



## CITY OF KIRKLAND

Planning and Community Development Department  
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225  
www.ci.kirkland.wa.us

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### ADVISORY REPORT FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

**To:** Kirkland Hearing Examiner

**From:** \_\_\_\_\_ Susan Greene, Project Planner  
\_\_\_\_\_ Eric R. Shields, AICP, Planning Director

**Date:** October 19<sup>th</sup>, 2009

**File:** **BROAD WETLAND BUFFER MODIFICATION  
ZON08-00004**

#### I. INTRODUCTION

##### A. APPLICATION

1. Applicant: Mark Rigos of Concept Engineering for Randall Broad.
2. Site Location: A vacant property called Lot 2, directly south of 10404 NE 53<sup>rd</sup> Street (see Attachment 1 for a vicinity map and 1a for an aerial photo). The property has not yet been assigned an address.
3. Request: The applicant is proposing to modify a Type II wetland buffer in a primary basin from the required 75 foot to a 50 foot width (See Attachment 2). This Type II wetland is located on the north side of Lot 2. A Type III wetland (located west of Lot 2) and a Class B stream (located north of Lot 2) buffer also extend on to the subject property but are not proposed for modification as part of this application.
4. Review Process: Process IIA, Hearing Examiner Decision.
5. Summary of Key Issues and Conclusions: The key issue for this project is to ensure that the applicant's proposal meets the Kirkland Zoning Code criteria for a wetland buffer reduction.

##### B. RECOMMENDATIONS

Based on Statements of Fact and Conclusions (Section II), and Attachments in this report, we recommend approval of this application subject to the following conditions:

1. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 3, Development Standards, is provided in this report to familiarize the applicant with some of the additional development regulations. This attachment does not include all of the additional regulations. When a condition of approval conflicts with a development regulation in Attachment 3, the condition of approval shall be followed (see Conclusion II.L.2).
2. As part of any development permit application, the applicant shall submit plans for wetland buffer enhancement consistent with the approved mitigation planting and buffer enhancement plan in Attachment 2 (see Conclusion II.D.2).

- a. Plans shall show all recommendations of the Watershed Company's reports (see Attachments 5, 7, and 10) (see Conclusion II.D.2).
3. As part of any development permit application, the applicant shall submit plans stamped and signed by a licensed Geotechnical Engineer (see Conclusion II.A.1.b)
4. Prior to issuance of any development permits associated with the buffer modification the applicant shall:
  - a. Submit proof of a written contract with a qualified professional who will perform the 5 year monitoring and maintenance program. The applicant shall fund a review of the private consultant's annual report to be done by the City's wetland consultant. Otherwise, the applicant may use the City's consultant to perform the 5 year monitoring and maintenance program (see Conclusion II.D.2).
  - b. Submit for recording with King County records and elections, a Natural Greenbelt Protective Easement (NGPE) which encompasses the modified buffer on the subject property. The map and corresponding legal description shall be prepared by a licensed surveyor (see Conclusion II.H.2).
  - c. Install a six-foot high construction phase chain link fence with silt screen fabric installed per City standard along the upland boundary of the entire wetland buffer. The fence should remain upright in the approved location for the duration of development activities (see Conclusion II.F.2.a).
  - d. Sign and notarize the covenants in Attachments 12, 13 and 14 that hold the City harmless against any future claims that may arise as a result of the development of the property (see Conclusion II.I.4).
5. Prior to final inspection of the building permit the applicant shall:
  - a. Complete installation of the buffer enhancement plan as shown in Attachment 2 and as approved by the City's wetland consultant. The as-built plan for the mitigation plantings and plan will be subject to inspection by the City's wetland/stream consultant at the applicant's expense (see Conclusion II.D.2).
  - b. In lieu of completing the enhancements prior to final inspection, a security device to cover the cost of completing the required buffer enhancements and wetland creation may be submitted if the criteria in Zoning Code Section 90.145 are met (see Conclusion II.G.2).
  - c. Install between the upland boundary of all wetland buffers and the developed portion of the site, either a permanent 3' to 4' tall split rail. The fence shall be located along the modified wetland buffer line. Installation of the permanent fence must be done by hand where necessary to prevent machinery from entering the wetland and its buffer (see Conclusion II.F.2.b).
  - d. Submit to the Planning Department a financial security device to cover all monitoring and maintenance activities that will need to be done including wetland consultant site visits, reports to the Planning Department, and any vegetation that needs to be replaced. The security shall be consistent with the standards outlined in Zoning Code section 90.145 using the King County Bond Quantity worksheet for Critical Areas Mitigation.

## **II FINDINGS OF FACT AND CONCLUSIONS**

### **A. SITE DESCRIPTION**

1. Site Development and Zoning:
  - a. Facts:

- (1) Size: The subject property is 18,838 square feet.
- (2) Land Use: A vacant parcel within a low density single family zoning designation.
- (3) Zoning: RS 8.5 or Residential Single Family requiring 8,500 square feet per lot.
- (4) Terrain and Vegetation: The subject property is vacant, and roughly shaped with the property lines following a man-made pond to the north then continuing along a Class B stream. There are some existing walkways and a play area that are proposed to be removed. Steep slopes exist on the northwest portion of the lot while the eastern most portion of the lot has a gentler slope. The topography for the subject property starts at an elevation of 174 feet along the eastern property line, near NE 53<sup>rd</sup> Street and slopes downward in a northwest manner and dips down to an elevation of 160 feet within 100 linear feet (14% slope). The property then drops down to the north, through a steep ravine at a roughly 40% downward slope to the Class B stream at the bottom. The top of the slope is marked on the plans (see Attachment 2).

There are large conifers and deciduous trees throughout the subject property and along the edges of the property lines. The rest of the site is mostly in its natural state with sword fern and other various underbrush grasses, and some hydrophilic species

According to City of Kirkland sensitive area maps, the subject property is in a moderate landslide hazard area. A geotechnical report was submitted with the application (see Attachment 4). The report addresses the steep slopes on the property and makes recommendations for slope setbacks, which have been placed on the survey and site plan (see Attachments 2 and 4). Additionally, the report makes the recommendation that a geotechnical engineer review any plans for new homes.

- b. Conclusions: The size and existing vegetation are not constraining factors in reviewing the wetland buffer reduction proposal. The presence of a Type II and III wetland and a Class B stream on the neighboring properties requires that development be located outside of the wetland buffer. The applicant is requesting to reduce the required wetland and stream buffers on the subject property to allow for a new single family home. A wetland buffer reduction may be allowed through KZC Chapter 90. Section II.E below contains a detailed analysis of the applicable Zoning Code criteria in reducing sensitive area buffers. The applicant should submit any building permit plans to a geotechnical engineer for approval prior to submitting to the City.

2. Neighboring Development and Zoning:

a. Facts:

North: The property to the north is zoned RS 8.5 and contains one single family home and two small man-made ponds with an associated Class B stream and a Type II wetland in a Primary Basin.

South: To the south is NE 53<sup>rd</sup> Street, then single family homes within the RS 8.5 zoning designation.

East: A vacant property owned by the applicant is zoned RS 8.5 and is not part of this application.

West: An unopened City Right of Way borders the property to the west and contains a Class III wetland and is next to Burlington Northern Railroad land and tracks.

- b. Conclusion: Neighborhood development and zoning are not constraining factors in the review of this permit.

## **B. HISTORY**

1. Facts: The subject property, called "Lot 2" was created as a buildable lot through application for a lot line alteration (see File no. LLA05-00016). The lot line alteration was approved December 20<sup>th</sup> 2005. Originally, the property was a total of 77,652 square feet (1.78 acres) including an existing house having the address of 10404 NE 53<sup>rd</sup> Street. The lot line alteration approval split the total square footage in to three lots; one with the house (Lot 3, which has 49,811 square feet); the subject property (Lot 2, which has 18,838 square feet, and Lot 1, which has 9,003 square feet. Neither Lot 1 nor Lot 3 are part of this buffer modification request. A wetland to the north and one to the west, plus a stream were found during a site visit to inspect some tree cutting issues. Consequently, a wetland and stream determination was done by the City's consultant, The Watershed Co (see Attachment 5). It was found that the buffers for the wetlands and stream extended on to the newly created lots (1 and 2).

The applicant originally included a buffer reduction proposal for Lots 1 and 2 (see Attachment 6). In the analysis of the proposal, it was found that Lot 1 had enough buildable area without a reduction in the buffer and therefore could not meet the criteria for buffer modification in Chapter 90.60 (9) (see Attachment 7 Watershed letter dated September 2<sup>nd</sup> 2008). The applicant changed the plans to show that the buffer modification would be pursued only on Lot 2 (see Attachment 8).

2. Conclusion: The history of the subject property is not a constraining factor in the review of this permit.

## **C. PUBLIC COMMENT**

1. Facts: The public comment period for this project ran from May 8<sup>th</sup>, 2008 to May 26<sup>th</sup>, 2008. No comments were received.
2. Conclusions: The City and applicant have satisfied the public notice requirements.

## **D. WETLAND BUFFER MODIFICATION**

1. Facts:
- a. A Type II wetland exists on the property to the direct north. A Type III wetland exists in the City Right of Way to the west (see Attachment 2). The subject property is located in the Carillon drainage basin which is a primary basin. A 75 foot wetland buffer is required for the Type II wetland and a 50 foot buffer for the Type III wetland, plus a 10 foot building setback from any buffer line is required.
  - b. Zoning Code section 90.60 allows wetland buffers to be reduced through buffer reduction with enhancement. Wetland buffers may not be reduced at any point by more than one-third of the standards in Kirkland Zoning Code 90.45.1.
  - c. The applicant is proposing the maximum buffer reduction (one third) for the Type II wetland in a primary basin. Reducing the required 75 foot wetland buffer by one third results in a 25 foot buffer width reduction bringing the buffer width to 50 feet wide.
  - d. The applicant is proposing to reduce the wetland buffer by 1,977 square feet on the subject property, and will enhance through plantings 1,977 square feet.

- e. The applicant submitted a buffer enhancement and wetland modification plan prepared by Mark Rigos, a wetland biologist with Concept Engineering (see Attachment 2 and 9). This plan has been reviewed by the City's consultant, The Watershed Company and several modifications to the plan and bond worksheet were requested (see Attachment 10 letter from Watershed dated August 18<sup>th</sup> 2009). Subsequently, the applicant made the changes to the plans, bond quantity worksheet and mitigation notes as requested by the City's consultant.
- f. The applicant has submitted a geotechnical report by Associated Earth Sciences dated March 24, 2005 to address earth stability and erosion as part of the wetland buffer modification and building areas on Lots 1 and 2 (see Attachment 4).
- g. Pursuant to Zoning Code Section 90.60.2.b, there are nine decisional criteria for reducing a wetland buffer. A wetland buffer modification may only be granted when the proposal is consistent with all of the following:
  - (1) It is consistent with Kirkland's Streams, Wetlands and Wildlife Study (The Watershed Company, 1998) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc., 1998);
  - (2) It will not adversely affect water quality;
  - (3) It will not adversely affect fish, wildlife, or their habitat;
  - (4) It will not have an adverse effect on drainage and/or storm water detention capabilities;
  - (5) It will not lead to unstable earth conditions or create an erosion hazard or contribute to scouring actions;
  - (6) It will not be materially detrimental to any other property or the City as a whole;
  - (7) Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;
  - (8) All exposed areas are stabilized with vegetation normally associated with native stream buffers, as appropriate; and
  - (9) There is no practicable or feasible alternative development proposal that results in less impact to the buffer

2. Conclusions:

- a. Pursuant to the attachments included with this report, the applicant's proposed site plan and buffer mitigation plan, and the applicant's response to the buffer modification criteria (see Attachment 9) and the letters from the Watershed Co (see Attachments 5, 7 and 10), and the recommended conditions of approval, the proposed buffer modification and wetland modification is consistent with the above criteria subject to the following conditions:
  - Prior to issuance and as part of a building permit for lot 2, the buffer enhancement plan should be completed and planted as shown in the applicant's plans. An as-built planting plan should be submitted prior to the final inspection of any permits. The City's wetland consultant is required to review this plan at the applicant's expense. In lieu of completing the enhancements prior to final inspection of the building permit, a security device to cover the cost of completing the improvements may be submitted if the criteria in Zoning Code Section 90.145 are met (see Section II.G). Additionally, the applicant should

maintain and monitor the enhanced buffer for 5 years after completion of the plantings (see Section II.G).

