CITY OF KIRKLAND
123 FIFTH AVENUE • KIRKLAND, WASHINGTON 98033-6189 • (425) 587-3800

DEPARTMENT OF PUBLIC WORKS MEMORANDUM

To: Susan Greene, Planner

From: Thang Nguyen, Transportation Engineer

Date: May 7, 2008

Subject: Waterbrook Traffic Impact Analysis Review, BLD07-00996

This memo summarizes public works review of the traffic impact analysis for the proposed redevelopment of a commercial site located at 11810 98th Avenue NE.

Project Description

The applicant proposes to replace a tire a 3200sf tire store, espresso stand and frosty restaurant with 84 condos, 4,385 square feet (sf) medical office and a 9,031 sf shopping center. Parking will be provided with both surface and underground parking with a supply of 157 stalls.

Project Trip Generation

Based on the traffic analysis, it is estimated that the proposed project will generate 57 AM peak, 61 PM peak and 968 daily net new trips. It is anticipated that the project will be built and fully occupied by 2010.

Traffic Concurrency

All developments subject to SEPA review are required to pass traffic concurrency. The purpose of traffic concurrency is to ensure that the City roadway network is built concurrent with land use growth. The proposed project was tested for concurrency on July 3, 2007 and passed. The project is allowed to proceed through the development process and must obtain a building or development permit prior to July 3, 2008 in order to maintain a valid concurrency status.

Traffic Impacts

Project traffic distribution and assignment was estimated using the City's BKR Traffic Model.

The City 's Traffic Impact Analysis Guidelines (TIAG) requires a Level of Service (LOS) Analysis using the Highway Capacity Manual Operational Method for intersections that have proportionate share greater than 1%. No intersections meet the requirement. The City requires developers to mitigate traffic impacts when one of the following two conditions is met:

1. An intersection level of service is at E and the project traffic is more than 15% of the intersection traffic volumes.
2. An intersection level of service is at F and the project traffic is more than 5% of the intersection traffic volumes.

Four intersections and the project driveway were analyzed for traffic impact. The ramp intersections on NE 116th Street to I-405 are forecasted to operate at LOS-F without and with the proposed project. However, since no intersection has more than 1% impact, there is no requirement for specific off-site level of service traffic mitigation.

A level of service, queuing, gap and sight distance analyses was completed for the site driveway. It is forecasted that the driveway will operate at an acceptable level of service and with negligible queuing from the project driveway onto 98th Avenue NE.

A gap analysis was completed during the AM and PM peak hours to determine if there are sufficient gaps within the traffic on 98th Avenue NE to support the proposed project in combination with the traffic from the Juanita Village shopping center development because left-turn traffic from these two developments would be competing for the center lane common to both projects' driveway. In addition, insufficient gaps on 98th Avenue NE would force left-turns entering and exiting the driveway to wait and increase the queue length and/or cause vehicle conflict and interruption of traffic flow on 98th Avenue NE.

The AASHTO (American Association of State Highway & Transportation Officials) Guidelines suggest a safe gap (within the opposing traffic flow) of 6 seconds would adequately allow left-turning vehicle to turn into the driveway. The gap analysis shows there are 108 to 150 gaps of 6 seconds or more within the peak hour. It is forecasted there would be approximately 92 vehicles entering the proposed development and the Juanita Village southern driveway (adjacent to the project driveway) from 98th Avenue NE. Thus, there are sufficient gaps to accommodate in-bound traffic in the morning.

For outbound traffic from the site and the southern driveway of Juanita Village crossing two lanes of traffic, a safe gap of 8.5 seconds is required. On-site survey indicates that there are 109 gaps in the AM peak hour and 76 gaps during the PM peak hour. In comparison, 36 vehicles are forecasted to exit both the project driveway and the Juanita Village southern driveway in the AM Peak hour. For the AM peak hour, there would be adequate gaps.

Currently, the left-turn bay length works sufficiently to accommodate the current southbound left-turn demand. In the future, during the PM peak hour, there are 76 gaps and 70 vehicles needing to exit the two driveways. The gap analysis is based on an even distribution of gaps and left-turn traffic which is unlikely because of the proximity of the traffic signals on 98th Avenue NE. The traffic

signals on 98th Avenue NE produce platoons of traffic (traffic travel in groups). The analysis assumes no platooning (even distribution of traffic) and assumes that a one-vehicle queue length may be sufficient with the even distribution of traffic entering and exiting the site and on 98th Avenue NE. With increasing left-turns due to the proposed project and platooning of traffic on 98th Avenue NE, it is most probable that some times more than one vehicle entering the project site will need the use of the left-turn bay at the same time. When this occur the second vehicle in queue would block the through travel lane and create vehicle conflict.

Providing additional queue length in the center turn lane would remove the vehicle turning left into the project driveway from blocking the through travel lane and minimize vehicle conflicting. It is recommended that the crosswalk be relocated approximately 50 feet north. This would improve the operation of the center turn lane and provide queuing for two vehicles.

The other option is to restrict left-turns entering and exiting the project driveway. However, this option would impact the existing residents and businesses that share the project driveway.

Parking

The property is located in the JBD 2 zone. In this zone, Stacked or Attached Dwelling Units are required to provide 1.7 parking spaces per unit with up to an additional 0.5 stalls per unit for guest parking. General retail Establishments are required to provide one parking space for each 300 square feet of gross floor area and office uses are required to provide 1 stall for each 300 square feet of gross floor area, not including veterinary, medical, or dentist offices which have a greater parking demand. Based on these requirements, the total number of required spaces is as follows:

Use	**Square Footage/# of Units**	**Required Parking Ratio**	**Total # of Required Stalls**
Stacked or Attached Dwelling Units	84 units	1.7 stalls per unit + 0.5 stalls per unit	184.2
Retail Establishment	9,080 square feet	1 stall for every 300 square feet	30.3
Office Use (not including veterinary, medical, or dentist offices)	2,814 square feet	1 stall for every 300 square feet	9.38
			223.88 stalls

The applicant has requested a parking modification to provide a total of 159 parking stalls, 65 fewer than that required by the Zoning Code. A separate parking modification request that included a parking study was submitted for staff review. Based on the findings, staff has approved the parking modification with the following conditions:

The applicant is proposing 109 parking stalls reserved for the residents plus 10 additional stalls for visitors to the resident use, which exceed the demand of 106 stalls for 84 unit multi-family (containing 58 one-bedroom, 14 studio, and 12 two-bedroom units) based on a one per bedroom rate allowed at other similar development.. Staff agrees with the proposed parking allocation for the resident use. In addition, visitor parking shall be located in an ungated area that shall remain accessible to visitors at all times.

The applicant proposes to provide 40 parking spaces for the retail and office uses based upon the standard parking rates established in the City of Kirkland Zoning Code. It should be noted that the parking supply proposed by the applicant for the commercial uses would not support restaurant/tavern/fast food restaurant demand, nor would it support veterinary, medical or dental offices, all of which have a higher standard parking rates established in the Zoning Code. The commercial parking shall be ungated and accessible to the public after business hours.

Road Impact Fees

Per City's Ordinance 3685, Road Impact Fees per Impact Fee Schedule in effect June 14, 1999 are required for all developments. Road impact fees are used to construct transportation improvements throughout the City. Unless, the applicant has submitted a complete building permit prior to February 1, 2008, the development will be assessed road impact fees as summarized in Table 1. Final traffic fee will be determined at time of building permit issuance.

Table 1. Road Impact Fee Estimate

Uses	Fee Rate	Units	Impact Fees
Condos	$2,012 per unit	84	$169,008.00
Retail Shopping Center	$4.02 per sq. ft.	9,031 sq. ft.	$36,304.62
General Office	$6.64 per sq. ft.	4,385 sq. ft	$29,116.40
Sub-Total			***$234,429.02***
Auto Care Center	$3.91 per sq. ft.	3,200 sq. ft	($12,512.00)
Espresso Stand*	$0.84 per sq. ft	120 sq. ft	($100.80)
Net Fee			**$221,816.22**

*The Espresso Stand paid $100.80 in road impact fee in 2006

Staff Recommendations

Staff believes that the proposed project will not create significant traffic impacts that would require specific off-site traffic mitigation. Staff recommends approval of the proposed project with the following conditions:

- Pay Road Impact Fee
- The development shall provide 119 parking spaces for the residential use. At a minimum, ten of those 119 stalls shall be allocated for visitor parking and shall be accessible at all times by the public.

- Forty parking stalls shall be provided for the retail and office uses and shall be made accessible to the public after business after 7PM.
- Medical office, restaurant, dance and group exercise studios, health club and tavern should not be allowed unless additional parking can be provided to meet the City's requirements.
- Relocate the existing crosswalk 50 feet north.

Any uses other than what is reviewed in this memo proposed to occupy the proposed building may require an updated traffic concurrency test and traffic impact analysis. If you have any questions, call me at (425) 587-3869.

cc: Stefanie Fishman, The Transpo Group
Dan McKinney, The Transpo Group
Permit Plan, BLD07-00996

CITY OF KIRKLAND
123 FIFTH AVENUE • KIRKLAND, WASHINGTON 98033-6189 • (425) 587-3800

DEPARTMENT OF PUBLIC WORKS MEMORANDUM

To: Stacy Clauson, Planner

From: Thang Nguyen, Transportation Engineer

Date: July 3, 2007

Subject: Waterbrook Traffic Concurrency Test Notice, DRC07-00002

This memo summarizes public works review of the traffic concurrency test result for the proposed redevelopment of a commercial site located at 11810 98th Avenue NE.

Project Description

The applicant proposes to replace a tire a 3200sf tire store, espresso stand and frosty restaurant with 84 condos, 4,385 square feet (sf) medical office and a 9,031 sf shopping center. It is estimated that the proposed project will generate 71 net new trips during the PM peak hour and 1,205 daily trips. It is anticipated that the project will be built and fully occupied by 2010.

The proposed project passed traffic concurrency. Attached is the result of the concurrency test. This memo will serve as the concurrency test notice for the proposed project. Per *Section 25.10.020 Procedures* of the KMC, this Concurrency Test Notice will expire in one year (July 3, 2008) unless a development permit and certificate of concurrency are issued or an extension is granted.

EXPIRATION

The concurrency test notice shall expire and a new concurrency test application is required unless:

1. A complete SEPA checklist, traffic impact analysis and all required documentation are submitted to the City within 90 calendar days of the concurrency test notice.

2. A Certificate of Concurrency is issued or an extension is requested and granted by the Public Works Department within one year of issuance of the concurrency test notice. (A Certificate of Concurrency is issued at the same time a development permit or building permit is issued if the applicant holds a valid concurrency test notice.)

3. A Certificate of Concurrency shall expire six years from the date of issuance of the concurrency test notice unless all building permits are issued for buildings approved under the concurrency test notice.

APPEALS

The concurrency test notice may be appealed by the public or agency with jurisdiction. The concurrency test notice is subject to an appeal until the SEPA review process is complete and the appeal deadline has passed. Concurrency appeals are heard before the Hearing Examiner along with any applicable SEPA appeal. For more information, refer to the Kirkland Municipal Code, Title 25. If you have any questions, please call me at x3869.

cc: Stefanie Fishman, The Transpo Group
Dan McKinney, The Transpo Group
Permit Plan, DRC07-00002

1) Project ID:	**Waterbrook Mixed Use Development**	**4) Transportation Concurrency Status**	**6) Transportation Concurrency Certificate Date:**
2) Project Description:	Replace a tire a 3200sf tire strore, expresso stand and frosty reastaurant with 84 condos, 4385 medical office and 9031 shopping center use	PASS	
		5) Transportation Concurrency Test Date	**7) Certificate of Occupancy Date**
3) Build-out Year:	2010	3-Jul-07	

SUMMARY OF TRAFFIC IMPACTS

8) Daily Trips	1,205	**PM Peak Trips:**	71	**Impacted Subarea(s):**	Nw	**TAZ:**	284

Signalized Intersection PM Peak Traffic Impact

		Project PM Peak Turning Volumes															
		Eastbound			Westbound			Northbound			Southbound						
Code	Intersection	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	PM Peak Trips	Daily Trips	Sum of Critical Vol*	Vol. Capacity Ratio*
	Driveway/98th Ave NE				20		13			26	12			71			
														0			
201	98th Ave NE/Juanita Dr						14		11		12	7	1	45			
202	100th Ave NE/NE 124th St				6			1	6	5		6		24			
203	100th Ave NE/NE 132nd St								5			5		10			
204	116th Way NE/NE 132nd St													0			
205	Market St/Forbes Creek								10			6		16			
206	98th Ave NE/NE 120th Pl								12			12		24			
207	Juanita Drive/93rd Ave NE					1								1			
208	Juanita Dr/97th Ave NE					1								1			
209	Market St/7th Ave								10			6		16			
313	NE 124th St/113th Pl NE		5			6								11			
312	NE 124th St/116th Ave NE	1	2			3							1	7			
317	I-405/SB Off NE 124th St		2			3								5			
318	I-405/NB Off NE 124th St		2			3								5			
310	NE 116th St/120th Ave NE		12			14								26			
319	I-405/SB Off NE 116th St		4	8		14								26			
320	I-405/NB Off NE 116th St		4			6		8						18			
311	NE 116th ST/124th Ave NE		1	3		1		5						10			

Transportation Concurency Test

	LOS Standards		*LOS with Project Impacts*			
Subarea No	A= Max. Intersection LOS	B=Average 2010 V/C	a=No. exceeding 1.4	b=Average V/C	**a <= A?**	**b<= B?**
Southwest (1xx)	1.4	0.90	0	0.82	yes	yes
Northwest (2xx)	1.4	0.90	0	0.87	yes	yes
Northeast (3xx)	1.4	0.88	0	0.85	yes	yes
East(4xx)	1.4	1.05	0	0.99	yes	yes

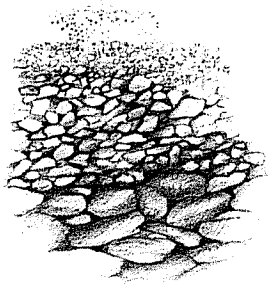
TEST RESULTS

Result: **PASS**

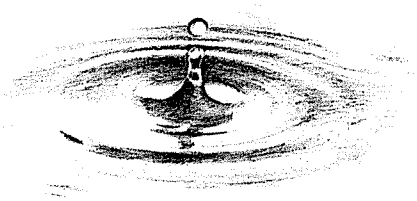
* Based on Critical Movement, Planning Method TRC #212.

