography and interior semi sheltered corridor and interaction of residents has been encouraged with interior open courtyard. Neighbor semi-sheltered gathering areas to promote interaction at ground level.

Policy LU-3.1 Encourage the integration of natural landscape in new development by including both natural and compatible ornamental plants, shrubs, and trees.

See landscape plan. A great deal of planting has been provided with areas to encourage resident planting.

Policy LU-3.2 Provide design flexibility to preserve desirable existing site features, including clusters of trees, watercourses, slopes, open spaces, and similar assets.

Open space at the rear of the property has been retained to provide open space as dog park or community gathering.

Policy LU-3.3 Recognize and support tree preservation as an integral part of community character.

The building footprint is as compact as possible to provide minimum required parking and still provide a townhome style residence. At half the zoned density, a great portion of the resulting landscape and trees are preserved.

Policy LU-4.3 Identify underused land and encourage infill development that is compatible with the scale and character of surrounding development.

Policy LU-4.4 Encourage higher-intensity multifamily development in areas nearest to transportation facilities, commercial services, open space, and other amenities.

Close to bus lines, meeting parking requirement, but also conducive with area.

Policy EQ-4.2 Promote retention of vegetation and limit land disturbance in identified steep slope and landslide hazard areas.

Moving the building forward preserves the steep slope

Policy H-1.2 Provide an adequate supply of land to meet the city's housing growth target, as established in the King County County-wide policies.

Estimated 32 People can be comfortably supported by this development

Policy H-1.3 Provide for a variety of residential densities and housing types.

Policy H-1.5 Promote residential clustering as a means to protect environmentally sensitive areas and encouraging infill development.

Efficient clustering of Single family residences with interior court

Policy H-3.4 Encourage the location of new affordable housing units near community amenities and services, such as transit.

d. Degrade critical areas and critical areas buffer functions. (Ord. 1150 § 1, 2017; Ord. 930 § 2, 2005)

The proposed plan is specifically addressing the need to stay back from critical areas to the north while addressing code on prescriptive parking (prescribing the building minimum footprint) and 6 foot landscaping provision



**Seattle
Public
Utilities**

Development Services Office
700 Fifth Ave, Suite 2748 | PO Box 34018
Seattle, WA 98124
(206) 684-3333
SPUWaterAvailability@seattle.gov

**Water Availability Certificate
APPROVED WITH CONTRACT**

WAC Number: SPUE-WAC-20-01364
Project Number(s): N/A
Project Address: 3507 NE 153RD ST
Development Site: DV1124667
Requested For: Building Permit
Certified By: Janet Thomas
Certified Date: November 06, 2020
Expiration Date: May 06, 2022

Water availability for project number N/A may be approved at this time.

Property owner may order water service. Visit [Water Service - Understanding the process](#) or contact the Development Services Office at SPU_DSO@seattle.gov or 206-684-3333 for next steps.

System Requirements: Design and installation of approximately 760 feet of 8-inch ductile iron pipe water main extending north from Bothell Way NE in 35th Ave NE and NE 153rd St to the east parcel boundary, including appurtenance(s).

New meter location is available off the water main(s) in: NE 153rd St, after installation of system improvements.

- If the proposed project changes after this Water Availability Certificate is certified, or if the current plan submitted to SPU does not detail the entire scope of the proposed project, water requirements may change, and a new Water Availability Certificate may be required.
- Fire flow or other Fire Department requirements may alter water system needs at any time.
- Water availability requirements will change if existing system cannot support desired water service.

Parcel ID: 6744700100

Project Description: 10 unit MF. Existing MF building will be demolished, building will be sprinklered

C-Number:	<u>C600682</u>	DSS Project Number:	<u>20200414</u>
Invoice Number:	<u>20200778</u>	Storm Receipt Number:	<u>42895433</u>

Existing Water Service(s):

Size:	<u>0.75 inch(es)</u>	Type:	<u>DOM</u>	Material:	<u>Copper</u>	Status:	<u>ACT</u>
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Existing Water Main(s):

Size:	<u>12 inch(es)</u>	Material:	<u>Ductile Iron</u>	Elevation:	<u>185 feet</u>	Installation Year:	<u>1975</u>
Class:	<u>2</u>	Pressure Zone:	<u>ML430</u>	Static Pressure:	<u>106 PSI</u>	Right-of-Way Width:	<u>36 feet</u>



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If fire flow information is needed, please contact the Development Services Office at SPU_DSO@seattle.gov or 206-684-3333.