## **E. DEVELOPMENT REGULATIONS**

### 1. Buffer Setback

#### Facts:

- a. Zoning Code Section 90.45.2 establishes that structures shall be set back at least 10 feet from the designated or modified wetland buffer.
- b. Minor improvements may be located within the sensitive area buffers pursuant to Zoning Code section 90.45.5. These minor improvements shall be located within the outer one-half of the sensitive area buffer, The Planning Official shall approve a proposal to construct a minor improvement within an environmentally sensitive area buffer if:
  - It will not adversely affect water quality;
  - It will not adversely affect fish, wildlife, or their habitat;
  - It will not adversely affect drainage or storm water detention capabilities;
  - It will not lead to unstable earth conditions or create erosion hazards or contribute to scouring actions; and
  - It will not be materially detrimental to any other property in the area of the subject property or to the City as a whole, including the loss of significant open space or scenic vistas.
- c. The Planning Official may require the applicant to submit a report prepared by a qualified professional which describes how the proposal will or will not comply with the criteria for approving a minor improvement.

2. Conclusion: As part of a building permit submittal, the applicant shall consult with the Planning Official if any minor improvements are desired to be placed within the modified buffer setback. Any proposed minor improvement should be placed within the outer one half of the modified buffer.

## **F. WETLAND BUFFER FENCE OR BARRIER**

### 1. Facts:

- a. Zoning Code Section 90.50 requires that prior to the start of development activities, the applicant install a six-foot high construction-phase chain link fence or equivalent fence, as approved by the Planning Official, along the upland boundary of the entire wetland buffer with silt screen fabric installed per City standard.
- b. Zoning Code Section 90.50 requires the applicant to install either (1) a permanent three to four-foot-tall split rail fence; or (2) permanent planting of equal barrier value; or (3) equivalent barrier, as approved by the Planning Official between the upland boundary of all Wetland buffers and the developed portion of the site.
- c. The applicant is proposing a split rail fence along the modified buffer line for Lot 2.

### 2. Conclusions:

- a. Prior to development, the applicant should install a six-foot high construction phase fence with silt screen fabric installed per City standard along the upland boundary of the entire wetland buffer. The fence should remain upright in the approved location for the duration of development activities.

- b. Upon project completion, the applicant should install a permanent 3 to 4 foot tall split rail fence at the upland boundary of the wetland buffer, located along the modified wetland buffer line for lot 2.

## **G. BONDS AND SECURITIES**

### 1. Facts.

- a. Kirkland Zoning Code Section 90.145 establishes the requirement for the applicant to submit a performance or maintenance bond to ensure compliance with any aspect of the Drainage Basin regulations contained in Chapter 90 of the Kirkland Zoning Code or any decision or determination made pursuant to the chapter.
- b. The applicant has submitted a mitigation planting plan which has been approved by the City's consultant.
- c. The applicant has submitted a bond worksheet which has been reviewed by the City's wetland consultant and by the city. The changes that the City's consultant has requested have been made and subsequently approved.

### 2. Conclusions:

- a. In order to ensure that the wetland enhancement work is completed in compliance with the approved plans, the applicant should submit a building permit to complete the planting and buffer improvements as per the approved mitigation plan. Prior to a certificate of Occupancy of any new structure on the subject property, the applicant should submit an as-built planting plan of the planted area for review by the City's consultant. Review of this as-built will be borne by the applicant. To ensure survival of the plantings, the applicant should submit a security device to cover any plant die off of the mitigation plan and any associated maintenance needed to ensure survival of the plants and improvements associated with them. The security shall be consistent with the standards outlined in Zoning Code section 90.145.
- b. In order to ensure continued compliance with the wetland buffer enhancement plan, prior to final inspection of any permits, the applicant should submit to the Planning Department a financial security device to cover all monitoring and maintenance activities that will need to be done including consultant site visits, reports to the Planning Department, and any vegetation that needs to be replaced. The security shall be consistent with the standards outlined in Zoning Code section 90.145.

## **H. NATURAL GREENBELT PROTECTIVE EASEMENT**

1. Fact: Zoning Code Section 90.150 requires the applicant to grant an easement or agreement to the City to protect sensitive areas and their buffers.
2. Conclusion: The applicant should sign and notarize a Natural Greenbelt Protective Easement (NGPE) acknowledging the presence of sensitive areas on the property and agreeing to protect those areas consistent with the provisions in the Kirkland Zoning Code (see Attachment 11). This document should contain a survey map and a metes and bounds legal description (based on City of Kirkland standards) of the sensitive area's buffer located on the subject property.

## **I. HOLD HARMLESS – WETLANDS/STREAMS/GEOLOGICAL HAZARDOUS AREAS**

1. Fact: Kirkland Zoning Code Section 85.45 and 90.155 establish that prior to issuance of a land surface modification permit or a building permit, whichever is issued first, the applicant shall enter into an agreement with the City that runs with the property, in a

form acceptable to the City Attorney, indemnifying the City from any claims, actions, liability and damages to sensitive areas arising out of development activity on the subject property. The applicant shall record this agreement with the King County Department of Elections and Records.

2. Conclusion: The applicant should sign and notarize three covenants for wetlands, streams, and geologically hazardous areas (see Attachment 12, 13, & 14) that hold the City harmless against any future claims that may arise as a result of the development of the property.

#### **J. PROCESS IIA APPROVAL CRITERIA**

1. Fact: Zoning Code section 150.65.3 states that a Process IIA application may be approved by the Hearing Examiner only if:
  - a. It is consistent with all applicable development regulations and, to the extent there is no applicable development regulation, the Comprehensive Plan; and
  - b. It is consistent with the public health, safety, and welfare.
- b. Conclusion: The proposal complies with the criteria in section 150.65.3. It is consistent with all applicable development regulations, as conditioned (see Sections II.L) and the Comprehensive Plan (see Section II.K). It is consistent with the public health, safety, and welfare because the wetland buffer reduction allows for a single family development consistent with the Comprehensive Plan while improving the natural environment by creating an improved wetland buffer area.

#### **K. COMPREHENSIVE PLAN**

1. Facts:
  - a. The subject property is located within the Central Houghton neighborhood. The subject property is in a low density residential area allowing 4-5 dwelling units per acre as established on page XV-B.2 of the comprehensive plan (see Attachment 15).
  - b. The following is a list of goals and policies found in Chapter V *Natural Environment* in the Comprehensive Plan relating to wetland buffer reduction through enhancement:

Policy NE-2.2: Protect surface water functions by preserving and enhancing natural drainage systems wherever possible.

Goal NE-3: Manage the natural and built environments to protect and where possible to enhance and restore vegetation.

Goal NE-2: Manage the natural and built environments to achieve no net loss of the functions and values of each drainage basin; and, where possible, to enhance and restore functions, values, and features. Retain lakes, ponds, wetlands, and streams and their corridors substantially in their natural condition.

Goal NE-4: Manage the natural and built environment to maintain or improve soils/geologic resources and to minimize risk to life and property.
2. Conclusion:
  - a. The applicant's proposal to reduce the wetland buffer width through buffer enhancement is consistent with the Comprehensive Plan.

#### **L. DEVELOPMENT STANDARDS**

1. Fact: Additional comments and requirements placed on the project are found on the Development Standards, Attachment 3.
2. Conclusion: The applicant should follow the requirements set forth in Attachment 3.

#### **M. SUBSEQUENT MODIFICATIONS**

Modifications to the approval may be requested and reviewed pursuant to the applicable modification procedures and criteria in effect at the time of the requested modification.

### **III. APPEALS AND JUDICIAL REVIEW**

The following is a summary of the deadlines and procedures for appeals. Any person wishing to file or respond to an appeal should contact the Planning Department for further procedural information.

#### **A. APPEALS**

1. Appeal to City Council:

Section 150.80 of the Zoning Code allows the Hearing Examiner's decision to be appealed by the applicant and any person who submitted written or oral testimony or comments to the Hearing Examiner. A party who signed a petition may not appeal unless such party also submitted independent written comments or information. The appeal must be in writing and must be delivered, along with any fees set by ordinance, to the Planning Department by 5:00 p.m., \_\_\_\_\_, fourteen (14) calendar days following the postmarked date of distribution of the Hearing Examiner's decision on the application.

#### **B. JUDICIAL REVIEW**

Section 150.130 of the Zoning Code allows the action of the City in granting or denying this zoning permit to be reviewed in King County Superior Court. The petition for review must be filed within 21 calendar days of the issuance of the final land use decision by the City.

#### **C. LAPSE OF APPROVAL**

Under Section 150.135 of the Zoning Code, the applicant must submit to the City a complete building permit application approved under Chapter 150, within four (4) years after the final approval on the matter, or the decision becomes void; provided, however, that in the event judicial review is initiated per Section 150.130, the running of the four years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions. Furthermore, the applicant must substantially complete construction approved under Chapter 150 and complete the applicable conditions listed on the Notice of Approval within six (6) years after the final approval on the matter, or the decision becomes void.

### **IV. APPENDICES**

Attachments 1 through 15 are attached.

1. Vicinity Map
- 1.a Aerial photograph
2. Buffer modification plans and mitigation plans submitted by the applicant
3. Development Standards
4. Geotechnical Report by Associated Earth Sciences dated March 24<sup>th</sup> 2005
5. Watershed Company's initial delineation report dated September 12<sup>th</sup> 2007
6. Applicant's initial proposal including Lots 1 and 2.
7. Watershed Company's letter dated September 2<sup>nd</sup>, 2008
8. Letter from Concept Engineering dated June 10<sup>th</sup> 2009.

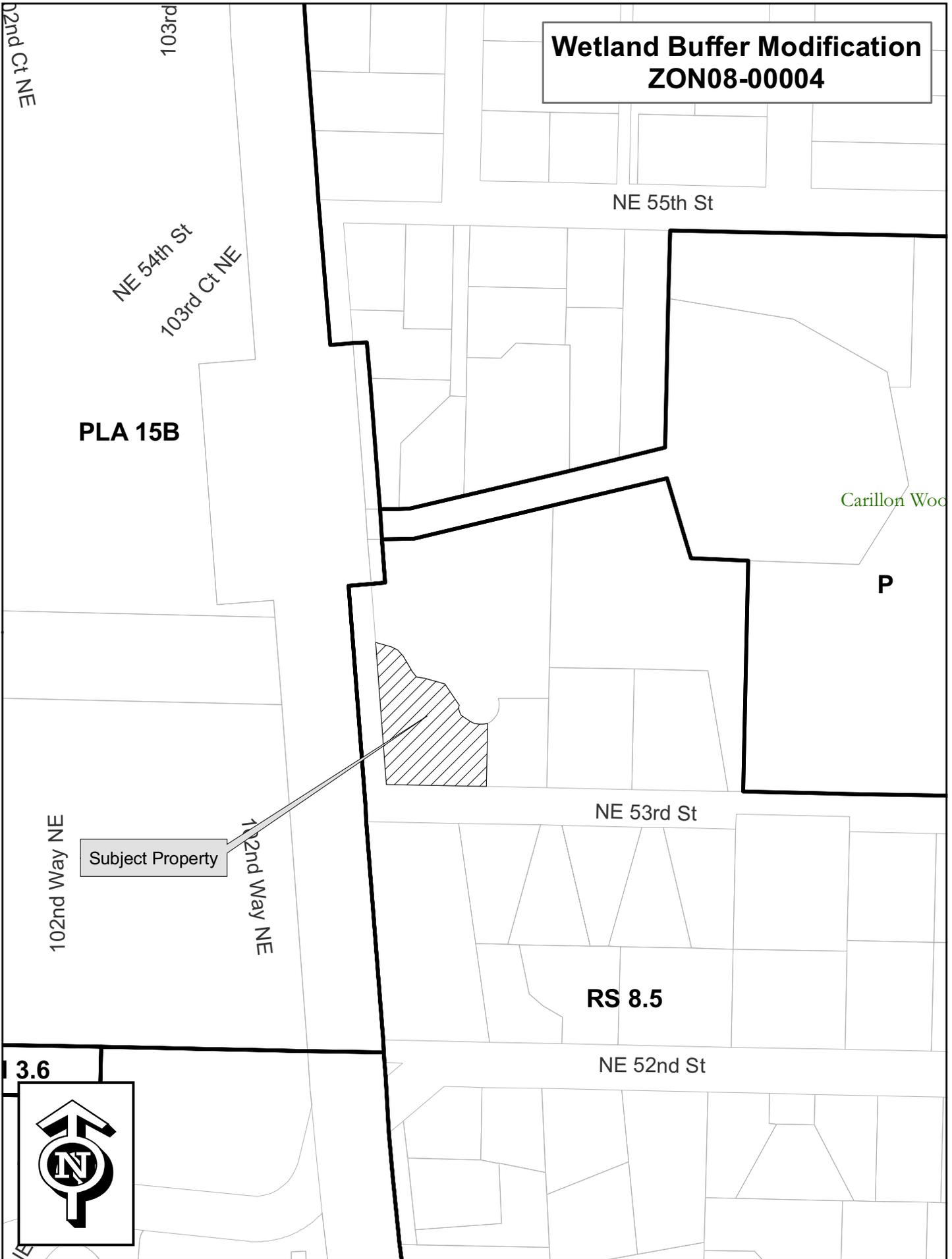
9. Letter from Concept Engineering dated September 28<sup>th</sup>, 2009 (addresses decisional criteria for chapter 90).
10. Watershed Company's review letter dated August 18<sup>th</sup>, 2009.
11. Natural Growth Protective Easement document.
12. Save Harmless document-wetland
13. Save Harmless document-streams
14. Geologically Hazardous Areas Covenant
15. Comprehensive Plan page XV-7