1. Number of intersection exceeding Average V/C LOS Standard (2022)

1. Sixth Year Target Average V/C ratio, see step 6, part 1 of the guidelines



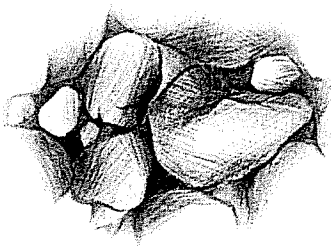
Geotechnical Engineering



Water Resources

Environmental Assessments and Remediation

Sustainable Development Services



Geologic Assessments

Associated Earth Sciences, Inc.

Celebrating 25 Years of Service

Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report

JUANITA PROPERTY

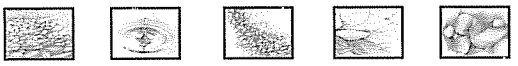
Kirkland, Washington

Prepared for

Jet City Development

Project No. KE060656A
June 25, 2007

Associated Earth Sciences, Inc.



Celebrating 25 Years of Service

June 25, 2007
Project No. KE060656A

Jet City Development
P.O. Box 1727
Bellevue, Washington 98009-1727

Attention: Mr. Chris Gayte

Subject: Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report
Juanita Property
11810 & 11820 98th Avenue NE
Kirkland, Washington

Dear Mr. Gayte:

We are pleased to present the enclosed copies of the above-referenced report. This report summarizes the results of our subsurface exploration, geologic hazard, and geotechnical engineering studies and offers preliminary recommendations for the design and development of the proposed project. Our recommendations are preliminary in that project plans are still under development at the time of the preparation of this report.

We have enjoyed working with you on this study and are confident that 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

Jon N. Sondergaard, P.G., P.E.G.
Principal Geologist

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SUBSURFACE EXPLORATION, GEOLOGIC HAZARD, AND GEOTECHNICAL ENGINEERING REPORT

JUANITA PROPERTY

Kirkland, Washington

Prepared for:
Jet City Development
P.O. Box 1727
Bellevue, Washington 98009-1727

Prepared by:
Associated Earth Sciences, Inc.
911 5th Avenue, Suite 100
Kirkland, Washington 98033
(425) 827-7701
Fax: (425) 827-5424

June 25, 2007
Project No. KE060656A

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of Associated Earth Sciences, Inc.'s (AESI's) subsurface exploration, geologic hazard, and geotechnical engineering study for the proposed Juanita Property located in Kirkland, Washington, as shown on the Vicinity Map, Figure 1. The proposed project consists of a one-story, below-grade parking garage with access to 98th Avenue NE and one or more stories of above-grade building. No site plan was available at the time this report was prepared. The existing site features, and approximate locations of the exploration borings accomplished for this study are presented on the Site and Exploration Plan, Figure 2.

The recommendations given in this report are preliminary in that the site layout, final grades, utility locations and depths were not finalized at the time of the preparation of this report. Once development plans are substantially completed, the preliminary conclusions and recommendations in this report should be reviewed and modified, or verified.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface data to be used in the design of the Juanita Property project. Our study included a review of selected geologic literature, drilling exploration borings, and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and shallow ground water conditions. Geotechnical engineering studies were completed to formulate our recommendations for site preparation, site grading, building construction, and drainage. This report summarizes our current fieldwork and offers preliminary development recommendations based on our present understanding of the project. We recommend that we be allowed to review project plans prior to construction to verify that our geotechnical engineering recommendations have been correctly interpreted and incorporated into the design. Additional exploration or design modifications/review may be required to finalize project documentation.

1.2 Authorization

Written authorization to proceed with this study was granted by Mr. Chris Gayte with Jet City Development by means of a signed copy of our proposal dated September 12, 2006. This report has been prepared for the exclusive use of Jet City Development 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. Our observations, findings, and opinions are a means to identify and reduce the inherent risks to the owner.

2.0 PROJECT AND SITE DESCRIPTION

This report was completed with an understanding of the project based on our conversation with the client, Mr. Chris Gayte, and the project engineer, Mr. William Walker. No plan sets were provided, thus, the proposed building footprint, site improvements, footing depths, site contours and grading are currently unknown. The site plan used as a basis for Figure 2 of this report was drawn based on our site reconnaissance.

2.1 Project Description

We understand current plans call for the demolition of the existing structures on the two properties and construction of a new building. We anticipate that the proposed new building will be a lightly loaded structure with a one-story, below-grade parking area. Currently, the cut and fill elevations or utility locations are not known; we have anticipated that the excavation depth will range from approximately 15 to 26 feet below the existing surface elevation.

2.2 Site Description

The proposed property is located at 11810 and 11820 98th Avenue NE in Kirkland, Washington. The lot is bordered by 98th Avenue NE to the west, and surrounded by developed properties. The vast majority of the site is relatively flat with a topography that is sloped down to the west. The edge of the northeastern portion of the property is a cut area that is considered steep sloped with a height of approximately 11 feet, while the southeastern portion has a rockery with a height of approximately 7 feet. The property is currently occupied by two buildings, an espresso stand, and asphalt parking and driveway areas.

3.0 SUBSURFACE EXPLORATION

Our field study included drilling exploration borings in October 2006 to gain subsurface information about the site. The various types of sediments, as well as the depths where characteristics of the sediments changed, are indicated on the exploration boring logs presented in the Appendix. The depths indicated on the logs where conditions changed may represent gradational variations between sediment types. Our exploration borings were approximately located in the field relative to known site features, as shown on the site plan.

The exploration borings were completed by advancing a 3.25-inch, inside-diameter, hollow-stem auger with a truck-mounted drill rig. During the drilling process, an initial sample was

obtained at approximately 2.5 feet in depth and subsequent samples were obtained at 5-foot intervals. The borings were observed and logged by a geologist from our firm. The exploration logs presented in the Appendix are based on the field log, drilling action, and inspection of the samples collected.

Disturbed but representative samples were obtained by using the Standard Penetration Test (SPT) procedure in accordance with American Society of 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 is recorded within 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 watertight containers. The samples were then transported to our laboratory for further visual classification and laboratory testing, as necessary.

The conclusions and recommendations presented in this report are based on the exploration borings completed for this study. The number, locations, and depths of the exploration borings were completed within site and budgetary constraints. Because of the nature of exploratory work below ground, extrapolation of subsurface conditions between field exploration borings are necessary. It should be noted that differing subsurface conditions are sometimes present due to the random nature of deposition and the alteration of topography by past grading and/or filling. The nature and extent of any 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.

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. As shown on the field logs, the exploration borings generally encountered existing fill; overlying recessional outwash, overlying lodgment till. The following section presents more detailed subsurface information organized from the shallowest (youngest) to the deepest (oldest) sediment types.

4.1 Stratigraphy

4.1.1 Fill

Existing fill was encountered at exploration boring EB-5, towards the west side of the site. The fill layer consisted of a fine to coarse sand. The existing fill layer extended to a depth of approximately 5 feet below the existing ground surface elevation. The existing fill is not suitable for foundation support or for use as structural fill.

4.1.2 Recessional Outwash

Recessional outwash was encountered in borings EB-1, EB-4 and EB-5, towards the west half of the site. The outwash layer consisted of a fine to coarse sand, few silt, trace gravel. The thickness of the outwash layer extended to depths beyond 24 feet toward the west side and was not present toward the east side.

The outwash was deposited during the retreat of the glacial ice. The outwash typically possesses low strength and moderate to high compressibility attributes that may not be favorable for support of foundations. However, at depth, the outwash may be suitable for light foundation support.

4.1.3 Lodgment Till

Lodgment till was encountered in borings EB-1 through EB-4, but not in EB-5. The till layer consisted of a dense to very dense, silty fine to coarse sand, little gravel. The top of the till layer began at the surface and extended to a depth beyond 24 feet from east to west.

The till was deposited at the base of the Puget glacial lobe. The till typically possesses moderate strength and compressibility attributes that may be favorable for support of foundations and floor slabs with proper preparation. Till is considered moisture-sensitive and will soften when exposed to wet weather and disturbance.

4.2 Published Geologic Literature

The soils encountered in our explorations were consistent with the geology for the area as presented in the publication *Geologic Map of the Kirkland Quadrangle, Washington*, by Minard, J.P. (1983). Geologic mapping at the published scale only shows regional trends in the sediment type; therefore, the boundaries between units or sediment/rock type in any given area are sometimes mapped approximately.

4.3 Hydrology

Ground water was encountered in all of our exploration borings at a depth that ranged from 2 to 7 feet at the time of our fieldwork in October 2006 and should be expected within the recessional outwash layer. Ground water conditions should be expected to vary over time and seasonal influences. However, seasonal seepage could occur throughout the site during normal construction activities that begin towards the end of the "wet" season in April. It should be noted that the presence and depth of seepage at the site may vary in response to such factors as changes in season, amount of precipitation, and site use. In our opinion, it is likely that dewatering will be required to complete the planned building excavation.

II. GEOLOGIC HAZARDS AND MITIGATIONS

5.0 INTRODUCTION

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

6.0 SEISMIC HAZARDS AND MITIGATIONS

Earthquakes occur in the Puget Lowland with great regularity. The vast 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 2001, 6.8-magnitude event; and the 1965, 6.5-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 every 25 to 40 years in the Puget Sound area. The site meets the definition of a seismic hazard area under the City of Kirkland Zoning Code, Chapter 85.13.

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 the Seattle Fault. Recent studies by the U.S. Geological Survey (USGS) (e.g., Johnson, S.Y., et al., 1994, *Origin and Evolution of the Seattle Fault and Seattle Basin, Washington*, Geology, v. 22, n. 1, p. 71 - 74 and Johnson, S.Y., et al., 1999, *Active Tectonics of the Seattle Fault and Central Puget Sound, Washington – Implications for Earthquake Hazards*, Geological Society of America Bulletin, v. 111, n. 7, p. 1042 - 1053) suggest that an eastern trace of an east-west trending thrust fault zone (Seattle Fault) may project onto or near the project site. The recognition of this fault is relatively new, and data pertaining to it are limited, with the studies still ongoing. According to the USGS studies, the latest movement of this fault was about 1,100 years ago when about 20 feet of surficial displacement took place. This displacement can presently be seen in the form of raised, wave-cut beach terraces along Alki Point in West Seattle and Restoration Point at the south end of Bainbridge Island. The recurrence interval of movement along this fault system is still unknown, although it is hypothesized to be in excess of several thousand years. Due to the suspected long recurrence interval, the potential for ground rupture is considered to be low during the expected life of the structures, and no mitigations are recommended.

6.2 Seismically Induced Landslides

It is our opinion that the risk of damage to the proposed structures by seismically induced landsliding is low due to the till found under the sloping, east side of the site. The existing slopes on the east side of the property average approximately 80 percent inclination. The height of the steep slope area is approximately 10 feet. The property is considered a critical landslide hazard area under the City of Kirkland Zoning Code, Chapter 85.13. A detailed slope stability analysis was not completed as a part of this study.

6.3 Liquefaction

Liquefaction is a temporary loss in soil shear strength that can occur when loose granular soils below the ground water table are exposed to cyclic accelerations, such as those that occur during earthquakes. The observed recessional outwash were generally loose to medium dense, saturated, and could be prone to liquefaction during a large earthquake. At depths where the relative density is medium dense, the outwash may be less prone to liquefaction. The risk of liquefaction will be mitigated by removing the looser recessional outwash soils to construct the underground parking. A detailed liquefaction analysis was not completed as a part of this study.

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 proposed buildings should follow the 2003 *International Building Code* (IBC). Information presented by the USGS Earthquake Hazards Program indicates a spectral acceleration for the project area for short periods (0.2 seconds) of S_s = 1.21 and for a 1-second period of S_1 = 0.41. Based on the results of subsurface exploration and on an estimation of soil properties at depth utilizing available geologic data, Site Class "C" in conformance with Table 1615.1.1 of the IBC may be used.

7.0 EROSION HAZARDS AND MITIGATIONS

The site does not meet the definition of an erosion hazard area according to the City of Kirkland Zoning Code, Chapter 85.13. The sediments underlying the site generally contain silt and fine sand and will be moderately sensitive to erosion, especially where till soils are encountered. In order to reduce the amount of sediment transport off the site during construction, the following recommendations should be followed:

1. Silt fencing should be placed around the lower perimeter of the work areas. All silt fencing must be keyed into the existing subgrade a minimum of 6 inches. The fencing

should be periodically inspected and maintained, as necessary, to ensure proper function.

2. To the extent possible, earthwork-related construction should proceed during the drier periods of the year, and disturbed areas should be revegetated as soon as possible. Temporary erosion control measures should be maintained until permanent erosion control measures are established.

3. Areas stripped of vegetation during construction should be mulched and hydroseeded, or replanted as soon as possible, or otherwise protected. During winter construction, hydroseeded areas should be covered with clear plastic to facilitate grass growth.

4. If excavated soils are to be stockpiled on the site for reuse, measures should be taken to reduce the potential for erosion from the stockpile. These could include, but are not limited to, covering the pile with plastic sheeting, the use of low stockpiles in flat areas, and the use of straw bales/silt fences around pile perimeters.

5. Interceptor swales with rock check dams should be constructed to divert storm water from construction areas and to route the collected storm water to an appropriate discharge location.

6. Rock/paved construction access points should be maintained to reduce the amount of sediment transported off-site on truck tires.