Recommended design pressure is 20 psi less than static pressure. Refer to Washington Administrative Code 246-290-230.

The water system is in conformance with a County approved water comprehensive plan, and has water right claims sufficient to provide service.

One domestic water meter will serve the domestic water needs of a single legal parcel. Separate meters are required for each legal parcel. This may necessitate the installation of water utility improvements by the property owner.

Seattle Municipal Code (SMC) outlines water rates and regulations in [SMC Chapter 21.04](#). The State of Washington defines basic regulatory requirements to protect the health of consumers using public drinking water in [WAC Chapter 246-290](#).

Permits

**Commercial Site Development
Permit Application- Pearce Townhomes at
3507 NE 153 ST**

Permit # 2020.CSDP.0001



LAKE FOREST PARK
Washington

17425 Ballinger Way NE
Lake Forest Park, WA 98155
206-368-5440

RECEIVED

MAY 22 2020

City of Lake Forest Park

The items listed below are required to be submitted
for a complete Commercial Site Development Permit

INSTRUCTIONS: Please mark each box to indicate that
the requested information is included in your submittal.
Please submit 3 paper copies of plan sets at a 1"=20'
scale, and one electronic copy of all documents.

- ☐ Title Report
 - ☐ Less than 30 days old, demonstrating legal lot status
- ☐ Letter of Description
 - ☐ Narrative describing project
- ☐ Water & Sewer Certificates
- ☐ Development Plan Set (see pg. 4-5)
 - ☐ Three (3) full size copies: 22 x 34
 - ☐ One (1) copy + electronic PDF: 11 x 17
- ☐ Technical Information Report Drainage (2016 King County Surface Water Design Manual)
 - ☐ Three (3) copies & electronic PDF
- ☐ Fire Hydrant Location Exhibit
 - ☐ Three (3) copies and electronic PDF
- ☐ Geotechnical Report
 - ☐ Three (3) copies and electronic PDF
- ☐ Base Land Use Application (attached)
- ☐ Legal Description of Site
- ☐ Mailing List, Map & Labels
 - ☐ One List and map of property owners within 300 feet of subject property lines
 - ☐ Two sets of stamped and addressed mailing envelopes of property owners within 300 feet of subject property lines
- ☐ List of Prior/Pending Applicable Permits or Decisions

Additional items that may be required

If you are unsure if these items apply to your project, please contract with a qualified professional

- ☐ Traffic Impact Analysis Report
 - ☐ Three (3) copies & electronic PDF
- ☐ Critical Area Study
 - ☐ Three (3) copies & electronic PDF
- ☐ SEPA Checklist
 - ☐ Three (3) copies & electronic PDF

DISCLAIMER: *The information contained in this application is not a substitute for regulations and codes. The applicant must comply with all code and rule requirements, whether or not they are described herein. A pre-application meeting is required prior to submittal of this application. A project specific and staff approved application submittal checklist will be provided to you, and is required prior to submittal of this application.*

PERMIT APPLICATION FEES

Fees must be paid at time of application

Commercial Site Development Permit	\$ 8,500.00
Land Use Public Notice Signage Fee	\$ 400.00
Additional Public Signage Fee (\$25 each)	
Technology Fee (5% of Fee Total)	
Total Fees	

The applicant may be responsible for additional fees related to engineering and legal expenses

Acceptance of financial responsibility for project fees:

Project Address: 3507 NE 153rd St.
Parcel Number(s) #: 6744700100
Property Owner: LFP, llc

Person taking financial responsibility for payment:

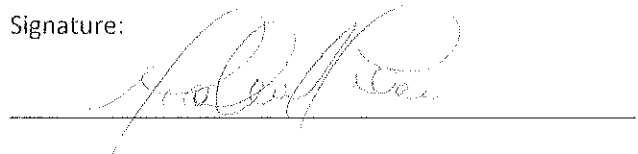
Name: Michael Pearce
Company Name: LFP llc & RE-VOLVE LLC
Address: 210 NW 52nd St.
City/State/Zip: Seattle, WA 98107
Phone: 206-683-6597
Email: michael@revolvellc.com