**V. PARTIES OF RECORD**

Mark Rigos, Concept Engineering  
Randall Broad  
Jennifer Mount  
Public Works Department, City of Kirkland  
Building Department, City of Kirkland

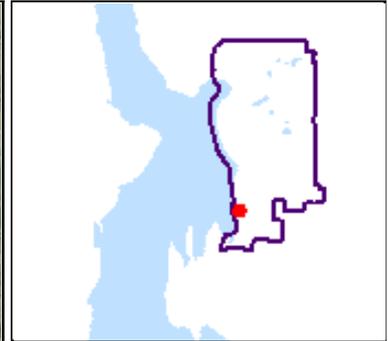
**A written decision will be issued by the Hearing Examiner within eight calendar days of the date of the open record hearing.**

**Wetland Buffer Modification  
ZON08-00004**





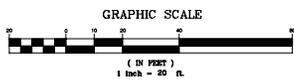
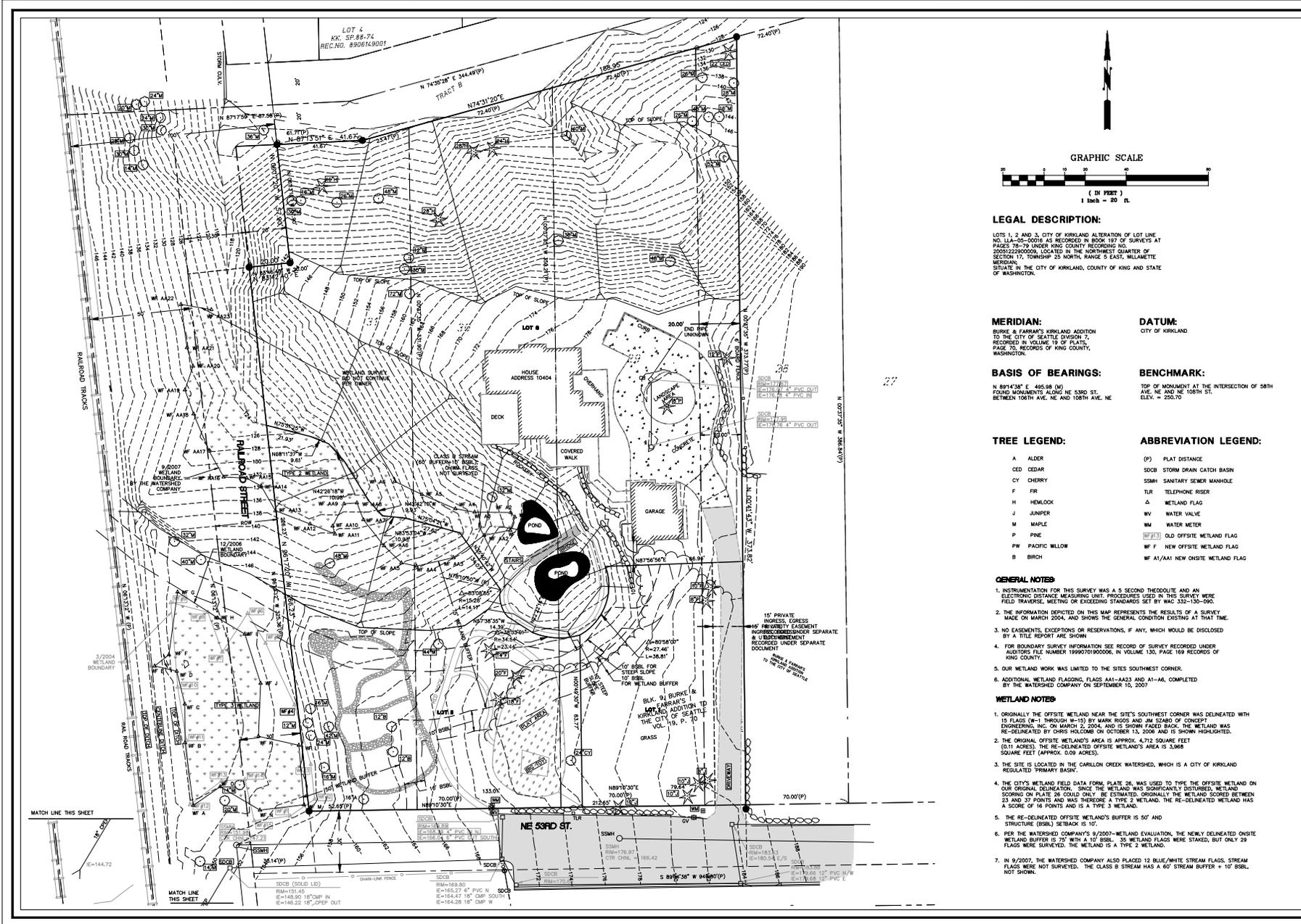
**Broad Lot 2**



Approximate  
**Scale 1:2,000**  
**1 in = 167 ft**

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**LEGAL DESCRIPTION:**  
 LOTS 1, 2 AND 3, CITY OF KIRKLAND ALTERATION OF LOT LINE NO. 114-00-0008 AS RECORDED IN BOOK 187 OF SURVEYS AT PAGES 78-79 UNDER KING COUNTY RECORDING NO. 200122200000, LOCATED IN THE NORTHWEST QUARTER OF SECTION 17, TOWNSHIP 23 NORTH, RANGE 5 EAST, WILAMETTE MERIDIAN, IN THE CITY OF KIRKLAND, COUNTY OF KING AND STATE OF WASHINGTON.

**MERIDIAN:**  
 BURKE & FARBER'S KIRKLAND ADDITION TO THE CITY OF SEATTLE DIVISION 7, RECORDED IN VOLUME 19 OF PLATS, PAGE 70, RECORDS OF KING COUNTY, WASHINGTON.

**DATUM:**  
 CITY OF KIRKLAND

**BASIS OF BEARINGS:**  
 N 89°14'28" E 495.98 (M)  
 FOUND MONUMENTS ALONG NE 53RD ST. BETWEEN 100th AVE. NE AND 108th ST. NE. ELEV. = 250.7'

**BENCHMARK:**  
 TOP OF MONUMENT AT THE INTERSECTION OF 58th AVE. NE AND NE 108th ST. ELEV. = 250.7'

- TREE LEGEND:**
- A ALDER
  - CE CEDAR
  - CY CHERRY
  - F FR
  - H HEMLOCK
  - J JUNPER
  - M MAPLE
  - P PINE
  - PW PACIFIC WILLOW
  - B BIRCH
- ABBREVIATION LEGEND:**
- (P) FLAT DISTANCE
  - SDR STORM DRAIN CATCH BASIN
  - SSM SANITARY SEWER MANHOLE
  - T TELEPHONE RISER
  - Δ WETLAND FLAG
  - W WATER VALVE
  - WM WATER METER
  - WF 13 OLD OFFSITE WETLAND FLAG
  - WF F NEW OFFSITE WETLAND FLAG
  - WF A1/A11 NEW ONSITE WETLAND FLAG

- GENERAL NOTES:**
- INSTRUMENTATION FOR THIS SURVEY WAS A 5 SECOND THEODOLITE AND AN ELECTRONIC DISTANCE MEASURING UNIT. PROCEDURES USED IN THIS SURVEY WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090.
  - THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON MARCH 2004, AND SHOWS THE GENERAL CONDITION EXISTING AT THAT TIME.
  - NO EASEMENTS, EXCEPTIONS OR RESERVATIONS, IF ANY, WHICH WOULD BE DISCLOSED BY A TITLE REPORT ARE SHOWN.
  - FOR BOUNDARY SURVEY INFORMATION SEE RECORD OF SURVEY RECORDED UNDER AUDITORS FILE NUMBER 19907100000, IN VOLUME 130, PAGE 169 RECORDS OF KING COUNTY.
  - OUR WETLAND WORK WAS LIMITED TO THE SITES SOUTHWEST CORNER.
  - ADDITIONAL WETLAND FLAGGING, FLAGS AA1-AA43 AND A1-A6, COMPLETED BY THE WATERSHED COMPANY ON SEPTEMBER 10, 2007.

- WETLAND NOTES:**
- ORIGINALLY THE OFFSITE WETLAND NEAR THE SITES SOUTHWEST CORNER WAS DELINEATED WITH 15 FLAGS (W-1 THROUGH W-15) BY MARK ROGOS AND JIM SZABO OF CONCEPT ENGINEERING, INC. ON MARCH 2, 2004, AND IS SHOWN FIELDED AS SUCH. THE WETLAND WAS RE-DELINEATED BY CHRIS HOLCOMB ON OCTOBER 13, 2006 AND IS SHOWN HIGHLIGHTED.
  - THE ORIGINAL OFFSITE WETLAND'S AREA IS APPROX. 4,712 SQUARE FEET (0.11 ACRES). THE RE-DELINEATED OFFSITE WETLAND'S AREA IS 3,968 SQUARE FEET (APPROX. 0.09 ACRES).
  - THE SITE IS LOCATED IN THE CARRILLON CREEK WATERSHED, WHICH IS A CITY OF KIRKLAND REGULATED PRIMARY BASIN.
  - THE CITY'S WETLAND FIELD DATA FORM, PLATE 26, WAS USED TO TYPE THE OFFSITE WETLAND ON OUR ORIGINAL DELINEATION. SINCE THE WETLAND WAS SIGNIFICANTLY DISTURBED, WETLAND SCORING ON PLATE 26 COULD ONLY BE ESTIMATED. ORIGINALLY THE WETLAND SCORED BETWEEN 23 AND 27 POINTS AND WAS THEREFORE A TYPE 2 WETLAND. THE RE-DELINEATED WETLAND HAS A SCORE OF 16 POINTS AND IS A TYPE 3 WETLAND.
  - THE RE-DELINEATED OFFSITE WETLAND'S BUFFER IS 50' AND STRUCTURE (BSRL) SETBACK IS 10'.
  - PER THE WATERSHED COMPANY'S 9/2007-WETLAND EVALUATION, THE NEWLY DELINEATED ONSITE WETLAND BUFFER IS 70' WITH A 10' BSRL. 35 WETLAND FLAGS WERE STAKED, BUT ONLY 29 FLAGS WERE SURVEYED. THE WETLAND IS A TYPE 2 WETLAND.
  - IN 9/2007, THE WATERSHED COMPANY ALSO PLACED 12 BLUE/WHITE STREAM FLAGS. STREAM FLAGS WERE NOT SURVEYED. THE CLASS B STREAM HAS A 60' STREAM BUFFER + 10' BSRL, NOT SHOWN.



DATE	BY	REVISION
12-27-06	REV. WETLAND, BUFFER, BSRL & ADD B&A	
11-26-07	GRATE WETLAND FLAGS	

**CONCEPT ENGINEERING, INC.**  
 455 Raiter, Bellevue North  
 Kirkland, WA 98033  
 (425) 392-8005 FAX (425) 392-0108



**TOPOGRAPHIC AND PARTIAL WETLAND SURVEY FOR RANDALL BROAD**

DATE: 09/2007  
 PROJECT: 09033  
 SHEET: 1 of 1









## CITY OF KIRKLAND

Planning and Community Development Department

123 Fifth Avenue, Kirkland, WA 98033 425.587-3225

[www.ci.kirkland.wa.us](http://www.ci.kirkland.wa.us)

### DEVELOPMENT STANDARDS LIST

**File:** Broad Wetland Buffer Modification; ZON08-00004

#### ZONING CODE STANDARDS

**85.25.1 Geotechnical Report Recommendations.** The geotechnical recommendations contained in the report by Associated Earth Sciences dated March 24<sup>th</sup>, 2005 shall be implemented.