7. All storm water from impermeable surfaces, including pavement and roofs, should be tightlined into approved facilities and not be directed onto or above any cut slope areas.

8.0 LANDSLIDE HAZARDS AND MITIGATIONS

The east side of the project site is characterized by topography that is considered a landslide hazard area, as defined by the City of Kirkland Zoning Code, Chapter 85.13. In our opinion, due to the competency of the till soils and lack of adverse ground water seepage, the slopes have a low landslide hazard risk. We recommend that cuts greater than 5 feet at the toe of the slope be shored.

III. PRELIMINARY DESIGN RECOMMENDATIONS

9.0 INTRODUCTION

Our exploration indicates that, from a geotechnical standpoint, the proposed project is feasible provided the risks discussed are accepted and the recommendations contained herein are properly followed. The bearing stratum layer was relatively shallow in our explorations, but dives steeply towards the west side of the site. However, the proposed cuts for the below-grade parking garage are anticipated to reach either the till or the medium dense, recessional outwash to provide suitable bearing for the footings. Therefore, the use of conventional spread footings may be feasible. Due to the shallow ground water encountered, dewatering during construction, a permanent perimeter, and underslab drainage system are recommended. Temporary shoring of building excavations will also be required.

10.0 SITE PREPARATION

Site preparation recommendations are based on conditions observed during our explorations and include site demolition, clearing and stripping, temporary cut slopes, and site disturbance. Site preparation effort is expected to be dependent upon the time of year that construction proceeds. It is recommended that a representative from our firm observe the soil conditions prior to and during site preparation activities to evaluate the suitability of stripped subgrades prior to placement of any structural fill and construction of foundation elements and floors.

10.1 Demolition

Existing structures that are not part of future plans should be removed and disposed of off-site. The existing structures also include old foundations, pavement/slabs, septic tanks, and any other man-made debris. Any buried utilities should be removed or relocated if they are under any planned building areas or may hinder shoring installation. The resulting depressions from the removal should be backfilled with structural fill, as discussed under the "Structural Fill" section.

10.2 Clearing and Stripping

Site preparation of planned building and pavement areas should include removal of any trees, brush, debris, and other deleterious material within the proposed development area. Landscaping, associated topsoil/sod, and roots should be removed from planned building and pavement areas. Areas where loose, surficial soils exist due to grubbing should be considered as fill to the depth of disturbance and treated as subsequently recommended for structural fill placement.

Loose soils should be stripped down to the native outwash or the till. Since the density of the outwash and the till are variable, the depth and extent of stripping can be best determined in the field by the geotechnical engineer or engineering geologist. Any soft, loose, or yielding areas should be excavated to expose suitable bearing soils and backfilled with structural fill to achieve the desired grades.

Site preparation of proposed building footprint should consist of excavating the entire area to a depth of the proposed footing grades. If organic materials and/or loose soils are exposed at the proposed footing elevation, they should be further excavated to the competent soils. The area should then be backfilled to grade with structural fill, as discussed in the section on "Structural Fill."

The extent of stripping necessary in areas of the site to receive external surfacing, such as sidewalks and pavement, can best be determined in the field by the geotechnical engineer or engineering geologist. We recommend proof-rolling road and parking areas with a loaded dump truck to identify any soft spots. If construction is to proceed during wet weather, we recommend systematic probing in place of proof-rolling to identify soft areas of the exposed subgrade. These soft areas should be overexcavated and backfilled with structural fill.

10.3 Temporary Cut Slopes

In our opinion, stable construction slopes should be the responsibility of the contractor and should be determined during construction. For estimating purposes, however, temporary, unsupported cut slopes less than 6 feet in height can be planned at 1.5H:1V (Horizontal:Vertical) or flatter in the unsaturated loose fill soils. Cuts into the dense to very dense till may be steepened to 1H:1V. Permanent fill slopes, if any, should be no steeper than 2H:1V.

The above-recommended cut slopes are for areas where ground water seepage is not encountered and assumes that surface water is not allowed to flow across the temporary slope faces. If ground or surface water is present when the temporary excavation slopes are exposed, shoring will be required. 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.

10.4 Site Disturbance

The on-site soils contain substantial fine-grained material, which makes them moisture-sensitive and subject to disturbance when wet. The contractor must use care during site preparation and excavation operations so that the underlying soils are not softened. If disturbance occurs, the softened soils should be removed and the area brought to grade with structural fill. If crushed rock is considered for the access and staging areas, it should be underlain by stabilization fabric to reduce the potential for fine-grained material from pumping

up through the rock 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; however, due to the variable nature of the near-surface soils and differences in wheel loads, this thickness may have to be adjusted by the contractor in the field. Consideration should be given to protecting access and staging areas with an appropriate section of asphalt treated base (ATB).

11.0 STRUCTURAL FILL

At the time of the preparation of this report, the site grading plan was not developed and locations of planned structural fill areas were unknown. We anticipate that structural fill may be necessary to establish desired grades in some areas. All references to structural fill in this report refer to subgrade compaction, structural fill compaction, moisture-sensitive fill, and structural fill testing, 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.

11.1 Subgrade Compaction

After stripping, planned excavation, and any required overexcavation have been performed to the satisfaction of the geotechnical engineer or their representative, the upper 12 inches of exposed ground should be recompacted to a firm and unyielding condition, as determined by the geotechnical engineer or their representative. If the subgrade contains too much moisture, adequate recompaction may be difficult or impossible to obtain 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 the recompacted, exposed ground is tested and approved, or a free-draining rock course is laid, structural fill may be placed to attain desired grades.

11.2 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 ASTM:D 1557 as the standard.

In the event that overexcavation is necessary under the proposed spread footing areas, backfill under the footing areas should consist of quarry spalls, crushed rock, or structural fill as described above. Structural fill or crushed rock used as backfill below footings must extend beyond the edge of footings at a 1H:1V angle. In other words, the area being overexcavated must extend the same number of feet beyond the edge of the footings as the depth of

overexcavation under the footing area. Quarry spalls used as backfill below footings may extend at a 0.5H:1V angle. The advantage of quarry spalls are that they can be bucket tamped and placed in greater than 8 inch lifts. Thus, the overexcavated area can be quickly backfilled.

In the case of roadway and utility trench filling, the backfill should be placed and compacted in accordance with applicable municipal codes and standards. The top of the compacted fill should extend horizontally outward a minimum distance of 3 feet beyond the locations of the perimeter footings or roadway edges before sloping down at a maximum angle of 2H:1V. Fill slopes should either be overbuilt and trimmed back to final grade or surface compacted to the specified density.

11.3 Moisture-Sensitive Fill

Soils in which the amount of fine-grained material smaller than the No. 200 sieve is greater than approximately 5 percent measured on the minus No. 4 sieve size should be considered moisture-sensitive. The on-site soils contain more than 5 percent fine-grained material. Use of moisture-sensitive soil as fill should be limited to favorable dry weather and near-optimum subgrade moisture conditions. Construction equipment traversing the site when the soils are wet can also cause considerable disturbance.

At the time of our explorations, soil moisture contents were judged to be mostly above optimum for fill use. We anticipate that most excavated, existing fill soils will require aeration and drying prior to compaction in fill applications. We do not recommend the use of the existing fill soils for use as structural fill material, however, the existing fill soils may be used for planter or non-structural areas. We also recommend the removal of debris from the existing fill soil before it is reused as fill.

If fill is placed during wet weather or if proper compaction cannot be obtained, a select on-site or 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, and at least 25 percent retained on the No. 4 sieve.

11.4 Structural Fill Testing

The contractor should note that any proposed fill soils must be evaluated by AESI prior to their use. This would require that we have a sample of the material at least 72 hours in advance to perform a Proctor test and determine its field compaction standard.

A representative from our firm should observe the stripped subgrade and be present during placement of structural fill to observe 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 progresses and any 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.

12.0 FOUNDATIONS

All references to foundations in this report refer to allowable soil bearing capacity, footing depth and width, footings adjacent to cuts, footing settlement, footing subgrade bearing verification, and footing drainage, as discussed in this section.

12.1 Allowable Soil Bearing Pressure

Spread footings may be used for building support when they are founded on the medium dense, recessional outwash and the dense, glacially consolidated soils that are prepared as recommended in this report, or on approved structural fill placed as described under the "Site Preparation" and "Structural Fill" sections of this report. Based on our understanding, portions of the proposed footing are expected on the recessional outwash and till. Spread footings may be designed for an allowable foundation soil bearing pressure of 3,000 pounds per square foot (psf), including both dead and live loads, for structures founded on recessional outwash, till, on structural fill, or on a combination of outwash, till, and structural fill. An increase of one-third may be used for short-term wind or seismic loading. If a higher bearing capacity is required, all footings must be extended down to the glacial till soils. If all footings are founded upon glacial till, an allowable foundation soil bearing pressure of 5,000 psf may be utilized.

12.2 Footing Depth

Perimeter footings should be buried at least 18 inches into the surrounding soil for frost protection. No minimum depth is required for the interior footings; however, all foundations must penetrate to the prescribed bearing stratum, and no foundations should be constructed in or above loose, organic, or existing uncompacted fill soils.

12.3 Footings Adjacent to Cuts

The areas bound by lines extending downward at 1H:1V from footings 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 load distribution zone line extending down from footings 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.

12.4 Footing Settlement

Anticipated settlement of footings founded as recommended should be on the order of 1 inch or less if placed on properly prepared subgrade as noted in this report. However, disturbed material not removed from footing trenches prior to footing placement could result in increased settlement.

12.5 Footing Subgrade Bearing Verification

All footing areas should be observed by AESI prior to placing concrete to verify that the foundation subgrades are undisturbed, can support the design foundation load, and construction conforms to the recommendations contained in this report. Such observations will likely be required by the City.

12.6 Foundation Drainage

Perimeter footing and underslab drains should be provided as discussed under the section on "Drainage Considerations."

13.0 TEMPORARY SHORING

It is our understanding a deep excavation is currently being planned for this project extending approximately 15 to 26 feet below existing grades. Temporary excavation shoring will be required to support all four sides of the excavation and surrounding streets and utilities. This section of the report presents design considerations and criteria for use in the design of the excavation shoring. *With this information and other pertinent data, it should be the responsibility of the structural engineer and shoring subcontractor(s) to determine the appropriate design details, construction methods, and procedures for installation of the shoring system.*

13.1 Soldier Pile

Soldier piles are wide-flange beams placed in pre-drilled holes that extend beyond the bottom of the excavation. In all instances, the depth drilled below the bottom of the excavation must be drilled into the till layer. Thus, towards the west side of the site where the depth of till is not known, the soldier piles must be drilled beyond the recessional outwash layer to a minimum depth into the till, as determined by the structural engineer. The recessional outwash layer was saturated at the time of exploratory drilling; therefore, casings may be required to prevent the drilled hole from collapsing. The portion of each soldier pile extending below the bottom of the excavation is grouted in place with sufficient-strength concrete to transmit the vertical loads of the soldier beams to the soil below the excavation level. The upper portion of the soldier pile is then backfilled with a relatively weak grout so that it may be removed, as

necessary, for placement of lagging. For wall heights of approximately 15 feet or less, where the slope at the top of the wall is leveled and no additional surcharge are present, the steel beams may be cantilevered without the use of tiebacks. Where wall heights exceed 15 feet, it is likely that tieback anchors will be required.

In our opinion, lagging would be required throughout the excavation. We also recommend that timber lagging be backfilled with clean sand or pea gravel during installation to minimize the potential for movement of the cut soil. The use of clean sand or pea gravel may result in the loss of backfill behind upper lagging boards due to excavation around lower lagging boards; however, water within the outwash layer must not be allowed to build up behind the wall. Lagging should span a maximum of 8 feet. A reduced lateral earth pressure can be used for lagging design to account for soil arching. A 50 percent reduction of the lateral pressures presented subsequently can be used for timber.

13.2 Soil Loading Conditions

The soil conditions encountered in our exploration borings consisted primarily of dense to very dense till to the east and loose to medium dense recessional outwash to the west. The former material has high shear strength as the result of being overridden by glacial ice. The latter has lower shear strength. The recessional outwash was saturated at the time of exploration. It is our opinion that excavations towards the east side and southeast corner of the site may encounter the till layer. While excavations towards the west side of the site will encounter the outwash layer. However, excavations towards the north and south sides of the site may encounter a combination of both outwash overlying the till layer that drops steeply. Figure 2 gives a visual approximation of the excavation sides where only the till layer may be encountered.

Wall design can be performed based on either "active" or "at-rest" soil pressure conditions. Active pressure assumes the soil is allowed to yield, resulting in a lower pressure. At-rest conditions assume the soil is not allowed to yield, and results in a higher design wall pressure. Active earth pressure design provides a more economic, lighter wall, but increased risk of lateral movement and settlement behind the wall. At-rest pressure design results in a heavier, more costly wall, but a reduced risk of lateral displacement and settlement behind the wall. Selection of the appropriate approach should address the potential damage/cost impacts and level of risk. We recommend that the at-rest pressure be used where settlement-sensitive structures are located. The recommended earth pressures for shoring designs are shown on Figure 3.

13.3 Lateral Retained Earth Pressure Distribution

Portions of the excavation may only require a cantilever wall or possibly a single row of tieback anchors, depending upon the situation. Based on active conditions, we recommend using an equivalent fluid pressure for earth pressure distribution equivalent to 38 pounds per

cubic foot (pcf) using a triangular distribution in the soils within the outwash layer. An active equivalent pressure of 33 pcf may be used for the till layer. To withstand lateral soil pressures based on at-rest conditions, the design pressure is equivalent to a 58 pcf triangular distribution for the outwash soils. An at-rest equivalent pressure of 52 pcf may be used for the till. The active or at-rest pressure distributions should be assumed to act over the tributary area of the piles above the excavation base and one concreted pile diameter below the base. The use of active pressure for the shoring system assumes sufficient deformation of the soil occurs to develop an active condition, typically on the order of 0.001 to 0.002 times the height of the excavation. The above values do not take into account the hydrostatic pressure.