<input type="checkbox"/> Owner	<input checked="" type="checkbox"/> Developer	<input type="checkbox"/> Engineer
<input type="checkbox"/> Architect	<input type="checkbox"/> Seller	<input type="checkbox"/> Agent
<input type="checkbox"/> Rezone Petitioner	<input type="checkbox"/> Contract Purchaser	<input type="checkbox"/> Other: _____

I, Michael Pearce, declare under penalty of perjury under the laws of the State of Washington that I am the Managing Member of the above referenced property/project and that the information provided herein is correct and complete. I will pay all permit fees for the above project, regardless whether the permit is issued or whether the application is canceled before permit issuance. If my address changes at any time before the City of Lake Forest Park has received full payment for all fees billed or owing, I will immediately notify the City of Lake Forest Park of the new address. I understand that there may be hourly or other review fees that accrue during review or prior to closing the permit that are above the minimum permit fee paid at time of application. I will be responsible for any and all additional fees.

Signed this 6 day of Febr,
2020

Signature:



BASE LAND USE APPLICATION

Applicant Information	
Applicant Name:	RE-VOLVE LLC / LFP llc, Michael Pearce
Contact:	Michael Pearce
Address:	210 NW 52nd St.
City/State/Zip:	Seattle, WA 98107
Daytime phone:	206-683-6597
Email:	michael@revolvellc.com

Representative (if other than applicant)	
Name:	
Address:	
City/State/Zip:	
Daytime phone:	
Email:	

Property Owner(s) (if other than applicant)	
Name:	
Contact:	
Address:	
City/State/Zip:	
Daytime phone:	
Email:	

Property Information	
Proposed Use:	Multi-Family Residential
Zoning:	RM 900
Total Square Feet:	2680
Comp Plan:	
Site Address:	3507 NE 153rd St.; Lake Forest Park, WA 98155
Parcel Number:	6744700100
Legal Description (attachment permitted):	PETTITS LAKE WASHINGTON ACRE TRS POR W 120 FT S OF LN BEG 113 FT N OF SW COR & BRG N 78 DEG 47 MIN 15 SEC E PLAT BLOCK: PLAT LOT:5

DEVELOPMENT PLAN SET

Instructions: Prepare the sheets as shown and in the format described below.

Digital copies of all documents is required.

- **Plan Set:** Submit three (3) copies of plan set (1"=20' scale) and one (1) electronic copy meeting the following specifications:
 - A. Sheet size 22" x 34"
 - B. Numbered sequentially in lower right hand corner
 - C. Name of Project
 - D. Date, including additional space for revision dates
 - E. North arrow – on all site related sheets
 - F. Engineering scale – include scale bar on all sheets
 - G. Survey drawings
 - H. Contour intervals = 2'
 - I. Elevations within 50' of subject site
 - J. Professional Stamp – civil engineer, surveyor

- **Title Sheet** (1"=20' scale)
 - A. Project name
 - B. Land Use Planning Number (*not available at submittal point*)
 - C. Vicinity map of proposed development
 - D. Sheet index
 - E. Table of existing & proposed:
 - 1. Total acres & square feet per lot
 - 2. Total number of dwelling units
 - 3. Total impervious surfaces
 - 4. Zoning designation
 - F. Parcel # (Section, Township, & Range)
 - G. Legal Description

- **Existing Conditions Survey** (1"=20' scale)
 - A. Existing parcel boundary
 - B. Existing impervious surfaces – indicate asphalt, gravel, etc.
 - C. Existing structures – indicate demolition, if applicable
 - D. Existing utilities on site and along frontage – including any septic drain field and wells
 - E. Existing trees on site, and along frontage (as per Ordinance No. 1152)
 - F. Existing/Proposed easements
 - G. Neighboring parcel numbers
 - H. Environmentally critical areas, buffers, setbacks