**85.25.3 Geotechnical Professional On-Site.** A qualified geotechnical professional shall be present on site during land surface modification and foundation installation activities.

**90.45 Wetlands and Wetland Buffers.** No land surface modification may take place and no improvement may be located in a wetland or within the environmentally sensitive area buffers for a wetland, except as specifically provided in this Section.

**90.50 Wetland Buffer Fence.** Prior to development, the applicant shall install a six-foot high construction phase fence along the upland boundary of the wetland buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities. Upon project completion, the applicant shall install between the upland boundary of all wetland buffers and the developed portion of the site, either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value.

**90.55 Monitoring and Maintenance of Wetland Buffer Modifications:** Modification of a wetland buffer will require that the applicant submit a 5-year monitoring and maintenance plan consistent with the criteria found in 95.55 and which is prepared by a qualified professional and reviewed by the City's wetland consultant. The cost of the plan and the City's review shall be borne by the applicant.

**95.52 Prohibited Vegetation.** Plants listed as prohibited in the Kirkland Plant List shall not be planted in the City.

**105.10.2 Pavement Setbacks.** The paved surface in an access easement or tract shall be set back at least 5 feet from any adjacent property which does not receive access from that easement or tract. An access easement or tract that has a paved area greater than 10 feet in width must be screened from any adjacent property that does not receive access from it. Screening standards are outlined in this section.

**105 Required Parking.** Two parking spaces are required for this use.

**105.47 Required Parking Pad.** Except for garages accessed from an alley, garages serving detached dwelling units in low density zones shall provide a minimum 20-foot by 20-foot parking pad between the garage and the access easement, tract, or right-of-way providing access to the garage.

**110.60.5 Street Trees.** All trees planted in the right-of-way must be approved as to species by the City. All trees must be two inches in diameter at the time of planting as measured using the standards of the American Association of Nurserymen with a canopy that starts at least six feet above finished grade and does not obstruct any adjoining sidewalks or driving lanes.

**115.25 Work Hours.** It is a violation of this Code to engage in any development activity or

to operate any heavy equipment before 7:00 am. or after 8:00 pm Monday through Friday, or before 9:00 am or after 6:00 pm Saturday. No development activity or use of heavy equipment may occur on Sundays or on the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day. The applicant will be required to comply with these regulations and any violation of this section will result in enforcement action, unless written permission is obtained from the Planning official.

**115.40 Fence Location.** Fences over 6 feet in height may not be located in a required setback yard. A detached dwelling unit abutting a neighborhood access or collector street may not have a fence over 3.5 feet in height within the required front yard. No fence may be placed within a high waterline setback yard or within any portion of a north or south property line yard, which is coincident with the high waterline setback yard.

**115.75.2 Fill Material.** All materials used as fill must be non-dissolving and non-decomposing. Fill material must not contain organic or inorganic material that would be detrimental to the water quality, or existing habitat, or create any other significant adverse impacts to the environment.

**115.85 Rose Hill Business District Lighting Standards:** See this section for specific requirements that apply to all exterior lighting on buildings, all open air parking areas and equipment storage yards within this business district. The intent of this section is to discourage excessive lighting and to protect low density residential zones from adverse impacts that can be associated with light trespass from nonresidential and medium to high density residential development.

**115.90 Calculating Lot Coverage.** The total area of all structures and pavement and any other impervious surface on the subject property is limited to a maximum percentage of total lot area. See the Use Zone charts for maximum lot coverage percentages allowed. Section 115.90 lists exceptions to total lot coverage calculations See Section 115.90 for a more detailed explanation of these exceptions.

**115.95 Noise Standards.** The City of Kirkland adopts by reference the Maximum Environmental Noise Levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173-60 WAC. Any noise, which injures, endangers the comfort, repose, health or safety of persons, or in any way renders persons insecure in life, or in the use of property is a violation of this Code.

**115.115 Required Setback Yards.** This section establishes what structures, improvements and activities may be within required setback yards as established for each use in each zone.

**115.115.3.g Rockeries and Retaining Walls.** Rockeries and retaining walls are limited to a maximum height of four feet in a required yard unless certain modification criteria in this section are met. The combined height of fences and retaining walls within five feet of each other in a required yard is limited to a maximum height of 6 feet, unless certain modification criteria in this section are met.

**115.115.3.o Garage Setbacks.** In low density residential zones, garages meeting certain criteria in this section can be placed closer to the rear property line than is normally allowed in those zones.

**115.115.3.p HVAC and Similar Equipment:** These may be placed no closer than five feet of a side or rear property line, and shall not be located within a required front yard; provided, that HVAC equipment may be located in a storage shed approved pursuant to subsection (3)(m) of this section or a garage approved pursuant to subsection (3)(o)(2) of this section. All HVAC equipment shall be baffled, shielded, enclosed, or placed on the property in a manner that will ensure compliance with the noise provisions of KZC 115.95.

**115.115.5.a Driveway Width and Setbacks.** For a detached dwelling unit, a driveway and/or parking area shall not exceed 20 feet in width in any required front yard, and shall be separated from other hard surfaced areas located in the front yard by a 5-foot wide landscape strip. Driveways shall not be closer than 5 feet to any side property line unless certain standards are met.

**150.22.2 Public Notice Signs.** Within seven (7) calendar days after the end of the 21-day period following the City's final decision on the permit, the applicant shall remove all public notice signs.

***Prior to issuance of a grading or building permit:***

**85.25.1 Geotechnical Report Recommendations.** A written acknowledgment must be added to the face of the plans signed by the architect, engineer, and/or designer that he/she has reviewed the geotechnical recommendations and incorporated these recommendations into the plans.

**85.45 Liability.** The applicant shall enter into an agreement with the City, which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the property (see Attachment 14).

**90.50 Wetland Buffer Fence.** Prior to development, the applicant shall install a six-foot high construction phase fence along the upland boundary of the wetland buffer with silt screen fabric installed per City standard. The fence shall remain upright in the approved location for the duration of development activities. Upon project completion, the applicant shall install between the upland boundary of all wetland buffers and the developed portion of the site, either 1) a permanent 3 to 4 foot tall split rail fence, or 2) permanent planting of equal barrier value.

**90.150 Natural Greenbelt Protective Easement.** The applicant shall submit for recording a natural greenbelt protective easement, in a form acceptable to the City Attorney, for recording with King County (see Attachment 11).

**90.155 Liability.** The applicant shall enter into an agreement with the City which runs with the property, in a form acceptable to the City Attorney, indemnifying the City for any damage resulting from development activity on the subject property which is related to the physical condition of the stream, minor lake, or wetland (see Attachments 12 & 13).

**95.35.2.b.(3)(b)i Tree Protection Techniques.** A description and location of tree protection measures during construction for trees to be retained must be shown on demolition and grading plans.

**95.35.6 Tree Protection.** Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities. Protection measures for trees to be retained shall include (1) placing no construction material or equipment within the protected area of any tree to be retained; (2) providing a visible temporary protective chain link fence at least 4 feet in height around the protected area of retained trees or groups of trees until the Planning Official authorizes their removal; (3) installing visible signs spaced no further apart than 15 feet along the protective fence stating "Tree Protection Area, Entrance Prohibited" with the City code enforcement phone number; (4) prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional; and (5) ensuring that approved landscaping in a protected zone shall be done with light machinery or by hand.

**27.06.030 Park Impact Fees.** New residential units are required to pay park impact fees prior to issuance of a building permit. Please see KMC 27.06 for the current rate. Exemptions and/or credits may apply pursuant to KMC 27.06.050 and KMC 27.06.060. If a property contains an existing unit to be removed, a "credit" for that unit shall apply to the first building permit of the subdivision.

***Prior to occupancy:***

**85.25.3 Geotechnical Professional On-Site.** The geotechnical engineer shall submit a final report certifying substantial compliance with the geotechnical recommendations and

geotechnical related permit requirements.

**90.145 Bonds.** The City may require a bond and/or a perpetual landscape maintenance agreement to ensure compliance with any aspect of the Drainage Basins chapter or any decision or determination made under this chapter.

**95.40 Bonds.** The City may require a maintenance agreement or bond to ensure compliance with any aspect of the Landscaping chapter.

**95.50.2.b Tree Maintenance.** For detached dwelling units, the applicant shall submit a 5-year tree maintenance agreement to the Planning Department to maintain all pre-existing trees designated for preservation and any supplemental trees required to be planted.

**95.50.3 Maintenance of Preserved Grove.** The applicant may need to provide a legal instrument acceptable to the City ensuring the preservation in perpetuity of approved groves of trees to be retained. This shall be determined at the time of building and/or land surface modification permit.

**110.60.6 Mailboxes.** Mailboxes shall be installed in the development in a location approved by the Postal Service and the Planning Official. The applicant shall, to the maximum extent possible, group mailboxes for units or uses in the development.

**110.75 Bonds.** The City may require or permit a bond to ensure compliance with any of the requirements of the Required Public Improvements chapter.

**PERMIT NO.: ZON08-00004**

**DATE: 10/20/2009**

**PERMIT CONDITIONS AS FOLLOWS:**

- 1) **\*\*\*BUILDING DEPARTMENT CONDITIONS\*\*\***
- 2) Buildings must comply with current editions of the International Building, Residential, Mechanical and Fire Codes and the Uniform Plumbing Code as adopted and amended by the State of Washington and the City of Kirkland.
- 3) Structure must comply with Washington State Energy Code (WAC 51-11); and the Washington State Ventilation and Indoor Air Quality Code (WAC 51-13).
- 4) Structures must be designed for seismic design category D, wind speed of 85 miles per hour and exposure C.
- 5) Plumbing meter and service line shall be sized in accordance with the UPC.
- 6) Geotechnical report required to address development activity. Report must be prepared by a Washington State licensed Professional Engineer. Recommendations contained within the report shall be incorporated into the design of the subsequent structures.
- 7) **\*\*\*FIRE DEPARTMENT CONDITIONS\*\*\***
- 8) Fire flow in the area is approximately 1,250 gpm, which is adequate for development.

Existing hydrants in the area are adequate to provide service for the project. If not already equipped as such, the hydrant nearest the property shall be provided with a 5" Stortz fitting.

- 9) You can review your permit status and conditions at [www.kirklandpermits.net](http://www.kirklandpermits.net)

**PUBLIC WORKS CONDITIONS**

Permit #: ZON08-00004  
Project Name: Broad Wetland Buffer Modification  
Project Address: 10404 NE 53rd St  
Date: October 1, 2009

Public Works Staff Contacts  
Land Use and Pre-Submittal Process:  
Rob Jammerman, Development Engineering Manager  
Phone: 425-587-3845 Fax: 425-587-3807  
E-mail: [rjammer@ci.kirkland.wa.us](mailto:rjammer@ci.kirkland.wa.us)

**General Conditions:**

1. All public improvements associated with this project including street and utility improvements, must meet the City of Kirkland Public Works Pre-Approved Plans and Policies Manual. A Public Works Pre-Approved Plans and Policies manual can be purchased from the Public Works Department, or it may be retrieved from the Public Works Department's page at the City of Kirkland's web site at [www.ci.kirkland.wa.us](http://www.ci.kirkland.wa.us).
2. This project will be subject to Public Works Permit and Connection Fees. It is the applicant's responsibility to contact the Public Works Department by phone or in person to determine the fees. The fees can also be review the City of Kirkland web site at [www.ci.kirkland.wa.us](http://www.ci.kirkland.wa.us). The applicant should anticipate the following fees with any Building Permits for new homes:
  - o Water and Sewer connection Fees (paid with the issuance of a Building Permit)
  - o Side Sewer Inspection Fee (paid with the issuance of a Building Permit)
  - o Water Meter Fee (paid with the issuance of a Building Permit)
  - o Right-of-way Fee
  - o Review and Inspection Fee (for utilities and street improvements).

**PERMIT CONDITIONS AS FOLLOWS:**

- o Traffic, school and park impact fee (paid with the issuance of Building Permit).
- 3. This project is exempt from traffic concurrency review.
- 4. All civil engineering plans which are submitted in conjunction with a building, grading, or right-of-way permit must conform to the Public Works Policy titled ENGINEERING PLAN REQUIREMENTS. This policy is contained in the Public Works Pre-Approved Plans and Policies manual.
- 5. All street improvements and underground utility improvements (storm, sewer, and water) must be designed by a Washington State Licensed Engineer; all drawings shall bear the engineers stamp.
- 6. All plans submitted in conjunction with a building, grading or right-of-way permit must have elevations which are based on the King County datum only (NAVD 88).
- 7. A completeness check meeting is required prior to submittal of any Building Permit applications.
- 8. The required tree plan shall include any significant tree in the public right-of-way along the property frontage.