13.4 Surcharges

In addition to the design earth pressures, a traffic surcharge should be incorporated into design, where appropriate. A traffic surcharge equivalent to 75 psf should be assumed. The traffic surcharge should be modeled as a rectangular pressure distribution beginning at the top of the shoring and terminating at the base of the excavation.

13.5 Vertical Loads

The grouted soldier piles must be designed for sufficient vertical capacity, and in the case where tiebacks are used, this should include the vertical component of the inclined tieback loads. It should be noted that settlement of the soldier piles under load could also cause a reduction in anchor pre-stress, allowing lateral tilting about the base. For design purposes, the vertical load capacity should be determined based on an allowable adhesion or side friction of 1 kip per square foot (ksf), and an allowable end bearing of 10 ksf for the temporary loading condition (lean-mix backfill) and 20 ksf for the permanent loading condition (concrete backfill). These allowable end-bearing conditions assume a minimum embedment of at least 10 feet below the base of the excavation and into the till layer.

13.6 Lateral Passive Earth Resistance

The lateral passive earth pressures for the cantilevered wall are given in the "Passive Resistance and Friction Factor" section. For the wall where the use of tiebacks is required, the lateral resistance may be computed on the basis of passive pressure in the form of an allowable "apparent" earth pressure equivalent to 300(D-2) psf, where D is the depth of embedment below the base of the excavation and into the till layer in feet. This pressure may be considered to be acting against twice the diameter of the grouted soldier pile section. The active or at-rest pressure distributions should be assumed to act over the tributary area of the piles above the excavation base and one concreted pile diameter below the base.

13.7 Tiebacks

If tiebacks are proposed for use in the shoring system, the grouted anchors must be located far enough behind the soldier pile wall to develop anchorage within a stable soil mass to prevent a massive failure or excessive deformation. We recommend that this anchorage be obtained behind an assumed failure plane defined by a horizontal line extending a distance equal to H/4 behind the retained excavation at the base of the excavation, which then rotates 60 degrees from the horizontal and extends upward to the ground surface. The area between this assumed failure plane and the retained excavation is referred to as the "no-load zone." These recommendations are presented on Figure 3. The anchor loads are transmitted to the surrounding soil by side friction or adhesion with the soil. Temporary tieback anchors installed by hollow-stem auger techniques may be designed for an allowable shaft friction of 1,000 psf in the dense to very dense till sediments if located greater than 20 feet below the existing ground surface. An allowable shaft friction of 500 psf should be used for the recessional outwash. Assumed anchor design loads should be confirmed by proof testing. All anchors should extend a minimum of 10 feet behind the no-load zone.

Care must be exercised when installing tiebacks to avoid existing utilities and foundations. Demonstration of utility and foundation protection will be required to obtain a temporary tieback easement from the City of Kirkland. All tiebacks will need to be de-stressed subsequent to wall and floor construction.

We recommend for this site that each anchor be sized for a design or allowable load of not more than 50 percent of the ultimate load available through the anchor (as indicated by 200 percent verification tests). Anchors should be tested and evaluated according to Pile Testing Institute (PTI) guidelines. The test anchors should be capable of holding the ultimate load without excessive yield or creep so that a factor of safety of at least 2.0 is available for production anchors should further stressing occur. The rods or cables should transmit the anchor load to the soldier pile in such a manner to avoid eccentric loading.

13.8 Anchor Tests

A series of anchor tests should be performed to verify the design and ultimate skin friction or adhesion of the tieback anchors. Because of the variation in the soil types and their densities, we recommend that AESI monitor the anchor test program. A common anchor testing program would consist of at least two 200 percent verification tests of the design or allowable load in the soil plus proof-loading every production anchor to 130 percent of the design load. Verification test anchors are usually loaded in 25 percent increments that are held for 5 minutes up to the final load of 200 percent design load. The 200 percent load is commonly held for an hour and creep measured. The other component of the anchor test program for the project would be proof-loading each of the production anchors to 130 percent of the design load. Each anchor should withstand this load for at least 5 minutes. The anchor should then be locked off at the design load.

Subsequent to locking off the tiebacks at the design load, all of the tieback holes should be backfilled to prevent possible collapse of the holes and any related consequences. Typically, sand is used as backfill material; however, most non-cohesive mixtures are suitable (subject to approval by the geotechnical engineer) provided there is no bonding to the tierods.

13.9 Survey Monitoring Program

A program should be established to monitor the horizontal and vertical movement of the excavation sidewalls and the installed shoring wall. This monitoring program may be required by the City of Kirkland. The monitoring should be performed by a licensed surveyor with monitoring points established on settlement-sensitive structures (buildings, manholes, poles, etc.) around the excavation and at regular intervals along the shoring wall. Monitoring should be performed at least twice a week, and the specifics of the monitoring program should be provided to AESI for review prior to implementation. We recommend the monitoring program be prepared as part of the final shoring wall design.

14.0 LATERAL WALL PRESSURES

All backfill behind foundation walls or around foundation units should be placed as per our recommendations for structural fill and as described in this section of the report. Horizontally backfilled walls, which 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 with sloping backfill up to a maximum gradient of 2H:1V should be designed using an equivalent fluid of 55 pcf for yielding conditions or 75 pcf for fully restrained conditions. If parking areas are adjacent to walls, a surcharge equivalent to 2 feet of soil should be added to the wall height in determining lateral design forces.

14.1 Wall Backfill

The lateral pressures presented above are based on the conditions of a uniform backfill consisting of excavated on-site soils, or imported structural fill compacted to 90 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 settlement of the slab-on-grade or other structures supported above the walls. Thus, the compaction level is critical and must be tested by our firm during placement. Surcharges from adjacent footings or heavy construction equipment must be added to the above values.

14.2 Wall Drainage

Due to the relatively shallow ground water encountered during the exploration, it is imperative that proper drainage be provided so that hydrostatic pressures do not develop against the walls.

This would involve installation of a minimum, 1-foot-wide, blanket drain to within 1 foot of finish grade for the full wall height using imported washed gravel against the walls. Wall footing drains should be provided for all retaining walls, as discussed under the section on "Drainage Considerations."

14.3 Passive Resistance and Friction Factor

Footings cast directly against undisturbed, medium dense to dense, native soils in a trench may be designed for passive resistance against lateral translation using an equivalent fluid equal to 250 pcf. The passive resistance value includes a factor of safety equal to 1.5 in order to reduce the amount of movement necessary to generate passive resistance. The allowable friction coefficient for footings cast directly on undisturbed soils may be taken as 0.35. Since it will be difficult to excavate these soils without disturbance, the soil under the footings must be recompacted, if possible, to at least 95 percent of the above-mentioned standard for this value to apply.

15.0 FLOOR SUPPORT

Slab-on-grade floors may be used over medium dense to very dense, native soils, or over structural fill placed as recommended in the "Site Preparation" and "Structural Fill" sections of this report. Slab-on-grade floors should be cast atop a minimum of 4 inches of pea gravel or washed crushed rock to act as a capillary break. The floors should also be protected from dampness by covering the capillary break layer with a vapor retarder at least 10 mils in thickness. The vapor retarder must be protected from punctures. If a sand "blotter layer" is placed over the vapor retarder, it must be protected from excess moisture prior to placing the slab. Permanent dewatering of the area under the slab-on-grade area should follow the recommendations in the "Drainage Considerations" section of this report.

Where settlement can be tolerated, the outwash soils can be used to support non-elevated sidewalks or other similar structures contingent upon adequate remedial preparation of the subgrade and understanding of uncertainties in settlement performance. Slabs or pavement to be supported on-grade should be supported on a maximum, 2-foot-thick, structural fill mat. All fill beneath sidewalks or pavement must be compacted to at least 95 percent of ASTM:D 1557.

16.0 DRAINAGE CONSIDERATIONS

The underlying till appears relatively impermeable, and water will tend to perch atop those stratums. Additionally, traffic across these soils when they are damp or wet will result in disturbance of the otherwise firm stratum. Therefore, prior to site work and construction, the contractor should be prepared to provide drainage and subgrade protection, as necessary.

16.1 Temporary Dewatering

After installation of the shoring system, the excavation area should be dewatered to at least 2 feet below the bottom of the excavation. The temporary dewatering system should be designed and constructed by the contractor. We anticipate that the dewatering system may consist of a series of drilled wells or driven well-points around the perimeter inside the shoring and connected to a pump. The initial water generated may likely be very turbid, and should be pumped to a temporary holding tank and clarified prior to release to a suitable discharge. After clean, clear water has been verified through turbidity and other testing, the water may be discharged to the sewer or other suitable discharge locations. A pollution discharge permit may be necessary from the local municipalities prior to discharge and should be obtained by the contractor.

16.2 Permanent Drainage

Permanent foundation walls cast directly against temporary shoring should be provided with proper drainage to control moisture and prevent the build up of hydrostatic pressure against the wall. At a minimum, we recommend that drainage board, such as Enkadrain or Miradrain, be installed at regular spacings on the face of the soldier pile wall. The side of the drainage board that will face the permanent foundation wall should be covered with plastic sheeting (12-mil minimum thickness) prior to concrete placement. The drainage board should discharge to a permanent drainage system either on the inside or outside of the permanent foundation wall. The drainage system should consist of a rigid, perforated, polyvinyl chloride (PVC) pipe fully enveloped in washed pea gravel. The drainage should be tightlined to an approved discharge. The drainage pipe and tightline should be sloped to gravity drain. Prefabricated drains to discharge water through foundation walls to a collector system are available and are recommended for this project.

Perimeter footing walls, basement walls, and retaining walls should be provided with a drain at the base elevation. The drains should consist of rigid, perforated, PVC pipe surrounded by washed pea gravel. The level of the perforations in the pipe should be set at approximately 2 inches below the bottom of the footing at all locations, and the drain collectors should be constructed with sufficient gradient to allow gravity discharge away from the buildings. In addition, all foundation walls should be lined with a minimum, 12-inch-thick, washed gravel blanket provided to within 1 foot of finish grade that 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. If drainage mat is used, it should be installed per the manufacturer's specifications.

The project should include a permanent subsurface drainage system enveloping the basement structure under the slab area. The subsurface drain aggregate should consist of a minimum, 18-inch-thick layer of 1-inch washed gravel drainage aggregate below the floor slabs and adjacent the basement walls. Perforated, 6-inch-diameter, PVC footing drains should be

placed under the slab at 10 feet on-center. The perforated drains should be sloped to drain or be pumped to an approved discharge point. A non-woven, geotextile filter fabric, such as Mirafi 160N or approved equal, should be placed between the drainage aggregate and the silty site soils.

All permanent drain systems should be gravity drained to an approved discharge point. However, if gravity draining the permanent drain systems is not possible, a sump system should be designed.

In planning, exterior grades adjacent to foundations should be sloped downward away from the structures to achieve surface drainage. Final exterior grades should promote free and positive drainage away from the buildings at all times. Water must not be allowed to pond or to collect adjacent to foundations 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 structures. Additionally, pavement subgrades should be crowned to provide drainage toward catch basins and pavement edges.

17.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

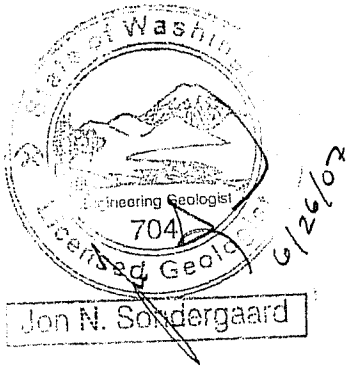
At the time of this report, site layout details, grading, structural plans, and construction methods have not been finalized, and the recommendations presented herein are preliminary. We are available to provide additional geotechnical consultation as the project design develops and possibly changes from that upon which this report is based. We recommend that AESI perform a geotechnical review of the plans prior to final design completion. In this way, our earthwork and foundation recommendations may be properly interpreted and implemented in the design. This review is not included in our current scope of work and budget.