Commercial Site Development Permit Application

- ☐ **Conceptual Grading and Drainage Plan (1"=20' scale)**
 - A. Storm water facilities
 - 1. Existing & proposed
 - 2. Erosion and sediment control features
 - B. Contours, Existing/Proposed
 - C. Show sewer/water & other utility conceptual plans
 - D. Critical areas and buffers (if present, LFPMC 16.16 applies)
 - E. Existing trees – per ord. 1152
- ☐ **Trees and On-site Vegetation (1"=20' scale) (LFPMC 16.14).** Information on trees and onsite vegetation shall be included:
 - A. Tree Inventory. A tree inventory prepared by a qualified arborist that includes the following information, at minimum, for all on-site significant trees and any off-site significant trees that may be impacted by proposed development: information on tree species, diameter at breast height, critical root zone, interior critical root zone, condition (health), risk level, existing and proposed canopy coverage.
 - B. A scaled (1"=20') site plan detailing the location of property lines, critical areas and buffers, critical and interior critical root zones of all trees, existing and proposed utilities, 2 foot contours, and existing and proposed structures
 - C. Arborist Report. An arborist report to include, at minimum, trees in the vicinity of construction that could be impacted by the proposed development activity, trees to be removed and protected, tree protection fence location, timeline for tree protection activities, list of protection measures and conditions to be taken during all development activities to ensure code compliance during development activities.
 - D. Trees proposed for removal shall provide a report from a certified Arborist consistent with applicable portions of LFPMC 16.14.
- ☐ **Paving Plan (1"=20' scale) – Public or private streets & driveway plans, including the following, at a minimum:**
 - A. Existing pavement – indicate asphalt, concrete, gravel, etc.
 - B. Proposed pavement
 - C. Road cross sections
- ☐ **Landscaping Plan (1"=20' scale) – The landscape plan submitted to the department must be drawn on the same base map as the development plans & identify the following:**
 - A. Total landscape area including identification, calculation of canopy coverage % & any retained trees
 - B. Landscape materials botanical/common name and applicable size
 - C. Property lines
 - D. Impervious surfaces
 - E. Open space and proposed recreation areas showing sq. ft. of areas provided vs. required
 - F. Location of proposed utilities – water, sewer, overhead electric, telephone & storm water
 - G. Natural or manmade water features or bodies
 - H. Existing or proposed structures, fences, and retaining walls
 - I. Existing and proposed grade
 - J. Natural features or vegetation left in natural state.
 - K. Designated recreational open space areas.
 - L. Plant specifics, including at a minimum:
 - 1. Plant name (botanical / common)
 - 2. Counts of individual plants
 - 3. Plant sizes

4. Diameter / minimum height
5. Percentage of tree types (i.e. deciduous / coniferous)
- M. Landscaping details, including at a minimum:
 1. Plant installation
 2. Root barrier
 3. Compost / mulch treatments
- N. The proposed landscape plan must be certified by a Washington State licensed landscape architect

Critical Areas Affidavit

The purpose of this affidavit is for the applicant to disclose to the city the presence of any Critical Areas as defined in the Lake Forest Park Municipal Code LFP MC 16.16.040

Critical Areas are defined as:	
Wetlands	Fish and wildlife habitat conservation areas
Streams	Steep-slope hazard areas
Areas with a critical recharging effect on aquifers (CARA)	Erosion hazard areas
Landslide hazard areas	Seismic hazard areas

"Critical Areas" also means & includes associated buffers, as well as critical areas that are located on neighboring lots

Disclosure is required when:

- A proposed development site contains a Critical Areas and/or required buffer either on or within 215 feet of the property that is the subject of the application.
- There have been illegal alterations to Critical Areas or buffers
- Violations have occurred (including whether corrections satisfactory to the city have been completed).

Failure to accurately disclose this information may require additional review, project revisions and/or fees.

If you are unsure, please contract with a Qualified professional to review on-site and surrounding conditions and determine the presence of Critical Areas and/or buffers

If such areas are present and proposed development will alter them, a Critical Area study, as outlined in LFP MC 16.16.100 et. seq., must be submitted as part of the development application. If such areas are present and any disruptive work will take place within them, a Critical Area Work Permit is required.

STATE OF WASHINGTON)

)SS:

COUNTY OF KING)



Applicant Name

Date

Signature

Applicant(s), Representative and/or Owner(s):

The undersigned, being first duly sworn on oath deposes and says:

- The affiant* is competent to be a witness herein;
- The affiant is the applicant for the above project;
- To the best of the affiant's knowledge:

- ☐ The development proposal site contains Critical Area(s) and/or buffer(s); and they have not been illegally altered; or
- ☐ The affiant has previously been found to be in violation of Critical Areas regulations, for any property in the City; and such violations have been corrected; or
- ☒ The affiant has no known Critical Area on the development proposal site

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct

Notary Acknowledgement Certificate

Given under my hand and official seal this on this

05 Day of FEB, 202020

Notary Signature

Appointment Expiration Date

*Person who swears to an affidavit