Sanitary Sewer Conditions:

- 1. The existing sanitary sewer main within the public right-of-way along the front of the property is adequate to serve all the lots within the proposed project.

Water System Conditions:

- 1. The existing water main in the public right-of-way along the front of the subject property is adequate to serve this proposed development.

Surface Water Conditions:

- 1. Provide temporary and permanent storm water control per the 1998 King County Surface Water Design Manual. Contact City of Kirkland Surface Water Staff at (425) 587-3800 for help in determining drainage review requirements.

Small Site Drainage Review for Short Plats

The drainage design for short plats that create less than 5,000 square feet of new impervious surface area and clear less than 2 acres or 35% of the site, whichever is greater, should follow Policy D-3 of the Department of Public Works Pre-Approved Plans. Projects this size may require Targeted Drainage Review per Section 1.1.2 of the 1998 King County Surface Water Design Manual, depending on site conditions.

Note: The City is required to adopt the 2005 Dept. of Ecology Surface Water Design Manual (or equivalent). The earliest that we anticipate its adoption is January 2010. This project will be required to meet the most currently adopted surface water design manual at the time of Building Permit application.

- 2. Provide an erosion control plan with Building Permit application.
- 3. Construction drainage control shall be maintained by the developer and will be subject to periodic inspections. During the period from April 1 to September 30, all denuded soils must be covered within 15 days; between October 1 and March 31, all denuded soils must be covered within 12 hours. If an erosion problem already exists on the site, other cover protection and erosion control will be required.

Street and Pedestrian Improvement Conditions:

- 1. The subject property abuts NE 53rd Street. This street is a Neighborhood Access type street. Zoning Code sections 110.10 and 110.25 require the applicant to make half-street improvements in rights-of-way abutting the subject property. Necessary street will be fully evaluated at the time of Building Permit submittal, but the applicant should anticipate the following:
  - A. Install storm drainage, curb and gutter, a 4.5 ft. planter strip with street trees 30 ft. on-center, and a 5 ft. wide

**PERMIT CONDITIONS AS FOLLOWS:**

sidewalk along the frontage of lots 1 and 2 to the end of the existing street.

2. A 2-inch asphalt street overlay will be required where three or more utility trench crossings occur within 150 lineal ft. of street length or where utility trenches parallel the street centerline. Grinding of the existing asphalt to blend in the overlay will be required along all match lines.
3. It shall be the responsibility of the applicant to relocate any above-ground or below-ground utilities which conflict with the project associated street or utility improvements.
4. Underground all new on-site utility lines (no overhead lines allowed).
5. Zoning Code Section 110.60.9 establishes the requirement that existing utility and transmission (power, telephone, etc.) lines on-site and in rights-of-way adjacent to the site must be underground. The Public Works Director may determine if undergrounding transmission lines in the adjacent right-of-way is not feasible and defer the undergrounding by signing an agreement to participate in an undergrounding project, if one is ever proposed. In this case, the Public Works Director has determined that undergrounding of existing overhead utility on NE 53rd Street is not feasible at this time and the undergrounding of off-site/frontage transmission lines should be deferred with a Local Improvement District (LID) No Protest Agreement. This agreement will be required as a condition of the Building Permit.



## Associated Earth Sciences, Inc.



March 24, 2005  
Project No. KE04593A

Mr. Randall Broad  
10404 NE 53<sup>rd</sup> Street  
Kirkland, Washington 98033

Subject: Geotechnical Slope Setback Study  
Broad Property  
10404 NE 53<sup>rd</sup> Street  
Kirkland, Washington

Dear Mr. Broad:

Associated Earth Sciences, Inc. (AESI) has completed subsurface exploration borings and a geotechnical slope setback study of the property located at 10404 NE 63<sup>rd</sup> Street in Kirkland, Washington. See the attached Vicinity Map, Figure 1. AESI also completed a limited geotechnical report for this property on May 1, 2000. Our understanding of the current project is based on our review of a topographic survey of the property prepared by Concept Engineering, Inc. dated March 5, 2004 and our conversations with you. We understand that the proposed development will consist of creating two new lots on the subject property, generally south of the existing home. The exact locations of the new house footprints are not known at this time. This study included an additional reconnaissance of the on-site slopes, drilling two additional exploration borings on the subject property, reviewing our May 1, 2000 report with regards to current site conditions, and reviewing the City of Kirkland Geologically Hazardous Areas regulations and sensitive areas maps (Chapter 85 of the Kirkland Zoning Code). The *City of Kirkland Sensitive Areas Folio* classifies the site as a Moderate Landslide Hazard Area. The purpose of this assessment was to provide information concerning the subsurface soils and ground water, the stability of the slopes, and to provide slope setback distances to be used in conjunction with the proposed new subdivision.

## SITE DESCRIPTION

The subject site is located on the north side of NE 53<sup>rd</sup> Street. The site is generally level along the north-south trending driveway and immediately west of the driveway in the area currently covered with lawn. An existing house is located just north of this area. The site slopes down to the north of the house at inclinations ranging from 1.5H:1V to 1H:1V (Horizontal:Vertical) over an estimated vertical distance of 40 feet. The western side of the site slopes down toward the west at an average estimated inclination of 2H:1V. A Type 2 wetland has been mapped by

others adjacent to the southwest corner of the property. A small pond and water course are located south of the house and northwest of the driveway.

The slopes are vegetated with a variety of deciduous trees and ground-cover plants, including several hydrophilic species. Several of the trees on the northern slope were observed to have curved trunks indicating shallow, downhill soil creep movement. Ground water seeps were observed in several areas of both the northern and western slopes. Shallow earth slump/erosion features were located in the vicinity of several of the more active seepage zones immediately north of the driveway terminus and north of the existing home. No slump/erosion features were observed along the western slopes south of the house in the vicinity of the proposed additional lots and homes.

## EXPLORATION BORINGS

Two exploration borings were completed in April of 2000 by advancing a 3<sup>3</sup>/<sub>8</sub>-inch, inside-diameter, hollow-stem auger with a truck-mounted drill rig. Two additional exploration borings were completed in March of 2005 by advancing a 3<sup>3</sup>/<sub>8</sub>-inch, inside-diameter, hollow-stem auger with a track-mounted drill rig. During the drilling process, samples were obtained at generally 2.5- to 5.0-foot-depth intervals. The borings were continuously observed and logged by a geotechnical engineer or engineering geologist from our firm. The exploration logs presented in the Appendix are based on the field logs, drilling action, and inspection of the samples secured. The locations of the exploration borings are shown on the attached Site and Exploration Plan, Figure 2.

Disturbed but representative samples were obtained by using the Standard Penetration Test (SPT) procedure in accordance with American Society for Testing and Materials (ASTM):D 1586. This test and sampling method consists of driving a standard 2-inch, outside-diameter, split-barrel sampler a distance of 18 inches into the soil with a 140-pound hammer free-falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded and the number of blows required to drive the sampler the final 12 inches is known as the Standard Penetration Resistance ("N") or blow count. If a total of 50 blows are recorded within one 6-inch interval, the blow count is recorded as 50 blows for the 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.

## SUBSURFACE CONDITIONS

Subsurface conditions were inferred from the field explorations accomplished for this study, a visual reconnaissance of the site, and published geologic maps of the area. The encountered stratigraphy is described below and is provided in detail on the attached boring logs.

Fill soils (those not naturally placed) were encountered in exploration boring EB-1 below the asphalt. The fill was estimated to be approximately 2 feet thick. Although we did not retrieve a sample, this material generally consisted of crushed rock road subgrade. Additional fill soils are anticipated near the existing house and pond.

Natural soils beneath the fill material in exploration boring EB-1 and the topsoil in exploration borings EB-3 and EB-4 consisted for the most part of medium dense, moist to saturated, gray to brown, fine to coarse sand with variable amounts of silt and gravel. With depth, these materials typically became denser. This unit was interpreted to be Vashon recessional outwash. Recessional outwash soils were deposited in meltwater streams during the retreat of the Vashon-age glaciers. As a result, these soils are less dense than soils that have been overrun by glacial ice, such as advance outwash. The recessional outwash extended to an approximate depth of 11 feet in exploration boring EB-1 and approximately 9 feet in exploration borings EB-3 and EB-4.

Below the recessional outwash in exploration borings EB-1, EB-3, and EB-4 and below the surficial topsoil layer in exploration boring EB-2, Vashon advance outwash sediments were encountered. This soil unit consisted of dense to very dense, tan to gray, moist to saturated, fine to coarse sand with variable amounts of silt and gravel. An approximately 4-foot-thick interbed of glaciolacustrine silt containing little clay and few amounts of fine sand was encountered within the advance outwash in exploration boring EB-3 between approximately 19 and 23 feet below the surface. Vashon advance outwash soils were deposited by rivers, streams, and ponded water in front of the advancing glacier, which accounts for the dense to very dense state of deposit. Advance outwash soils were encountered to the termination depth of exploration borings EB-1, EB-3, and EB-4.

Below the Vashon advance outwash soils in exploration boring EB-2, a pre-Vashon nonglacial deposit was encountered. This deposit is tentatively identified as belonging to the Olympia nonglacial period. This soil consisted of very dense, moist, silty, very fine sand with organics. This soil was encountered at an approximate depth of 28 feet. This unit was deposited in a nonglacial period prior to the Vashon-age glaciation.

## HYDROLOGY

Ground water was encountered in the exploration borings at the time of our field studies. Exploration borings EB-1 and EB-2 were drilled in April of 2000 and exploration borings EB-3 and EB-4 were drilled in March of 2005. The depth of seepage was 8 feet in EB-1, 15 feet in

EB-2, and 9 feet in EB-3 and EB-4. This seepage was interpreted to be a water table likely perched on the silt layer(s) within the sand units.

Emergent ground water was observed along the western and northern slopes on the property, a pond and water course are present south of the existing house, and wetlands have been delineated on the southwestern edges of the site. This water appears to be the result of ground water seepage from the outwash sediments.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the available information, it is our opinion that the western and northern slopes on the site have a low risk of deep-seated movement. This is due to the very dense, predominately granular sediments that are interpreted to underlie this area, including the existing home foundation. Ground water seepage and erosion of the oversteepened portions of the northern slope will continue to cause shallow sloughing of the slope and gradual retreat of the slope crest southward. The current top of slope setback for the home and driveway edge provides a suitable buffer against slope erosion and retreat. It is anticipated that the long-term average retreat of the top of slope is a few inches per year. The erosion is episodic, and the rate will vary greatly with seasonal rainfall, long-term weather patterns, the degree of vegetation re-growth, and other factors.

Future erosion and slope retreat for the northern slope can be mitigated by dewatering the slope, promoting vegetation re-growth, routing all storm water sources away from the slope and the top of slope, installing retaining structures, or combinations of these measures.

Proposed construction on the lawn and landscaping areas located to the west of the driveway should not adversely impact the stability of the adjacent slopes if the following recommendations are followed. We recommend slope setbacks for new construction utilizing conventional, shallow spread footing construction of 20 feet from the top of 40 percent (or steeper) slopes that are greater than 20 feet high. We recommend preliminary slope setbacks for new construction utilizing deep foundations embedded at least 10 feet below the existing grades (such as drilled piers, deepened footings, etc.) of 10 feet from the top of 40 percent (or steeper) slopes that are greater than 20 feet high. These setbacks would generally apply to slopes located south and west of the existing landscape ponds, and near the west side perimeter.

We recommend that new driveways and any other structures other than the proposed houses be set back a minimum of 10 feet from the top of the above-defined slopes. Any excess soil from the foundation excavation must remain back from the top of slope at least 10 feet. Minor landscaping fill (less than 6 inches of topsoil) may be placed near the top of the slopes. All storm water from downspouts, paved surfaces, footing drains, surface ditches, etc. should not discharge directly onto or above the steep slopes during or after construction. Surface water drainage should be directed away from the slope.

Disturbed areas should be protected from direct erosion and runoff during construction using temporary cover measures, such as rock surfacing, mulch, or plastic sheeting. Following construction, all disturbed areas should be revegetated or provided with suitable, long-term erosion protection. Temporary cover measures should be maintained until permanent erosion control measures are established.

It is our opinion that the risk of landslides or slope erosion affecting the proposed houses, associated driveways, other associated improvements, and areas below is low if the above recommendations are followed.