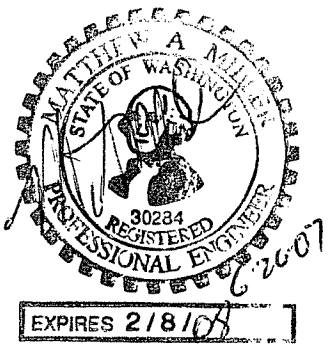
We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of the foundations for buildings and pavement subgrades depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field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

We have enjoyed working with you on this study and are confident that 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

Su-Kiet Lieu, P.E.
Senior Staff Engineer



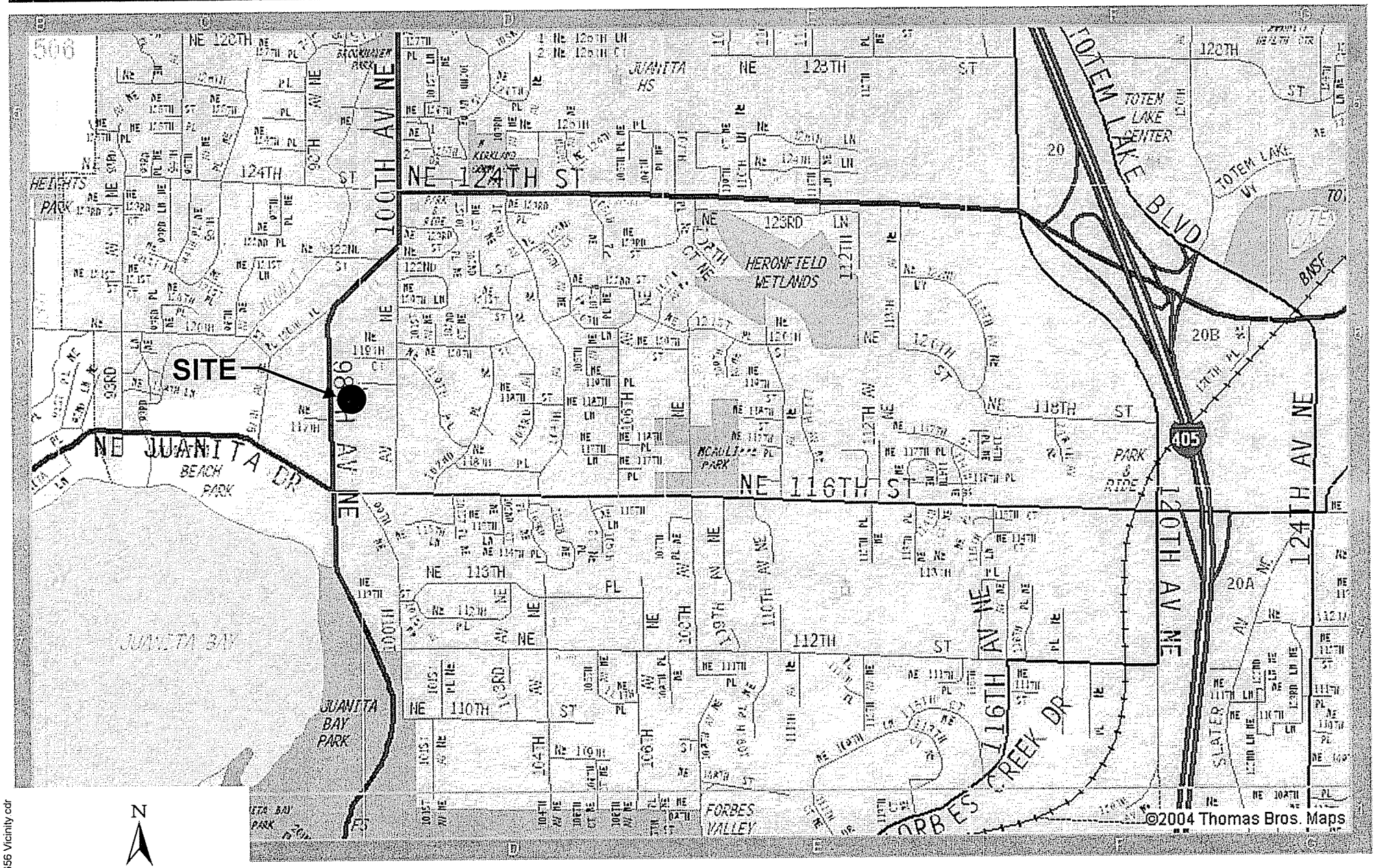


Jon N. Sondergaard, P.G., P.E.G.
Principal Geologist

Mathew A. Miller, P.E.
Associate Engineer

Attachments:

	Figure 1:	Vicinity Map
	Figure 2:	Site and Exploration Plan
	Figure 3:	Soldier Pile Retaining Wall Design Criteria
	Appendix:	Exploration Logs



N

NO SCALE

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VICINITY MAP

JUANITA PROPERTY

KIRKLAND, WASHINGTON

FIGURE 1

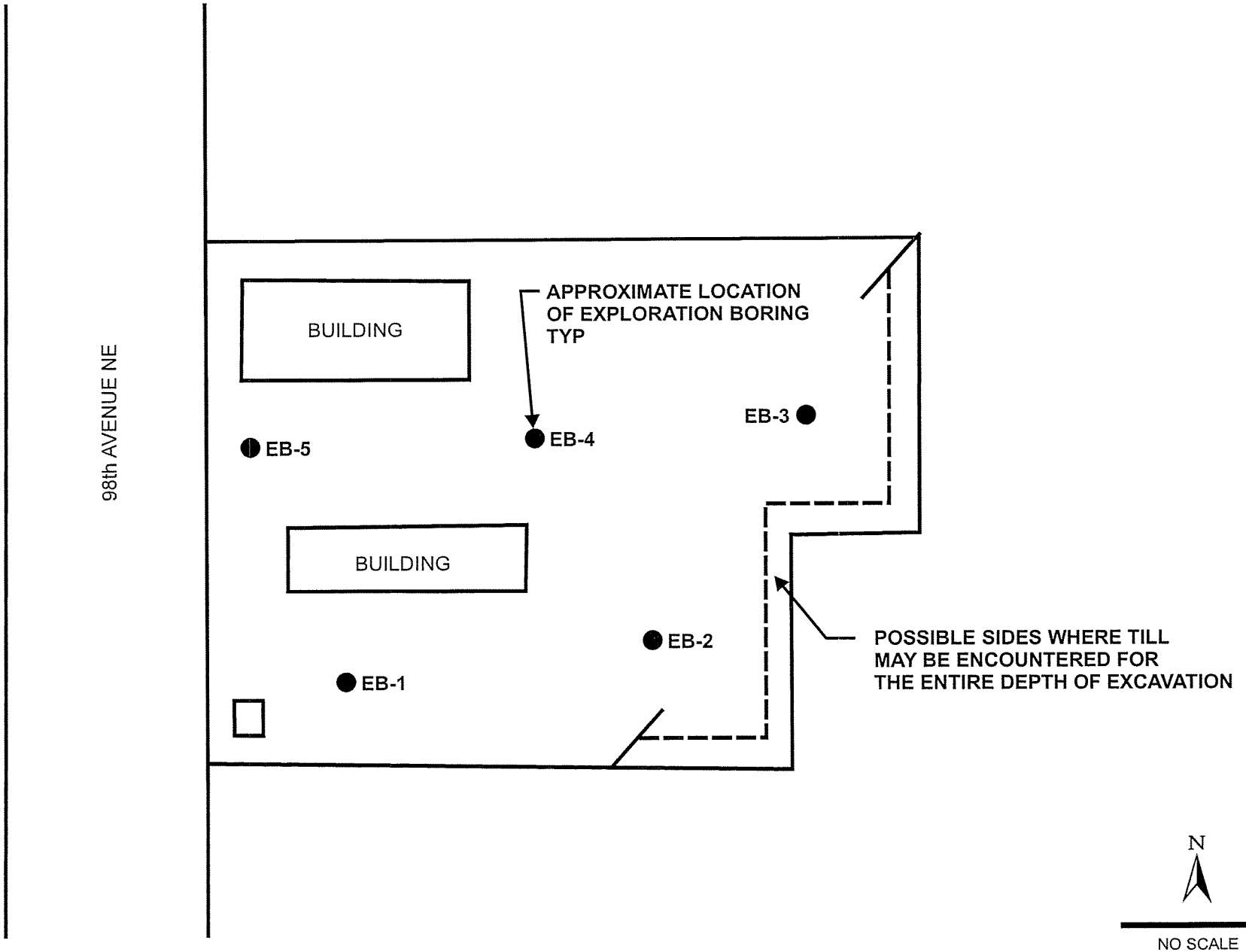
DATE 6/07

PROJ. NO. KE060656A

Enclosure 7

060656 Juanita Property \ 060656 Vicinity.cdr

17



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SITE AND EXPLORATION PLAN
JUANITA PROPERTY
KIRKLAND, WASHINGTON

FIGURE 2
DATE 6/07
PROJ. NO. KE060656A

Enclosure 7

060656 Juanita Property \ 060656 Site and Explr REV 6-21-07 cdr

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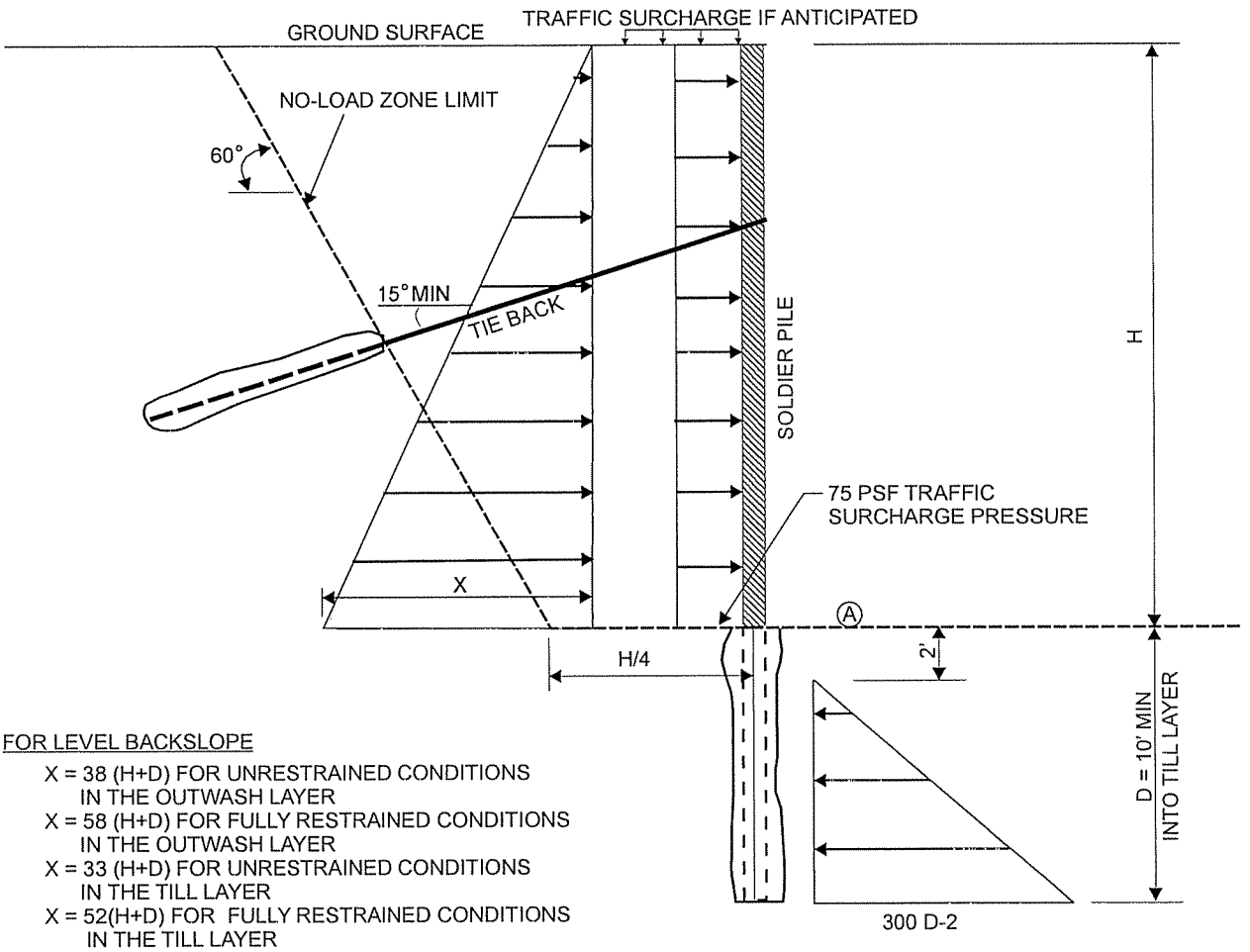


FOR LEVEL BACKSLOPE

X = 38 (H+D) FOR UNRESTRAINED CONDITIONS IN THE OUTWASH LAYER
X = 58 (H+D) FOR FULLY RESTRAINED CONDITIONS IN THE OUTWASH LAYER
X = 33 (H+D) FOR UNRESTRAINED CONDITIONS IN THE TILL LAYER
X = 52(H+D) FOR FULLY RESTRAINED CONDITIONS IN THE TILL LAYER

PASSIVE PRESSURE ACTS OVER TWICE PILE DIAMETER

PASSIVE PRESSURE TRUNCATED 2 FEET BELOW BASE OF EXCAVATION

ACTIVE / AT REST CASE (TEMPORARY LOADING)
SINGLE LEVEL TIEBACKS/BRACES OR CANTILEVER
NOT TO SCALE

NOTES:

1. SOLDIER PILE EMBEDMENT DEPTH "D" SHOULD CONSIDER NECESSARY VERTICAL CAPACITY, KICKOUT, AND OVERTURNING RESISTANCE. EMBEDMENT DEPTH "D" MUST BE INTO THE TILL LAYER.

2. ALL TIEBACK ANCHORS - IF USED - SHALL BE PRESTRESSED TO 130 PERCENT OF DESIGN LOAD AND LOCKED OFF AT 100 PERCENT OF DESIGN LOAD. AT LEAST TWO ANCHORS ON EACH SIDE OF THE EXCAVATION SHALL BE PRESTRESSED TO 200 PERCENT AND MONITORED FOR CREEP. TIE-BACK ANCHOR ZONE IS TO BE LOCATED BEHIND THE NO-LOAD ZONE.

3. ALLOWABLE TIEBACK - SOIL ADHESION = 0.5 KIPS PER SQUARE FOOT -KSF- FOR THE OUTWASH AND 1KSP FOR THE TILL.

4. PASSIVE PRESSURES INCLUDE A FACTOR OF SAFETY OF 1.5.

5. ALLOWABLE SKIN FRICTION OF SOLDIER PILE - 1 KSF OVER DEPTH "D-2". ALLOWABLE END BEARING = 20 KSF (CONCRETE BACKFILL).

6. DIAGRAM DOES NOT INCLUDE HYDROSTATIC PRESSURES OR SLOPE SURCHARGES AND ASSUMES WALLS ARE SUITABLY DRAINED TO PREVENT BUILDUP OF HYDROSTATIC PRESSURE WITH NO SLOPE AT TOP OF WALL.

7. DIAGRAM IS ILLUSTRATIVE AND NOT REFERENCED TO A PARTICULAR LOCATION.

8. DIAGRAM DOES NOT INCLUDE PRESSURES DUE TO SURFACE SURCHARGES FROM ANY ADJACENT STRUCTURES. THESE PRESSURES MUST BE PROVIDED BY THE STRUCTURAL ENGINEER.