This letter summarizes the results of our top of slope setback evaluation. A full-scale geotechnical report has not been provided under the current scope of work. At the time of this letter, site grading, structural plans, and construction methods have not been finalized. We recommend that AESI perform a geotechnical review of the plans prior to final design completion. In this way, recommendations may be properly interpreted and implemented in the design.

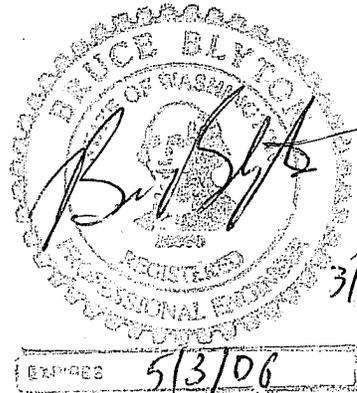
We have enjoyed working with you on this study and trust this letter will meet your current needs. If you have any questions or require further assistance, please do not hesitate to call.

Sincerely  
**ASSOCIATED EARTH SCIENCES, INC.**  
 Kirkland, Washington



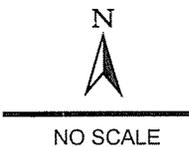
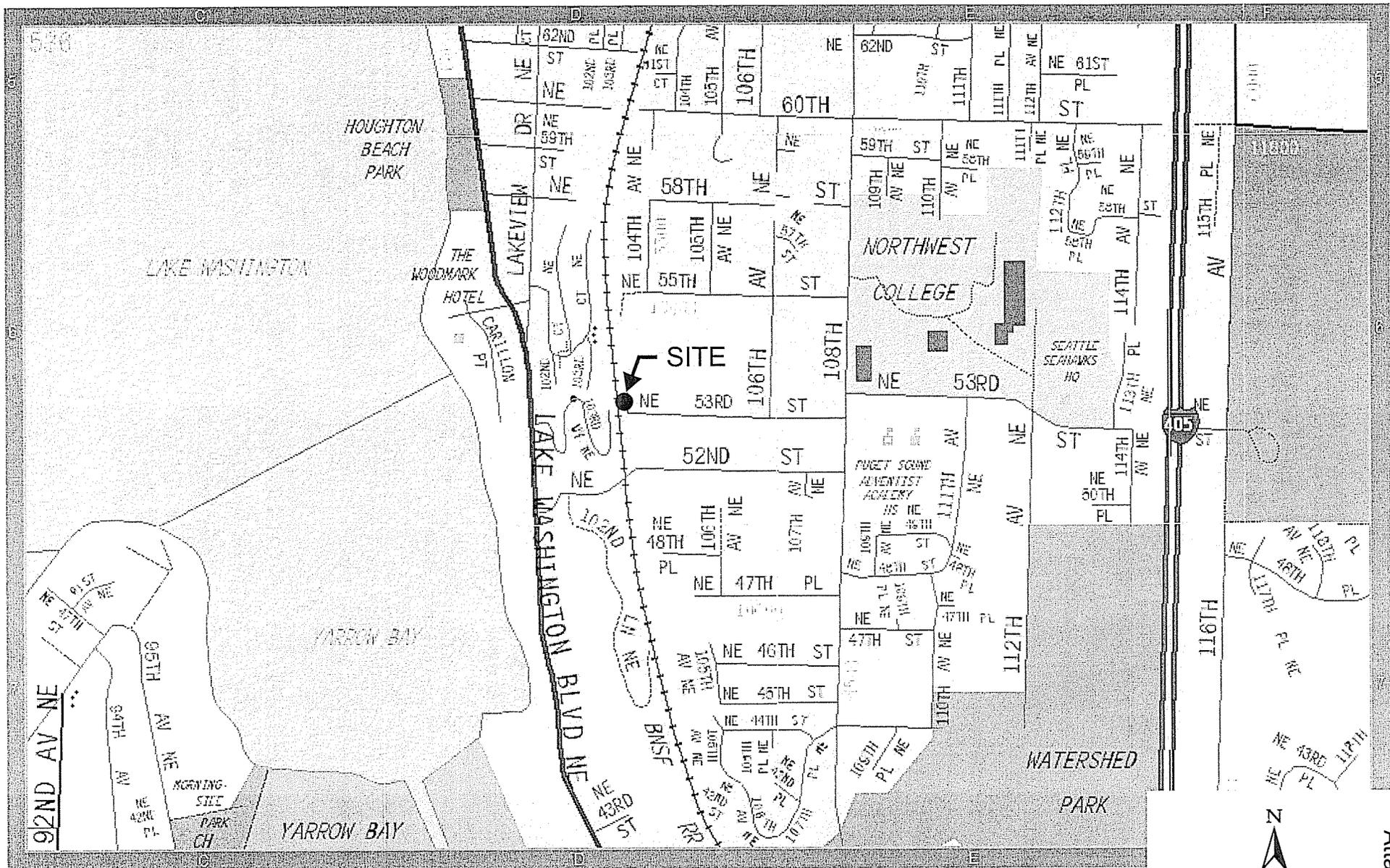
**John D. Coleman**

John D. Coleman, P.E.G.  
 Project Geologist



Bruce L. Blyton, P.E.  
 Principal Engineer

Attachment:    Figure 1:    Vicinity Map  
                   Figure 2:    Site and Exploration Plan  
                   Appendix:    Exploration Logs



Associated Earth Sciences, Inc.



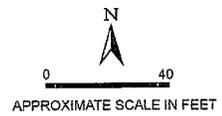
VICINITY MAP  
 BROAD PROPERTY  
 KIRKLAND, WASHINGTON

FIGURE 1  
 DATE 03/05  
 PROJ. NO. KE04593A



**LEGEND**

EB-1 ● Approximate location of exploration boring



Reference: Concept Engineering, Inc.

**Associated Earth Sciences, Inc.**



**SITE AND EXPLORATION PLAN  
BROAD PROPERTY  
KIRKLAND, WASHINGTON**

FIGURE 2  
DATE 03/05  
PROJ. NO. KE04593A

04593 broad property/04593a site.cdr

Attachment 4



# APPENDIX

				Terms Describing Relative Density and Consistency				
				Density	SPT <sup>(2)</sup> blows/foot	Test Symbols		
Coarse-Grained Soils - More than 50% <sup>(1)</sup> Retained on No. 200 Sieve	Gravels - More than 50% <sup>(1)</sup> of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines (5)	GW	Well-graded gravel and gravel with sand, little to no fines	Coarse-Grained Soils	Very Loose	0 to 4	G = Grain Size M = Moisture Content A = Atterberg Limits C = Chemical DD = Dry Density K = Permeability
			GP	Poorly-graded gravel and gravel with sand, little to no fines		Loose	4 to 10	
			GM	Silty gravel and silty gravel with sand		Medium Dense	10 to 30	
	Sands - 50% <sup>(1)</sup> or More of Coarse Fraction Passes No. 4 Sieve	≥15% Fines (5)	GC	Clayey gravel and clayey gravel with sand		Dense	30 to 50	
			SW	Well-graded sand and sand with gravel, little to no fines		Very Dense	>50	
			SP	Poorly-graded sand and sand with gravel, little to no fines		Consistency		
Fine-Grained Soils - 50% <sup>(1)</sup> or More Passes No. 200 Sieve	Sils and Clays Liquid Limit Less than 50	≥15% Fines (5)	SM	Silty sand and silty sand with gravel	Fine-Grained Soils	Very Soft	0 to 2	
			SC	Clayey sand and clayey sand with gravel		Soft	2 to 4	
			ML	Silt, sandy silt, gravelly silt, silt with sand or gravel		Medium Stiff	4 to 8	
	Sils and Clays Liquid Limit 50 or More		CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay		Stiff	8 to 15	
			OL	Organic clay or silt of low plasticity		Very Stiff	15 to 30	
			MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt		Hard	>30	
Highly Organic Soils			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				
			PT	Peat, muck and other highly organic soils				
				<b>Component Definitions</b>				
				<b>Descriptive Term</b>	<b>Size Range and Sieve Number</b>			
				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)			
				<b>(3) Estimated Percentage</b>		<b>Moisture Content</b>		
				<b>Component</b>	<b>Percentage by Weight</b>	Dry - Absence of moisture, dusty, dry to the touch		
				Trace	<5	Slightly Moist - Perceptible moisture		
				Few	5 to 10	Moist - Damp but no visible water		
				Little	15 to 25	Very Moist - Water visible but not free draining		
				With	- Non-primary coarse constituents: ≥ 15% - Fines content between 5% and 15%	Wet - Visible free water, usually from below water table		
				<b>Symbols</b>				
				Sampler Type	Blows/6" or portion of 6"	Cement grout surface seal		
				2.0" OD Split-Spoon Sampler (SPT)	10 15 20	Bentonite seal		
				Bulk sample	3.0" OD Split-Spoon Sampler	Filter pack with blank casing section		
				Grab Sample	3.25" OD Split-Spoon Ring Sampler	Screened casing or Hydrotip with filter pack		
					3.0" OD Thin-Wall Tube Sampler (including Shelby tube)	End cap		
					○ Portion not recovered			
				(1) Percentage by dry weight	(4) Depth of ground water			
				(2) (SPT) Standard Penetration Test (ASTM D-1586)	▽ ATD = At time of drilling			
				(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)	▽ 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.

blocks\log\_key.dwg 11/02/01

Associated Earth Sciences, Inc.



# Exploration Log Key

FIGURE

A-1

Project Number  
KE00235A

Exploration Number  
EB-1

Sheet  
1 of 1

Project Name Strisower Pre-Purchase  
 Location Kirkland, WA  
 Driller/Equipment Gregory Drilling  
 Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) \_\_\_\_\_  
 Datum N/A  
 Date Start/Finish 4/24/00, 04/24/2000  
 Hole Diameter (in) \_\_\_\_\_

Depth, ft	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot				Other Tests	
							10	20	30	40		
			Surface: ACP <b>FILL</b>									
5			<b>Recessional Outwash</b> Moist, gray, fine SAND with trace silt and gravel.			3 4 7	▲11					
10			Saturated brown, fine to medium SAND with trace to some gravel and trace silt.	▽ ATD	9 10 17		▲27					
15			<b>Advance Outwash</b> Saturated brown, fine SAND with trace to some gravel and trace silt.			19 22 33					▲55	
20			Saturated, mottled (at tip) gray, fine SAND with trace silt and gravel.			18 42 50/5"					▲50/5"	
25			Moist, mottled brown, gray SILT.			25 50/5"					▲50/5"	
30			Moist to wet, mottled gray, fine SAND with trace to some silt.			19 25 43					▲68	
35			Bottom of exploration boring at 29 feet Driller water heading hole to control heave.									

**Sampler Type (ST):**

- |                                   |                    |                                       |
|-----------------------------------|--------------------|---------------------------------------|
| 2" OD Split Spoon Sampler (SPT)   | No Recovery        | M - Moisture                          |
| 3" OD Split Spoon Sampler (D & M) | Ring Sample        | Water Level ( )                       |
| Grab Sample                       | Shelby Tube Sample | Water Level at time of drilling (ATD) |

Logged by: MAB  
 Approved by: CJK

Exploration Log



Project Number  
KE00235A

Exploration Number  
EB-2

Sheet  
1 of 1

Project Name Strisower Pre-Purchase  
 Location Kirkland, WA  
 Driller/Equipment Gregory Drilling  
 Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) \_\_\_\_\_  
 Datum N/A  
 Date Start/Finish 4/24/00, 04/24/2000  
 Hole Diameter (in) \_\_\_\_\_

Depth, ft	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
							10	20	30	40	
5				Moist, slightly oxidized, tan, fine to medium SAND with trace gravel and silt.		9 18 22				40	
10				Moist, tan, fine to medium SAND with trace SILT and trace to some gravel.		18 30 47				77	
15				Saturated.		ATD 25 32 44				76	
20						21 33 44				77	
25				Increasing SILT content.		22 31 48				79	
30				Olympia ? Moist blue-gray silty very fine SAND with organics grading to mottled brown, silty very fine sand with organics.		23 34 47				81	
35				Bottom of exploration boring at 30.5 feet Driller water heading hole to control heave.							

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)     No Recovery    M - Moisture
- 3" OD Split Spoon Sampler (D & M)     Ring Sample     Water Level ( )
- Grab Sample     Shelby Tube Sample     Water Level at time of drilling (ATD)

Logged by: MAB  
 Approved by: CJK



Project Number  
KE04593A

Exploration Number  
EB-3

Sheet  
1 of 1

Project Name Broad Property  
 Location Kirkland, WA  
 Driller/Equipment Boretac/Track Rig  
 Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) 168'  
 Datum N/A  
 Date Start/Finish 3/7/05, 3/7/05  
 Hole Diameter (in) ~6"

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
							10	20	30	40	
				Crushed Rock							
				Topsoil							
				Recessional Outwash							
5		S-1		Moist to wet, mottled tan, light brown and reddish brown, stratified, fine to coarse SAND, trace to few silt, trace fine subrounded gravel throughout (SW/SM).		1 2 4	▲6				
		S-2				6 11 11	▲22				
10		S-3		Advance Outwash Wet, mottled tan, light brown and reddish brown, stratified, fine to coarse SAND, few silt, trace fine subrounded gravel throughout (SW/SM).		10 20 23				▲43	
15		S-4				20 27 30				▲57	
20		S-5		Glaciolacustrine Interbed Wet to moist, mottled tan and light reddish brown grading with depth to light gray, SILT, little clay, few fine sand (ML).		10 14 21				▲35	
25		S-6		Advance Outwash Wet, mottled tan, light brown and reddish brown, stratified, fine to coarse SAND, trace to few silt, trace fine subrounded gravel throughout (SW/SM).		14 22 23				▲45	
30		S-7				23 47 50/6"				▲50/6"	
35				Bottom of exploration boring at 31.5 feet							

AESIBOR\_04593A.GPJ March 10, 2005

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:



Project Number  
KE04593A

Exploration Number  
EB-4

Sheet  
1 of 1

Project Name Broad Property  
 Location Kirkland, WA  
 Driller/Equipment Borettec/Track Rig  
 Hammer Weight/Drop 140# / 30"

Ground Surface Elevation (ft) 181'  
 Datum N/A  
 Date Start/Finish 3/7/05, 3/7/05  
 Hole Diameter (in) ~6"

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
							10	20	30	40	
				Sod and Topsoil							
				Recessional Outwash							
5		S-1		Moist to wet, mottled tan, light brown and reddish brown, stratified, fine to coarse SAND, trace to few silt, few fine subrounded gravel throughout (SW/SM).		5 6 6		▲12			
		S-2				7 11 12		▲23			
10		S-3		Advance Outwash							
				Wet, mottled tan, light brown and reddish brown, stratified, fine to coarse SAND, few silt, trace fine subrounded gravel throughout (SW/SM).		13 17 21			▲38		
15		S-4				21 28 32				▲60	
				Bottom of exploration boring at 16.5 feet							

AESIBOR\_04593A.GPJ March 10, 2005

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:



September 12, 2007

Jon Regala  
City of Kirkland Planning Department  
123 Fifth Avenue  
Kirkland, WA 98033  
Fax (425) 587-3253

Re: **Broad Property Wetland and Stream Delineation Study –TWC# 060701.26**

Dear Jon:

On September 10, 2007, The Watershed Company Ecologists Mike Foster and I conducted a wetland and stream delineation study on the property at 10404 NE 53<sup>rd</sup> Street in Kirkland (parcels 123400-0980, -0979, and -0978). Several wetlands were previously identified on this site. This current study is limited to areas immediately west of the ponds on the subject property (study area).

This letter summarizes the findings of this study and details applicable federal, state, and local wetland regulations. The following attachments are included:

- Wetland and Stream Delineation Sketch
- Wetland Determination Data Forms
- Wetland Field Data Form

## Methods

The study area was evaluated for wetlands using methodology from the *Washington State Wetlands Identification and Delineation Manual* (Manual) (Washington Department of Ecology [Ecology] 1997). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Manual were determined to be wetland. Soil, vegetation, and hydrologic data were sampled at several locations on the property to make the determination. We recorded data at two of these locations. Data points are marked with yellow- and black-striped flags.

Wetland A is marked with 35 pink- and black-striped flags. The wetland was classified using Kirkland's *Wetland Field Data Form*. Observations in the field, aerial photos from King County's mapping website (iMap), and information gathered from Kirkland's *Sensitive Areas* map were used to rate the wetland found on the subject site.

The stream ordinary high water mark (OHWM) on the subject property was determined based on the definition provided by the Department of Fish and Wildlife and WAC 220-110-020(57). Areas meeting the definition were determined to be the OHWM edge. The OHWM is located by

J. Regala  
September 12, 2007  
Page 2 of 3

examining the bed and bank physical characteristics and vegetation to ascertain the water elevation for mean annual floods. One stream, Stream A, is marked with 12 blue- and white-striped flags. Field observations and Kirkland's *Sensitive Areas Map* were used to classify the subject stream.

### **Findings**

The subject property is north of Lake Washington in the Carillon Creek basin. An active rail line runs along the west property edge beyond the right-of-way. West of the man-made ponds, a wetland (Wetland A) and a stream (Stream A) are present.

Wetland A contains palustrine scrub-shrub and emergent vegetation communities. Shrub cover is dominated by salmonberry (*Rubus spectabilis*) and Himalayan blackberry (*Rubus armeniacus*). Red-osier dogwood (*Cornus stolonifera*), vine maple (*Acer circinatum*), and elderberry (*Sambucus racemosa*) are also present. Emergent patches are dominated by slough sedge (*Carex obnupta*) and reed canarygrass (*Phalaris arundinacea*). Yellow iris (*Iris pseudacorus*), climbing nightshade (*Solanum dulcamara*), soft rush (*Juncus effusus*) are also present. The soil at a 10-inch depth is a black (10YR 2/1) sandy clay loam. The soil was saturated to the surface on the day of our site visit.

As noted above, Wetland A does contain dominant patches of Himalayan blackberry, particularly along the stream channel. Despite its facultative upland (FACU) wetland indicator status, this vine is highly invasive and is often observed inside wetlands in our region. According to wetland experts in the Pacific Northwest, Himalayan blackberry in our region can be considered facultative (FAC) (Cooke, S. Wetland Plants of Western Washington, 1997).

The non-wetland area around the edges of Wetland A is predominantly forested by young bigleaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*). The understory is dominated by sword fern (*Polystichum munitum*), Himalayan blackberry, and giant horsetail (*Equisetum telmateia*). The soil at a 10-inch depth is a very dark brown (10YR 2/2) sandy clay loam. The soil was not saturated on the day of our site visit.

Stream A is a tributary of Carillon Creek that is fed by groundwater seeps. The stream channel drops steeply near the end of our flagging where a large sinkhole is present. The stream was flowing at the time of our late summer visit; it has perennial flow. Due to the narrow width and steep gradient of Stream A and an impassable culvert beneath the railroad, it is not a fish bearing stream.

### **Local Regulations**

In Kirkland, wetlands and streams are regulated under Chapter 90, Drainage Basins, of the Kirkland Zoning Code (KZC). Buffer width determinations for wetlands (KZC 90.45) and streams (KZC 90.90) are based on both wetland type or stream class and basin category. The on-site wetland and stream are in the Carillon Creek basin, a primary basin (KZC 90.30). Using the City of Kirkland wetland rating system, Wetland A scores 26 points; it is a Type 2 wetland.

September 12, 2007  
Page 3 of 3

Type 2 wetlands in primary basins in the City of Kirkland require a standard 75-foot buffer (KZC 90.45). Stream A is perennial and non-fish bearing; therefore, it is a Class B stream (KZC 90.30). Class B streams in primary basins in the City of Kirkland require a standard 60-foot buffer. Additionally, Kirkland requires that there be “[a] setback distance of 10 feet from a designated or modified wetland or stream buffer within which no buildings or other above-ground structures may be constructed....” (KZC 90.30, Definitions).

Wetland and stream buffers may be modified under two options detailed in KZC 90.60 and KZC 90.100. First, an applicant may build within a buffer using a buffer averaging plan. Any buffer area lost to development may be added to the buffer elsewhere on the property, given that buffer area is of equal or better quality and size. Second, the applicant may reduce the buffer if it can be shown that an enhancement plan will improve buffer function overall despite the buffer intrusion. Enhancement may involve removing invasive plant species, planting native vegetation, etc. Wetland and stream buffers may not be reduced at any point by more than one-third of the standards (KZC 90.60 and 90.100). Therefore under any reduction plan, the minimum buffer must be 50.25-feet wide for Wetland A and the 40-feet wide for Stream A. Averaging and reduction may not be used together. Any plan drafted to reduce buffer widths must be approved by the City of Kirkland through a review process.

### **State and Federal Regulation**

Wetlands are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would likely require notification and permits from the Corps. This wetland would not be considered isolated. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

Streams and drainage channels are also regulated by the Washington State Department of Fish and Wildlife (WDFW). The applicant should consult with the WDFW regarding any potential in-stream work.

Generally, neither the Corps nor Ecology regulates wetland buffers.

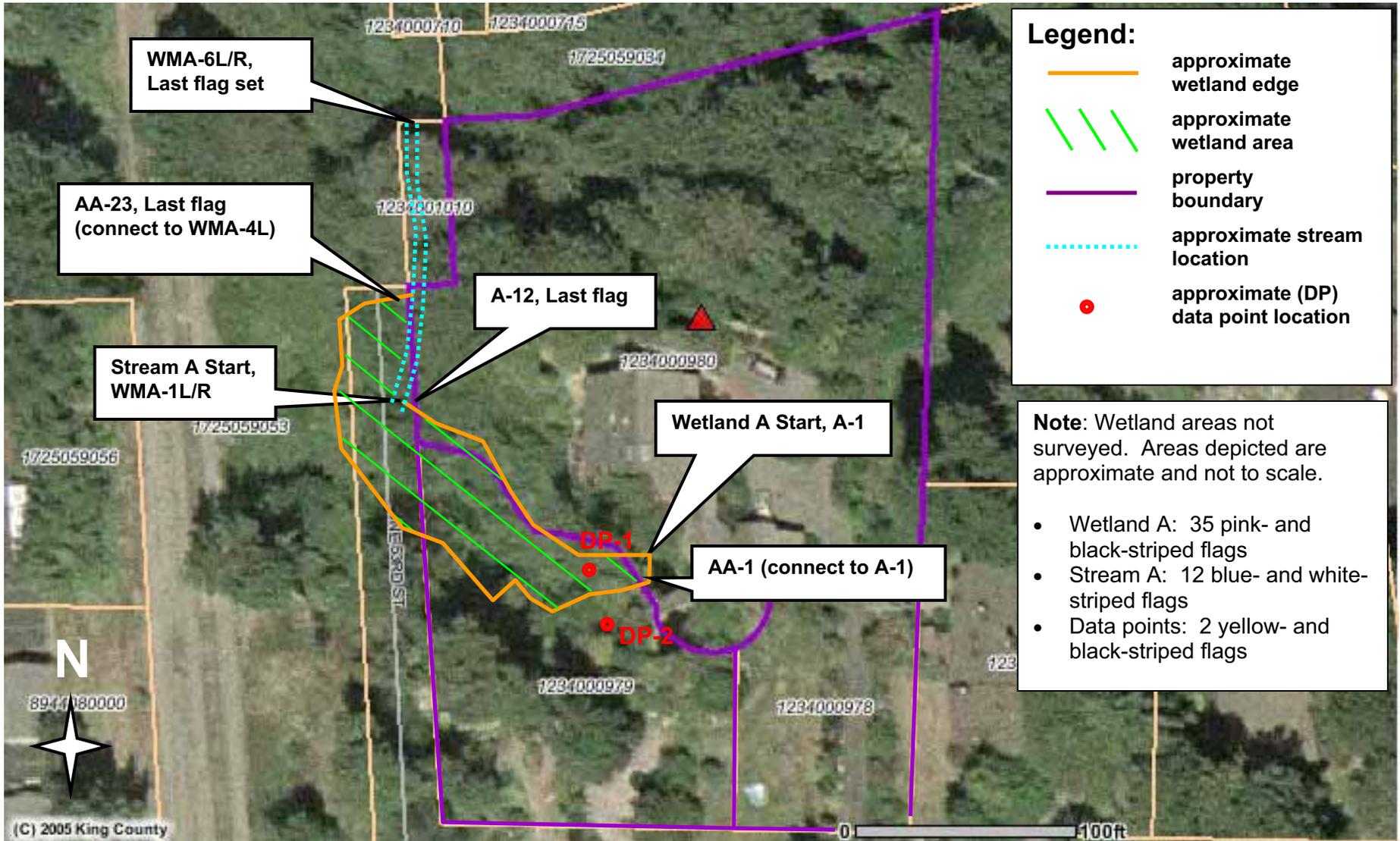
Please call if you have any questions or if we can provide additional information.