9. BASE OF EXCAVATION SHALL BE DEFINED AS THE FOUNDATION SUBGRADE ELEVATION (A).

APPENDIX

Exploration Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	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
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥15% Fines[5]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines[5]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥15% Fines[5]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

	Density	SPT[2] blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT[2] blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Chemical
DD = Dry Density
K = Permeability

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
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)
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)
Silt and Clay	Smaller than No. 200 (0.075 mm)

[3] Estimated Percentage

Component	Percentage by Weight
Trace	<5
Few	5 to 10
Little	15 to 25
With	- Non-primary coarse constituents: ≥ 15% - Fines content between 5% and 15%

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch

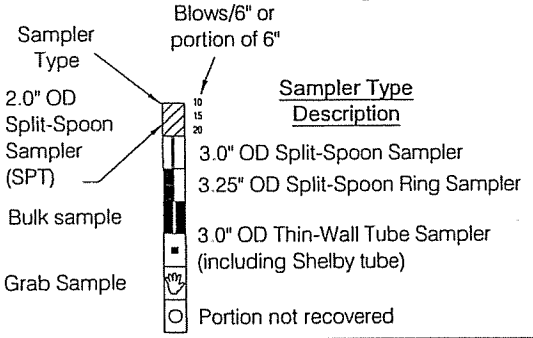
Slightly Moist - Perceptible moisture

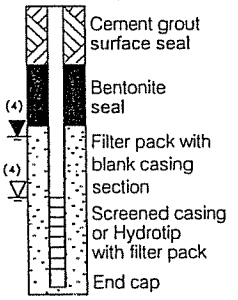
Moist - Damp but no visible water

Very Moist - Water visible but not free draining

Wet - Visible free water, usually from below water table

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of ground water
▼ ATD = At time of drilling
▽ Static water level (date)
(5) Combined USCS symbols used for fines between 5% and 15%

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.

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EXPLORATION LOG KEY

FIGURE A1

blockslog_key.dwg LAYOUT: Layout2

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Exploration Log

Enclosure 7

Project Number	Exploration Number	Sheet
KE060656A	EB-1	1 of 1

Project Name	Juanita Property	Ground Surface Elevation (ft)	unknown
Location	Kirkland, WA	Datum	N/A
Driller/Equipment	Geologic Drill/Trailer Rig	Date Start/Finish	10/10/06,10/10/06
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				~4 inches of asphalt					
				Recessional Outwash					
		S-1		Moist to wet, light brown grading to light gray, weakly stratified, fine to coarse SAND, few silt, trace fine subrounded gravel (SW/SM).			3 4 4	▲8	
5						▼			
		S-2					3 5 6	▲11	
10									
		S-3					4 4 5	▲9	
15				Becomes gravelly.					
		S-4		**Lodgement Till**			35 42 50/6"		▲50/6"
				Moist, light gray, non-stratified, silty fine to coarse SAND, few fine subrounded gravel (SM).					
20				Bottom of exploration boring at 19 feet					
25									
30									
35									

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: JDC

Approved by:

AESIBOR_060656A.GPJ June 1, 2007

Associated Earth Sciences, Inc.

Exploration Log

Enclosure 7

Project Number	Exploration Number	Sheet
KE060656A	EB-2	1 of 1

Project Name: Juanita Property
Location: Kirkland, WA
Driller/Equipment: Geologic Drill/Trailer Rig
Hammer Weight/Drop: 140# / 30"

Ground Surface Elevation (ft): unknown
Datum: N/A
Date Start/Finish: 10/10/06,10/10/06
Hole Diameter (in): ~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				~4 inches of asphalt					
				Lodgement Till					
		S-1		Moist, light olive-brown grading to light olive-gray, non-stratified, silty fine to coarse SAND, little fine to coarse subrounded gravel, trace cobbles (SM).		▼	34 47 50/5"		50/5"
5		S-2					50/5"		50/5"
10		S-3					41 50/4"		50/4"
15		S-4					50/6"		50/6"
20				Bottom of exploration boring at 18 feet					
25									
30									
35									

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: JDC
Approved by:

AESIBOR 060656A.GPJ June 1, 2007

Associated Earth Sciences, Inc.

Exploration Log

Enclosure 7

Project Number	Exploration Number	Sheet
KE060656A	EB-3	1 of 1

Project Name: Juanita Property
Location: Kirkland, WA
Driller/Equipment: Geologic Drill/Trailer Rig
Hammer Weight/Drop: 140# / 30"

Ground Surface Elevation (ft): unknown
Datum: N/A
Date Start/Finish: 10/10/06,10/10/06
Hole Diameter (in): ~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				~2 inches of asphalt					
				Lodgement Till					
				Moist, light olive-brown grading to light olive-gray, non-stratified, silty fine to coarse SAND, little fine to coarse subrounded gravel, trace cobbles (SM).					
		S-1					12 32 42	74	
5									
		S-2					42 50/4"	50/4"	
10									
		S-3					50/5"	50/5"	
15									
		S-4					50/6"	50/6"	
				Bottom of exploration boring at 18 feet					
20									
25									
30									
35									

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: JDC
Approved by:

AESIBOR 060656A.GPJ June 1, 2007

Associated Earth Sciences, Inc.

Exploration Log

Enclosure 7

Project Number	Exploration Number	Sheet
KE060656A	EB-4	1 of 1

Project Name: Juanita Property
Location: Kirkland, WA
Driller/Equipment: Geologic Drill/Trailer Rig
Hammer Weight/Drop: 140# / 30"

Ground Surface Elevation (ft): unknown
Datum: N/A
Date Start/Finish: 10/10/06,10/10/06
Hole Diameter (in): ~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				~3 inches of asphalt					
				Recessional Outwash					
		S-1				▼	3 3 5	▲8	
5									
		S-2					4 6 13	▲19	
10				Gravelly drilling.					
		S-3		Blow count overstated; hammering on a rock.			50/2"		▲50/2"
				Lodgement Till					
15									
		S-4		No recovery.			50/6"		▲50/6"
				Bottom of exploration boring at 18 feet					
20									
25									
30									
35									

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: JDC
Approved by:

AESIBOR 060656A.GPJ June 1, 2007

Associated Earth Sciences, Inc.

Exploration Log

Enclosure 7

Project Number	Exploration Number	Sheet
KE060656A	EB-5	1 of 1

Project Name: Juanita Property
Location: Kirkland, WA
Driller/Equipment: Geologic Drill/Trailer Rig
Hammer Weight/Drop: 140# / 30"

Ground Surface Elevation (ft): unknown
Datum: N/A
Date Start/Finish: 10/10/06,10/10/06
Hole Diameter (in): ~8 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				~2 inches of asphalt					
				Fill					
		S-1		Moist to wet, light brown, non-stratified, fine to coarse SAND, little silt, few charcoal particles (SM).			5 5 6	▲11	
5				**Recessional Outwash**		▼			
		S-2		Moist to wet, light brown grading to light gray, weakly stratified, fine to coarse SAND, few silt, trace fine subrounded gravel (SW/SM).			2 3 4	▲7	
10									
		S-3					3 3 3	▲6	
15									
		S-4		Gravelly drilling. Returns to trace gravel.			3 5 8	▲13	
20									
		S-5					10 10 10	▲20	
25				Bottom of exploration boring at 24 feet					
30									
35									

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: JDC
Approved by:

AESIBOR 060656A.GPJ June 1, 2007

SEP 0 4 2008

ENCLOSURE 8

4/11/08

City of Kirkland
Planning department

RE: The Waterbrook

CC: The Waterbrook design group
The neighbors of the Waterbrook project

To the planners:

Thank you for considering the following issues at this late date:

As you know we did not receive notice through the mail from the City of Kirkland or see anything posted on either of the Waterbrook sites or our driveway. The Waterbrook intends to use our easement driveway as their only ingress and egress but there was nothing posted on that driveway.

The way the City of Kirkland encourages and allows the Waterbrook to use its two sites will have a huge impact on the neighbors adjacent to their proposed buildings, the neighbors who share the use of **"our driveway"** and everyone who owns properties northwest of the Waterbrook sites. The impact of the Watterbrook will be huge but the precedent that it sets will cause even more damage when more sites are developed.

INGRESS AND EGRESS:

The proposed use of **"our driveway"** will have a huge impact on everyone who uses it. The 11 owners of Hillside village condos, our 4 tenants, and the business at 11656 (or 29 more units when it is developed) as well as the future 84 owners/tenants at the Waterbrook all have a huge stake in how **"our driveway"** is used.

128 residents will eventually depend on **"our driveway"** for their only ingress and egress, if the Waterbrook's use of **"our driveway"** is allowed. **If so that level of use must be planned for now.**

The following facts must be considered.

The north 55% of the Waterbrook, 11820, has no legal access to **"our driveway".** This fact is made clear in the original 1038 document and its subsequent enforcement over the years.

The south 45% of the Waterbrook, 11810, will block our only emergency exit and eliminate one of the two options to turn around. Both 11810 and 11656 have always had a lot of open parking and their sites have been used for turning around for 40+ years. 11810's main entrance has been our emergency exit for the past 30 years, ever since our driveway was blocked creating two dead end driveways.

30 years ago the owners and users of what was then known as "The Ohio community drive" decided that their driveway was being used as a short cut by to drive from 100th Ave NE to 98th Ave NE and agreed to block all vehicular use other than the owners. They agreed to block it above the 11802 Hillside Village and 11804 Juanita House sites, creating two dead end driveways. They exercised the "control" over **"our driveway"** that is written

into our deeds. Since that time our only emergency exit has been through 11810's main driveway and everyone turns around on one side or the other of our lower driveway, between 11810 &11656.

If the Waterbrook is allowed to build as they plan the 11656 site when it is developed later will use the same ingress and egress strategy **"our driveway"** will be reduced to **"an alley".** It is obvious that any developer will save the more valuable 98th Ave NE exposure for shops. The result will be a **20.92 ft. "alley"** with a 5 ft. sidewalk on each side and flanked by **45 ft. high four story buildings** for 170-200+ ft. In downtown Seattle this arrangement is called **"an alley".**

We don't want an alley! We want to have some emergency exit option. **"Our driveway"** is often blocked now and it only serves 15 residents and two businesses. When both the Waterbrook and 11656 are fully developed there will be 128 residents depending on **"our driveway"** as their only means of ingress and egress. They will need some sort of emergency exit and a turn around.

"Our driveway" will need to be a lot wider. If there was room for three lanes then there would be space for two going out one to the left and one to the right with one coming in. Then if something is blocking much of the driveway there will still be room to get by. There should also be room for a large loading zone beyond their garage entrance so delivery trucks, garbage trucks, tow trucks, and any kind of vehicle will have a place to pull over without interrupting normal traffic flow.

"Our driveway" will still need a turn around that will make it possible for vehicles, big and small, to turn around.

"Our driveway" has been **"controlled"** by the owners on a front foot basis and even the owners have not been allowed to use it for their own benefit by providing access for another adjacent property without the agreement of and compensation to the owners. If the site does not have easement frontage rights and responsibilities it can not use **"our driveway".** As it is now everyone who uses **"our driveway"** has given up the use of 10% of their site and is responsible for its maintenance but retain **"control"** of its use.

The Waterbrook's strategy of using **"our driveway"** for the benefit of their adjacent property, without the owner's agreement, has been tried before and failed. The owners at that time exercised their **"control"** by denying that use until they had agreed upon fair compensation. Even after they agreed to allow the adjacent property the use of the easement the owners prevented the new user from doing anything that was not in the best interest of the owners of the easement.

The original language from the easement that the Bender's recorded in 1938 is as follows:

"-- hereby grant ------, the right, privilege and authority to construct, improve, repair and maintain a public thoroughfare to be known as **"Ohio Community Drive" to be maintained and controlled by the adjacent property owners according to the front** footage across over and upon following land located in King County. An easement for ingress and egress over and across a strip of land having a width of 20.92 ft. lying 10.46 ft. on either side of (the lots that front the easement) ----. **In exercising the rights herein granted, the grantees -------, may pass and repass over said public thoroughfares may cut and remove brush, trees and other obstructions which in the opinion of the grantees interferes with their ingress and egress. The covenants herein contained shall run with the land and are binding upon all subsequent owners.**

As you can see by the current use and configuration of the "Ohio Community Drive", the owners have throughout the years exercised their rights that are very specific in the easements original language. Adjustments in the way it has been used have been made in the past but each change in use or amendment to the easement has been controlled by the owners "--- according to the front footage over and upon ---". **"The owners who have contributed 10% of their land to the easement."**

Whereas the authors of this easement crafted this document to protect 10 or 12 lot owners from **"their common driveway"** being blocked by "bush and trees" they did include **"other obstructions which in the opinion of the grantees interferes with their ingress and egress."**

It is easy to see that a 20.92 ft. wide dirt driveway, with two exits, was easily adequate to serve 10-12 residents, especially when they had the right control its use.

It is just as easy to see that the same 20.92 wide paved driveway, with no emergency exit or turnaround, **is not adequate** to serve 128 residents **and the proposed businesses that will front on 98th**.

What has the Waterbrook offered to give and give up for the privilege of using **"our driveway"** for the north 55% of their site? It might be possible but it has to be negotiated and agreed to by the 13 other owners that use **"our driveway"**"according to the front footage over and upon".

So far no one has even talked to any of the owners, that I know of and there are 13, about the Waterbrook's proposed use that the City of Kirkland has not challenged **so far.**

Their planed use of "our driveway" has no justification! They can not use it as they have proposed without the current owners cooperation and approval. If they are willing to work with us on the design of their building, VIEW CORRIDOR, and provide some changes to "our driveway", that will offset the obvious disadvantages that the Waterbrook will create, they will find at least one of the current owners receptive.

I have started a chronological history of **"our driveway"** and will have it ready soon. We have many of the documents, in hand, and have supplemented them with 45 years of personal history. We have personally used **"The Ohio Community Drive",** which we now refer to as **"Our driveway"** for 40 years. It is used now and owned only by Hillside Village, Juanita House, 11656 and 11810.

We the owners "control" its use.

VIEW CORRIDOR:

The Waterbrook, as proposed, will block 95% of the view of our four-plex @ 11804-98th Ave NE, that we call Juanita House. The back of their proposed building will be only 28 ft., directly in front and completely blocking our view, It will be 63.3 ft. wide, about 32 ft. tall, three stories +, and be as tall as the roof of our building. It will not only block our view but it will block out the sun.

When I asked the architect of the Waterbrook, Bill Walker, why they designed their building with no consideration for our view "corridor" this is what he had to say.

"We have no obligation (or incentive) to protect your view! Your view is not guaranteed! We don't have to change anything."

It was obvious from his comment that he did not care if their project destroyed our four-plex and he was confident that the City of Kirkland would support him.

He went on to say that the City of Kirkland forced them to block our view in order to be awarded a (13 ft.?) height bonus, which would enable them to build a fourth floor instead of only three. **Is that possible?**

This really confuses me because I have been around zoning, designed and built several buildings including 11804, and thought that I understood the purpose of a height bonus.

It is my understanding that they could build a three-story building that did not consider anything but their own design goals and the building codes. They would have no obligation (or incentive) to protect anyone's view or consider any visual impact that their building might have on their neighbors or the neighborhood. If they met the City of Kirkland's basic codes they could do as they like. Their architects comment to me reflected this attitude.

The City of Kirkland recognized, when they created the height bonus, that many developers will forget about their neighbors and the neighborhood when they designed their projects because they are driven to make money and being a good neighbor gets in the way of making money. Besides they will not be our neighbor for long because they plan to sell their building to others. Their only goal is to maximize the profits from the initial sales. What happens after is not their problem. It will be the new owner's problem.

The City of Kirkland decided to create an incentive to encourage the developers to design their buildings with some consideration for their neighbors and the neighborhood. They knew that by allowing the design team to add an additional floor it would give them a way to preserve some of the view that they would otherwise destroy. A solid three story building blocks out a lot more view than a building, of even greater square footage, that is a combination of two, three and four stories. But in order for that concept to work, the existing view corridor (in this case the natural Juanita Bay view corridor) must be identified and respected in their design. The lower sections of the building must be located to avoid blocking the view. The taller portions of the building should be placed where they will do the least damage. This has not happened. Obviously it is a balancing act, but in this case it is VERY easy to see the best solution for the Waterbrook has not been considered or it would have been used. The Waterbrook design does not indicate that they understand.

It takes only a quick study to see what is considered a view in Juanita. From the block between 98th Ave and 100th Ave between NE 116 and NE 120 there is only one view. It is southwest and is a view of Juanita Bay, Lake Washington, the Seattle Skyline and the Spaceneedle. It is the natural Juanita Bay View Corridor and it has been recognized by the development on the west side of 98th. Their tall buildings, four and five stories, drop down to two stories directly across the street from the middle of the Watterbrook site. The goal, which was achieved, was to concentrate their tall buildings away from the existing natural Juanita Bay View Corridor, so others could enjoy the view that was not blocked. It has worked there. The City of Kirkland's "View Corridor" bonus did its job. Everyone won because they left "a view corridor".

The current Waterbrook design is ALL four stories tall! Yes I see the 31 ft. deep, 63.3 ft. wide 400 ft. long window well that the Waterbrook needs for windows to make their design work. The only "view" that is available there is for the future Waterbrook residents, who will be able to stare across at three stories of their neighbors who can stare back at them. If they choose to stick their head out their window, and look to the west they will see the top three stories of the four-story buildings across 98th Ave. If they look to the east they will be able to see the north end of our building, which is about the same height as the top of theirs, and look up at the four story Cien (the 27 unit Juanita firs conversion) that is actual y 30 ft. taller. This is not a "View Corridor" but a, 31 ft. deep, 63.3 ft. wide, 400 ft. long, visual box canyon surrounded by nothing but three stories or more of windows. **There is no view.** None was saved and none was created. This design feature has only one purpose and that is to provide windows to allow light in.

The City of Kirkland should also recognize that both of the Waterbrook sites extend 50-75 ft. further east, into the less dense and lower height building zoned area, than any other site on east of 98th. This makes their inconsiderate design even more damaging to the Juanita neighborhood and our building in particular. The "Juanita Bay View Corridor takes a direct hit by this "jog" in the zoning line, especially when coupled with the unjustified added height "given" to the Waterbrook.

The added height on the east 1/3 of their site is wrong! If allowed it will hurt a lot of people!

A POSSIBLE SOLUTION:

The Waterbrook has options and they are much better for the Waterbrook, especially the Waterbrook's future residents, and their neighbors.

As the Waterbrook is designed now it will eventually block the view of about 38 residents, who live to the northeast and in the Waterbrook as well. 12 of the 30 Eastridge units, which are about 150 ft. away, would loose their view. Four of the 6 units at 9915, which is about 80 ft. away, would loose their view and all 4 of our Townhouse units at 11804, **only 28 ft. away**, will both loose their view and be destroyed by a massive structure being so tall, wide and close.

When this design is replicated by the developers of 11656, the 4 Townhomes in the west building of Hillside Village, **only 30 ft. away**, will both loose their view and be destroyed by that massive structure being so tall, wide and close.

The irony here is that when 11656 develops its site patterned after the Waterbrook, which it will because the Waterbrook will set a precedent, it will block the view of 14 of the Waterbrook's units. By then they will be owned by the future residents, which will be of no concern to the Waterbrook developers. They will have cashed their checks and moved on but their legacy of inconsiderate design will remain.

This view "carnage" can be avoided easily! Simply limit the Waterbrook's four-story section to the west two thirds of their site. That will allow enough of the "Juanita Bay View Corridor" to remain to satisfy as many neighbors as possible and set a precedent for the developers of 11656 that will encourage them to build on the front part of their site.

The result is simply amazing. The Waterbrook by reducing the east 68 ft. (4 units) of their south wing to two levels ends up providing a view for the east 68 ft. of their north wing. By reducing the east 68 ft. of their north wing to three stories they sacrifice (2 units) there but the (2 units) on the third floor will have a view over the second floor of the south wing. The 6 units that are removed will fit over the central shops portion of the 98th Ave frontage, which is only one level now. These (6 units) will all have an unobstructable lake view southwest down 98th and over the lower buildings across 98th. That is why those buildings are only two stories tall. It works! By moving 6 units, that completely block the existing "Juanita Bay View Corridor", the Waterbrook will end up with a net gain of 4 additional "view" units. **That is good for the Waterbrook.**

It is also great for the neighbors. Our building at 11804 would retain much of its view; the six-plex at 9915 would retain the view of its top 2 units, and Eastridge condos. would retain the view of its middle (6 units). Including the Waterbrook's 2 units that adds up to 16 units that would retain the view that they will loose with the current Waterbrook plan.

Then when 11656 is developed, following the precedent of this **"view friendly"** concept that the Waterbrook should establish, it will not block the 4 Hillside Village units and it will only reduce the view of our 4 units. It will not effect 9915 or the Eastridge condo. and will block only 6 of the Waterbrook units instead of the10 that will be blocked if The Waterbrook is built as their plan is now. This is getting a little hard to follow now, I know, but you get the idea. **Everyone wins if the Waterbrook is redesigned to preserve a little of the Juanita Bay View Corridor, including the Waterbrook owners.**

This is also a plan that would encourage both the owners of Hillside Village and Juanita House to support a reasonable offer on the use of "our driveway".

I am personally willing to work with both the City of Kirkland and the Waterbrook design group to solve this problem. We understand that there will be 84 units build on the site in front of our building and some day the 11656 site will add 29 more. We also know that it can be done elegantly, if there is enough motivation on the part of the Waterbrook design group. We have no interest in blocking their project. I will help in any way that I can to make this work out for everyone in the Juanita neighborhoods.

Please let us know what progress is being made on solving these problems.

Thank You

Arni & Elaine Fredrickson

11804-98th Ave NE Apt. "E"

Kirkland, WA 98034

206-999-2269

52.14 User Guide. The charts in KZC 52.17 contain the basic zoning regulations that apply in the JBD 2 zones of the City. Use these charts by reading down the left hand column entitled Use. Once you locate the use in which you are interested, read across to find the regulations that apply to that use.

Section 52.15

Zone JBD-2

Section 52.15 – GENERAL REGULATIONS
The following regulations apply to all uses in this zone unless otherwise noted:

1. Refer to Chapter 1 KZC to determine what other provisions of this code may apply to the subject property.
2. Must provide a public pedestrian access easement if the Planning Official determines that it will furnish a pedestrian connection or part of a connection between 98th Avenue NE and 100th Avenue NE. Pathway improvements will also be required if the easement will be used immediately. No more than two complete connections shall be required.
3. The maximum height of structures on the subject property may be increased by up to 13 feet if a view corridor is maintained across 30 percent of the average parcel width for the portion of the building above 26 feet. The corridor will be located to provide the widest view corridor given development on adjacent properties to the north and south.
4. See Chapters 100 and 162 KZC for information about nonconforming signs. KZC 162.35 describes when nonconforming signs must be brought into conformance or removed (does not apply to Public Parks uses).

Section 52.17 USE ⇩ REGULATIONS ⇨		DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS										
		Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
			Lot Size	REQUIRED YARDS (See Ch. 115)			Lot Coverage	Height of Structure				
				Front	Side	Rear						
.010	Vehicle Service Station See Spec. Reg. 1.	D.R., Chapter 142 KZC.	22,500 sq. ft.	0′	0′	0′	80%	26′ above average building elevation.	A	E	See KZC 105.25.	1. May not be more than two vehicle service stations at any intersection. 2. Gas pump islands must be setback at least 20 feet from all property lines. Canopies and covers over gas pump islands may not be closer than 10 feet to any property line. See KZC 115.105, Outdoor Use, Activity and Storage, for further regulations.
				See Spec. Reg. 2.								
.020	Automotive Service Center See Spec. Reg. 1.		None	0′	0′	0′					1 per each 250 sq. ft. of gross floor area. See Spec. Reg. 3.	1. This use specifically excludes new or used automobile sales or rentals. 2. No openings (i.e., doors, windows which open, etc.) shall be permitted in any facade of the building adjoining a residential use. Windows are permitted if they are triple-paned and unable to be opened. 3. Ten percent of the required parking spaces on site must have a minimum dimension of 10-feet wide by 30-feet long for motor home/travel trailer use. 4. Storage of used parts and tires must be conducted entirely within an enclosed structure. See also the section in Chapter 115 entitled "Outdoor Use, Activity and Storage" for additional regulations. 5. Prior to occupancy of the structure, documentation must be provided and stamped by a licensed professional verifying that the expected noise to be emanating from the site adjoining to any residential use complies with the standards set forth in WAC 173-60-040(1) for a Class B source property and a Class A receiving property.
.030	Retail Establishment providing boat sales, service, or repair. See Spec. Reg. 1.										See KZC 105.25.	1. Boat rental and used boat sales are allowed as part of this use. 2. Storage of parts must be conducted entirely within an enclosed structure. 3. Outdoor boat parking and storage areas must be buffered as required for a parking area per design regulations, KZC 95.40(7). See also KZC 115.105, Outdoor Activity and Storage, for further regulations.
.040	Restaurant or Tavern								D		1 per each 100 sq. ft. of gross floor area.	1. For restaurants with drive-in or drive-through facilities: a. One outdoor waste receptacle shall be provided for every eight parking stalls. b. Access for drive-through facilities shall be approved by the Public Works Department. Drive-through facilities shall be designed so that vehicles will not block traffic in the right-of-way while waiting in line to be served. c. Landscape Category B shall apply.
.060	A Retail Establishment providing entertainment, recreational, or cultural activities										See KZC 105.25.	

(Revised 4/08)

Section 52.17 Zone JBD-2 USE ZONE CHART

Section 52.17	USE ⇩ / REGULATIONS ⇨	DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS										
		Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
			Lot Size	REQUIRED YARDS (See Ch. 115)			Lot Coverage	Height of Structure				
				Front	Side	Rear						
.070	Any retail establishment other than those specifically listed in this zone, selling goods, or providing services including banking and related financial services See Spec. Reg. 1.	D.R., Chapter 142 KZC.	None	0′	0′	0′	80%	26′ above average building elevation.	D See Spec. Reg. 2.	E	1 per each 300 sq ft. of gross floor area.	1. The following uses are not permitted in this zone: a. Retail establishments providing storage services unless accessory to another permitted use. b. Automobile sales and/or rental facilities. c. Outdoor storage of bulk commodities, except in the following circumstances: 1) If the square footage of the storage area is less than 20 percent of the total square footage of the retail structure; or 2) If the commodities represent growing stock in connection with horticultural nurseries, whether the stock is in open ground, pots, or containers. d. Storage and operation of heavy equipment except normal delivery vehicles associated with retail uses. 2. Landscape Category B will be required if the use includes drive-through facilities. 3. Ancillary assembly and manufacture of goods on the premises of this use are permitted only if: a. The assembled or manufactured goods are directly related to and are dependent upon this use, and are available for purchase and removal from the premises. b. The outward appearance and impacts of this use with ancillary assembly or manufacturing activities must be no different from other retail uses.

ATTACHMENT 3

Section 52.17 USE ⇩ REGULATIONS ⇨		DIRECTIONS: FIRST, read down to find use...THEN, across for REGULATIONS										
		Required Review Process	MINIMUMS				MAXIMUMS		Landscape Category (See Ch. 95)	Sign Category (See Ch. 100)	Required Parking Spaces (See Ch. 105)	Special Regulations (See also General Regulations)
			Lot Size	REQUIRED YARDS (See Ch. 115)			Lot Coverage	Height of Structure				
				Front	Side	Rear						
.080	Office Use	D.R., Chapter 142 KZC.	None	0′	0′	0′	80%	26′ above average building elevation.	D	D	If a Medical, Dental or Veterinary office, then 1 per each 200 sq. ft. of gross floor area. Otherwise, 1 per each 300 sq. ft. of gross floor area.	1. The following regulations apply to veterinary offices only: a. May only treat small animals on the subject property. b. Outside runs and other outside facilities for the animals are not permitted. c. Site must be designed so that noise from this use will not be audible off the subject property. A certification to this effect, signed by an Acoustical Engineer, must be submitted with the development permit application. d. A veterinary office is not permitted if the subject property contains dwelling units. 2. Ancillary assembly and manufacture of goods on the premises of this use are permitted only if: a. The ancillary assembled or manufactured goods are subordinate to and dependent on this use; and b. The outward appearance and impacts of this use with ancillary assembly or manufacturing activities must be no different from other office uses.
.090	Attached or Stacked Dwelling Unit See Spec. Reg. 1.									A	1.7 per unit.	1. For properties abutting 98th Avenue NE, this use may be located on the street level floor of a building only if there is an intervening retail storefront or office between this use and the abutting 98th Avenue NE right-of-way. 2. The development must be designed to limit potential impacts from surrounding commercial uses on residents of the subject property. 3. Chapter 115 KZC contains regulations regarding home occupations and other accessory uses, facilities, and activities associated with this use.
.100	Church									B	1 per every four people based on maximum occupancy load of any area of worship. See Special Reg. 2.	1. May include accessory living facilities for staff persons. 2. No parking is required for day-care or school ancillary to the use.
.110	Hotel or Motel									E	1 per each room. See Spec. Reg. 2.	1. May include ancillary meeting and convention facilities. 2. Excludes parking requirements for ancillary meeting and convention facilities. Additional parking requirements for these ancillary uses shall be determined on a case-by-case basis.
.120	Private Lodge or Club									B	1 per each 300 sq. ft. of gross floor area.	

(Revised 12/04)

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587.3225
www.ci.kirkland.wa.us

THE WATERBROOK
DESIGN RESPONSE CONFERENCE
NOTICE OF APPROVAL
April 25, 2007

FILE NO. DRC07-00002

PROJECT NAME: The Waterbrook

PROJECT ADDRESS: 11680 & 11810 98th Avenue NE

APPLICANT OR AGENT: Juanita Partners, LLC

CITY OF KIRKLAND APPROVAL DATE: Approved: April 9, 2007; Released: April 25, 2007

LAPSE OF APPROVAL DATE(S): The applicant must begin construction or submit to the City a complete Building Permit application for development of the subject property consistent with the Design Review approval within one (1) year (by April 9, 2008) after the final decision to grant the DR approval or that decision becomes void. Furthermore, the applicant must substantially complete construction consistent with the DR approval and complete all conditions listed in the DR approval decision within three (3) three years (by April 9, 2010) after the final decision on the DR approval or the decision becomes void.

This NOTICE OF APPROVAL is granted subject to the attached conditions and development standards. Failure to meet or maintain strict compliance shall be grounds for revocation in accordance with the Kirkland Zoning Ordinance No. 3719 as amended.

The applicant must also comply with any federal, state or local statutes, ordinances or regulations applicable to this project. This Notice of Approval does not authorize grading or building without issuance of the necessary permits from the Kirkland Building Department.

CITY OF KIRKLAND
PLANNING AND COMMUNITY DEVELOPMENT

By: Stacy Clauson
Stacy Clauson
Planner

Attachments:

Conditions of Approval
Development Standards

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ATTACHMENT 4
APL08-00007

8. Juanita Business District

Two primary types of development are available in the JBD.

JBD 1

There are two primary types of development available in this subarea: individual parcel development and master-planned mixed use development.

Individual Parcel Development

Where a development is proposed on a site containing fewer than eight acres, retail, office, and/or multifamily are allowed. The maximum height for this development type is two stories, and the project would be subject to Design Review. Individual projects should be designed to combine vehicular and pedestrian access points whenever possible.

Master-Planned Mixed Use Development

The second type of development may require assembly of properties (of at least eight acres) to create a master-planned, mixed use project which clusters development to the north part of the subdistrict. If almost the entire area of JBD 1 (eleven acres minimum) is assembled, then a development could be proposed with a maximum height of six stories on the north end stepping down to two stories toward the south end. If only eight acres are assembled, then the maximum height at the north end would be four stories stepping down to two stories toward the south end. Proposals with a minimum of eight acres would be required to have vehicular access off at least two of the following streets: 98th Avenue NE, Juanita Drive, and 97th Avenue NE.

In the master-planned mixed use development, the allowed uses would be retail, office, and multifamily. At least two of these uses would be required for the project to be considered mixed use. Pedestrian-oriented businesses should be located on the ground floor of all buildings; however, some multifamily units could be located on the ground level if they are part of a mixed use development, or if they face 97th Avenue NE. This type of master-planned development should be reviewed at a public hearing and could be approved if it provides a high order of public amenities and urban design.

Design standards are discussed.

The following are design standards for both development types. These are further described in the Design Guidelines for the business district. Options should be explored for (i) establishing and maintaining the view corridor to the lake shown in Figure J-9, and (ii) establishing and maintaining pedestrian connections across the block. Appropriate types of pedestrian connections include sidewalks along building fronts and landscaped public open spaces tied to a pedestrian system which connects East Ridge to Juanita Beach Park.

In addition, the master-planned development must include a plan for the entire development parcel. Individual increments of development must show how they relate to adjacent developed properties in terms of common access, and a complementary arrangement of facilities, spaces, and linkages. For example, shared accesses and reciprocal vehicular easements should be established in order to reduce the number of curb cuts on the major streets to the minimum necessary. Similarly, shared parking/service areas are strongly encouraged. Sign systems should be coordinated.

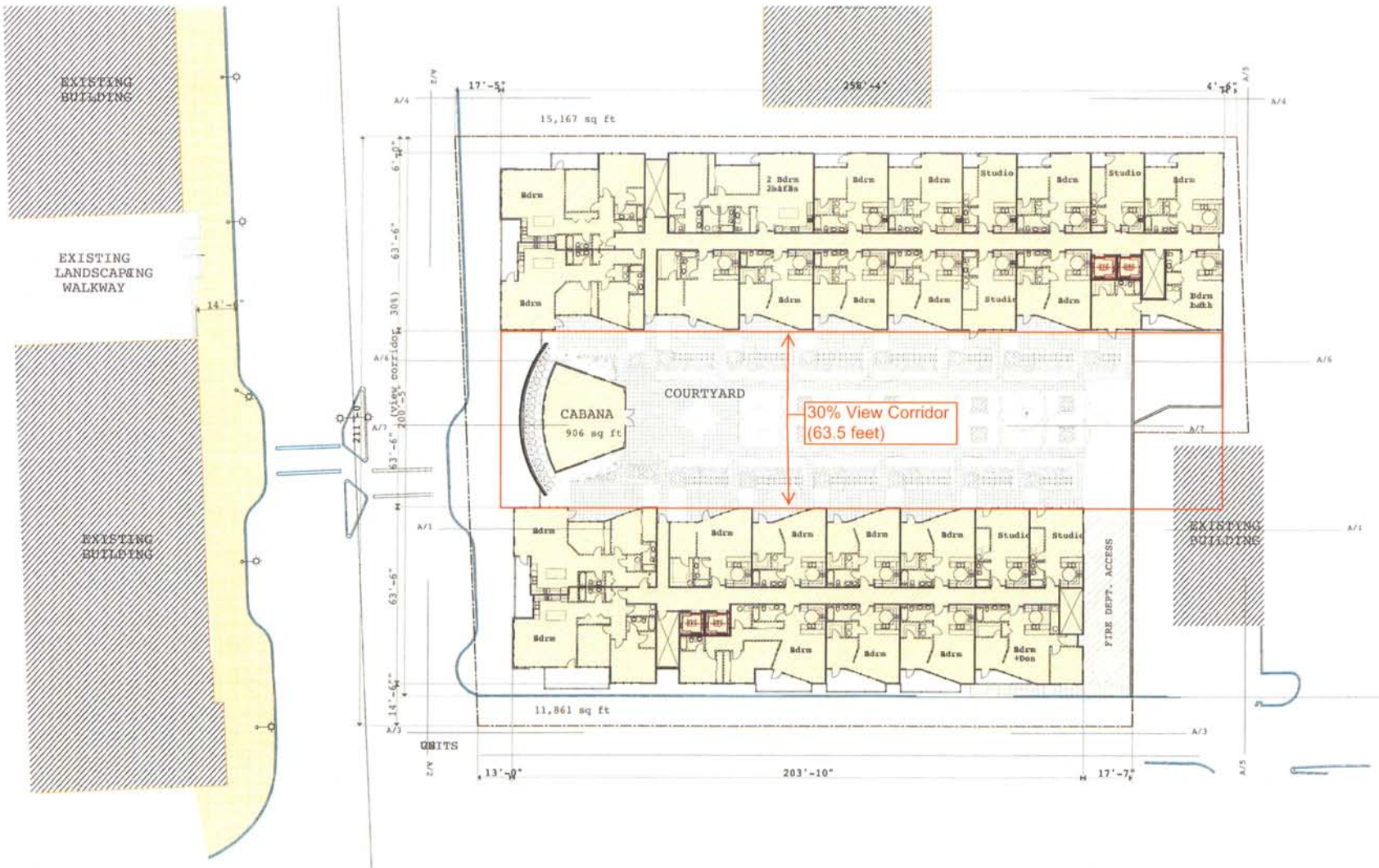
Retail, office, and residential uses should be allowed in JBD 2.

JBD 2

In this area, retail, office, and residential uses should be allowed. As in JBD 1, residential units may be allowed on the ground floor of mixed use projects. To provide flexibility for developers in Juanita, drive-through facilities should be allowed in JBD 2 as stand-alone uses. Buildings up to a maximum of two stories should be allowed. Buildings up to three stories could be approved by the Design Review Board if views from East Ridge are preserved. More efficient parking lots, combined drives, and a more

ATTACHMENT 6

ATTACHMENT 6
APL08-00007



2ND FLOOR PLAN
COURTYARD PLAN
1/16" = 1'-0"

4-2-07

THE WATERBROOK
Kirkland, , Washington

Design Review Set

2nd Floor Plan

A-7
Sheet No.

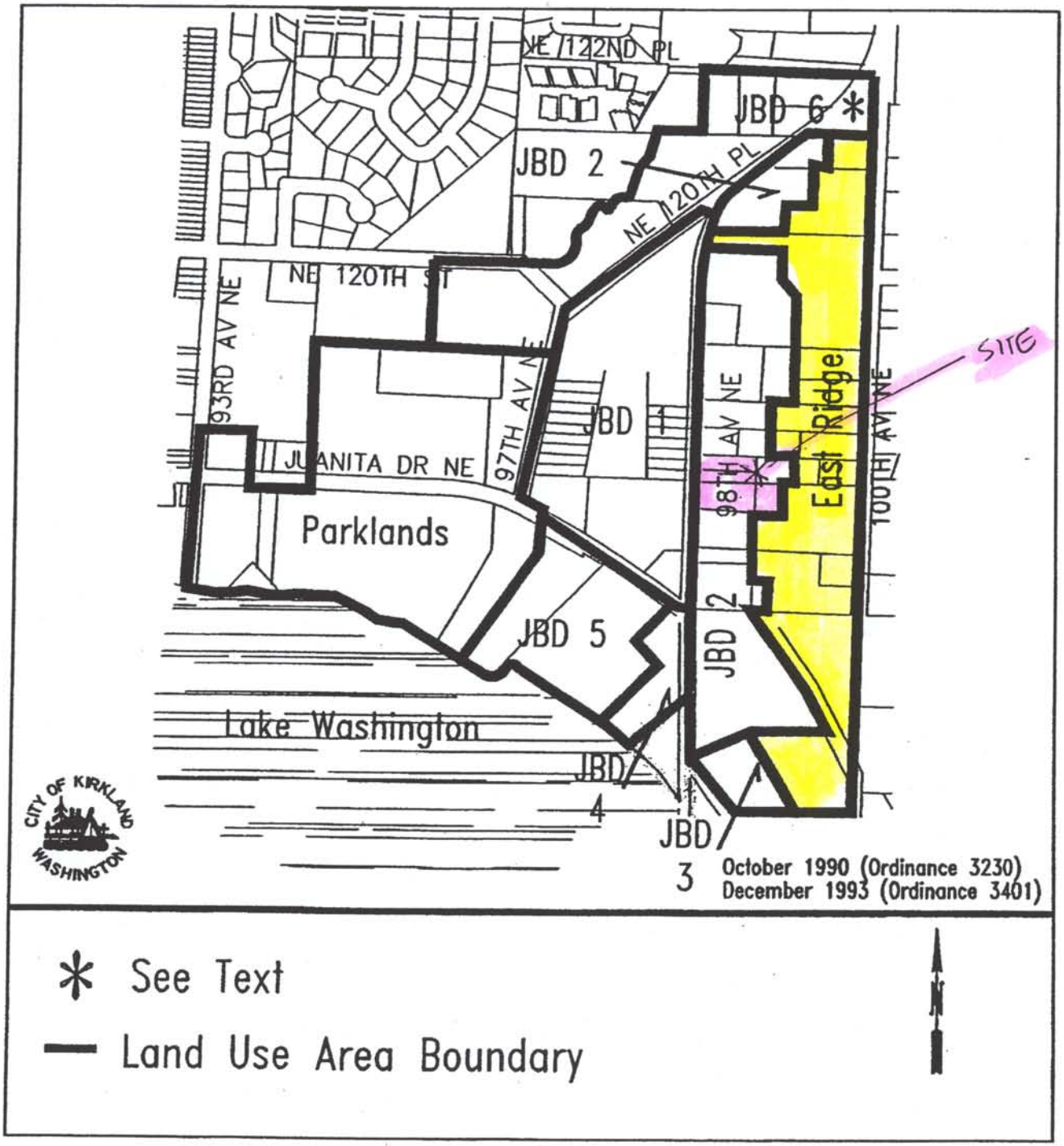


Figure J-7: Juanita Business District Land Use Areas

ATTACHMENT 7
APL08-00007