Sincerely,



Nell Lund  
Ecologist

Enclosures



**Legend:**

- approximate wetland edge
- /// approximate wetland area
- property boundary
- ⋯ approximate stream location
- approximate (DP) data point location

**Note:** Wetland areas not surveyed. Areas depicted are approximate and not to scale.

- Wetland A: 35 pink- and black-striped flags
- Stream A: 12 blue- and white-striped flags
- Data points: 2 yellow- and black-striped flags

**Wetland & Stream Delineation Sketch**

(parcel numbers 123400-0980, -0979, -0978)

TWC# 060701.26

Prepared for Jon Regala

City of Kirkland, Washington

Sept. 10, 2007



750 Sixth Street South | Kirkland | WA 98033

p 425.822.5242 f 425.827.8136

**WETLAND DETERMINATION DATA FORM**

Attachment 5



750 Sixth Street South  
Kirkland, Washington 98033  
(425) 822-5242 Fax (425) 827-8136

**WETLAND?**  **YES**  **NO**

Date: **Sept 10, 2007** Data point: **DP-1** Wetland #: **A**  
Project Name: **10404 NE 53rd Street, Kirkland** Data point location: **West of Ponds**  
Biologist(s): **MF, NL**

Do normal environmental conditions exist?  **YES**  **NO**  
Has vegetation, soils &/or hydrology been significantly disturbed within the past 5 yrs?  **YES**  **NO**

VEGETATION					
<i>Stratum: T=tree, S=shrub, H=herb, V=vine</i>					
Dominant Species	Stratum	WIS	Other Species	Stratum	WIS
<b><i>Rubus spectabilis</i></b>	<b>S</b>	<b>FAC+</b>	<b><i>Rubus armeniacus</i></b>	<b>V</b>	<b>FACU</b>
<b><i>Ranunculus repens</i></b>	<b>H</b>	<b>FACW</b>	<b><i>Solanum dolcamara</i></b>	<b>V</b>	<b>FAC+</b>
			<b><i>Hedera helix</i></b>	<b>V</b>	<b>NL</b>
			<b><i>Athyrium filix-femina</i></b>	<b>H</b>	<b>FAC</b>

Percent of dominant species that are FAC, FACW or OBL **100%**

Vegetation criteria met?  **YES**  **NO**

Notes: \_\_\_\_\_

**SOILS**

Depth	Horizon	Matrix Color	Mottles <small>(Distinct/Prominent)</small>	Texture	Hydric Indicators:
<b>10"</b>	<b>B</b>	<b>10YR 2/1</b>	<b>None</b>	<b>Sandy clay loam</b>	<input checked="" type="checkbox"/> Gleyed/Low Chroma
					<input checked="" type="checkbox"/> Sulfidic odor
					<input type="checkbox"/> Histosol
					<input type="checkbox"/> Other (list in notes)

Soil Criteria Met?  **YES**  **NO**

Notes: \_\_\_\_\_

**HYDROLOGY**

Surface saturation? <input checked="" type="radio"/> <b>YES</b> <input type="radio"/> <b>NO</b>	Primary Indicators: (1 required)	Secondary Indicators: (≥2 required)
Depth to saturation <b>0"</b>	<input type="checkbox"/> Observation of inundation	<input type="checkbox"/> Oxidized root channels
Depth of inundation <b>N/A</b>	<input checked="" type="checkbox"/> Observation of soil saturation	<input type="checkbox"/> Water-stained leaves
Depth to free water in pit <b>N/A</b>	<input type="checkbox"/> Water marks	<input type="checkbox"/> Local soil survey data
Flow? <input checked="" type="radio"/> <b>NO</b>	<input type="checkbox"/> Drift lines or drainage patterns	<input type="checkbox"/> FAC-neutral test
Channel? <input type="checkbox"/> Sheet? <input type="checkbox"/>	<input type="checkbox"/> Sediment deposits	

Hydrologic Criteria Met?  **YES**  **NO** Recent rainfall: Very high High  **Normal** Low Very low

Notes: \_\_\_\_\_

**WILDLIFE OBSERVATIONS AND GENERAL NOTES**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



WETLAND DETERMINATION DATA FORM

Attachment 5

750 Sixth Street South
Kirkland, Washington 98033
(425) 822-5242 Fax (425) 827-8136

WETLAND? YES NO

Date: Sept 10, 2007 Data point: DP-2 Wetland #:
Project Name: 10404 NE 53rd Street, Kirkland Data point location: South of DP-1
Biologist(s): MF, NL

Do normal environmental conditions exist? YES NO
Has vegetation, soils &/or hydrology been significantly disturbed within the past 5 yrs? YES NO

Table with columns: Stratum, Dominant Species, Stratum, WIS, Other Species, Stratum, WIS. Rows include Polystichum munitum, Rubus armeniacus, Equisetum telmateia.

Percent of dominant species that are FAC, FACW or OBL 33%

Vegetation criteria met? YES NO

Notes:

SOILS

Table with columns: Depth, Horizon, Matrix Color, Mottles, Texture, Hydric Indicators. Row 1: 10", B, 10YR 2/2, None, Sandy clay loam.

Soil Criteria Met? YES NO

Notes:

HYDROLOGY

Surface saturation? YES NO
Depth to saturation N/A
Depth of inundation N/A
Depth to free water in pit N/A
Flow? YES NO
Channel? Sheet?
Primary Indicators: (1 required)
Secondary Indicators: (>=2 required)

Hydrologic Criteria Met? YES NO
Recent rainfall: Very high High Normal Low Very low

Notes: Bone dry at 10-inches

WILDLIFE OBSERVATIONS AND GENERAL NOTES

Blank lines for wildlife observations and general notes.

**WETLAND FIELD DATA FORM – Broad Restoration property  
located at 10404 NE 53<sup>rd</sup> Street Kirkland, WA 98033.**

**Rating done on September 10, 2007 by The Watershed Company.**



**WETLAND FIELD DATA FORM**

BEGIN BY CHECKING ANY OF THE FOLLOWING (a. – e.) THAT APPLY:

- a. The wetland is contiguous to Lake Washington;
- b. The wetland contains at least 1/4 acre of organic soils, such as peat bogs or mucky soils;
- c. The wetland is equal to or greater than 10 acres in size and having three or more wetland classes, as defined by the U.S. Fish & Wildlife Service (Cowardin et al., 1979), one of which is open water;
- d. The wetland has significant habitat value to state or federally listed threatened or endangered wildlife species; or
- e. The wetland contains state or federally listed threatened or endangered plant species.

IF ANY OF THE CRITERIA LISTED ABOVE ARE MET, THEN THE WETLAND IS CONSIDERED TO BE TYPE 1. IF THAT IS THE CASE, PLEASE CONTINUE TO COMPLETE THE ENTIRE FORM, BUT DO NOT ASSIGN POINTS.

IF THE WETLAND DOES NOT MEET THE CRITERIA LISTED ABOVE FOR TYPE 1, COMPLETE THE ENTIRE FORM, USING THE ASSIGNED POINTS TO DETERMINE IF IT IS A TYPE 2 OR TYPE 3 WETLAND.

Type 2 wetlands typically have at least two wetland vegetation classes, are at least partially surrounded by buffers of native vegetation, connected by surface water flow (perennial or intermittent) to other wetlands or streams, and contain or are associated with forested habitat.

**1. Total wetland area**

Estimate wetland area and score from choices	Acres	Point Value	<u>Points</u>
	>20.00	= 6	
	10-19.99	= 5	
	5-9.99	= 4	
	1-4.99	= 3	
	0.1-0.99	= 2	<b>2</b>
	<0.1	= 1	

**(2 points)**

**2. Wetland classes: Determine the number of wetland classes that qualify, and score according to the table.**

	# of Classes	Points
<b>Open Water:</b> if the area of open water is >1/3 acre or >10% of the total wetland area	1	= 1
<b>Aquatic Beds:</b> if the area of aquatic beds is >10% of the <b>open water</b> area <b>or</b> >1/2 acre	2	= 3
<b>Emergent:</b> if the area of emergent class is >1/2 acre <b>or</b> >10% of the total wetland area	3	= 5
<b>Scrub-Shrub:</b> if the area of scrub-shrub class is >1/2 acre <b>or</b> >10% of the total wetland area	4	= 7
<b>Forested:</b> if the area of forested class is >1/2 acre or >10% of the total wetland area	5	= 10

**(3 points)**

**3. Plant species diversity.**

For all wetland classes which qualified in 2 above, count the number of different plant species and score according to the table below. You do not have to name them.

e.g., if a wetland has an aquatic bed class with 3 species, and emergent class with 4 species and a scrub-shrub class with 2 species, you would circle 2, 2, and 1 in the second column (below).

Class	# of Species	Point Value	Class	# of Species	Point Value
Aquatic Bed	1-2	= 1	Scrub-Shrub	1-2	= 1
	3	= 2		3-4	= 2
	>3	= 3		>4	= 3
Emergent	1-2	= 1	Forested	1-2	= 1
	3-4	= 2		3-4	= 2
	>4	= 3		>4	= 3

**(6 points)**

**4. Structural diversity.**

If the wetland has a forested class, add 1 point for each of the following attributes present:

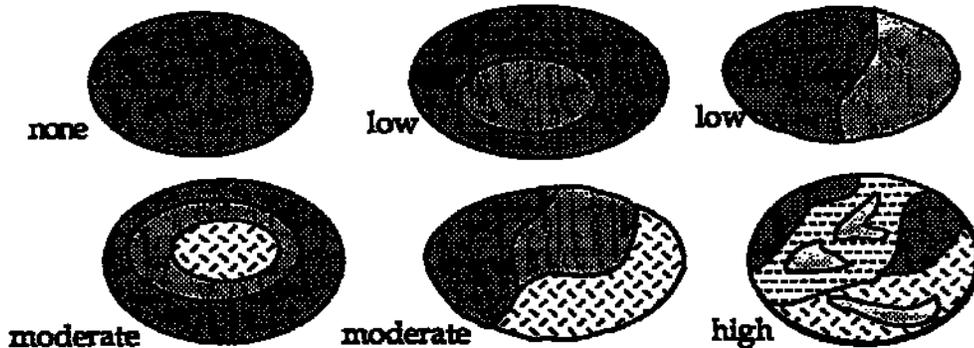
- Trees >50' tall = 1
- Trees 20' to 49' tall = 1
- shrubs = 1
- Herbaceous ground cover = 1

**(0 points)**

**5. Interspersion between wetland classes.**

Decide from the diagrams below whether interspection between wetland classes is high, moderate, low or none

- 3 = High
- 2 = Moderate
- 1 = Low
- 0 = None



(1 points)

**6. Habitat features**

Add points associated with each habitat feature listed:

- Is there evidence of current use by beavers? = 3
- Is a heron rookery located within 300'? = 2
- Are raptor nest(s) located within 300'? = 1
- Are there at least 2 standing dead trees (snags) per acre? = 1
- Are there any other perches (wires, poles, or posts)? = 1
- Are there at least 3 downed logs per acre? = 1

(2 points)

**7. Connection to streams**

Is the wetland connected at any time of the year via surface water? (score one answer only)

Is the wetland connected at any time of the year via surface water?

- To a perennial stream or a seasonal stream *with* fish = 5
- To a seasonal stream *without* fish = 3
- Is not connected to any stream = 0

(5 points)

**8. Buffers**

Step 1: Estimate (to the nearest 5%) the percentage of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply these percentages by the factor(s) below and enter result in the column to the right.

	% of Buffer	Step 1	Width Factor	Step 2
Roads, buildings or parking lots	_____ %	X 0 = _____	_____ =	_____
Lawn, grazed pasture, vineyards or annual crops	_____ %	X 1 = _____	_____ =	_____
Ungrazed grassland or orchards	_____ %	X 2 = _____	_____ =	_____
Open water or native grasslands	5 %	X 3 = 15	1 =	15
Forest or shrub	95 %	X 4 = 380	1 =	380
			Add buffer total	
				<u>395</u>

Step 2: Multiply result(s) of step 1:

By 1 if buffer width is 25-50'

By 2 if buffer width is 50-100'

By 3 if buffer width is >100'

Enter results and add subscores

Step 3: Score points according to the following table:

Buffer Total

900-1200 = 4

600-899 = 3

300-599 = 2

100-299 = 1

**(2 points)**

**9. Connection to other habitat areas:**

Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor >100' wide with good forest or shrub cover to any other habitat area? = 5

Is there a narrow corridor <100' wide with good cover or a wide corridor >100' wide with low cover to any other habitat area? = 3

Is there a narrow corridor <100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? = 1

Is the wetland and buffer completely isolated by development and/or cultivated agricultural land? = 0

**(5 points).**

**10. Scoring**

Add the scores to get a total: 26

Question: Is the total greater than or equal to 22 points?

Answer:

Yes = Type 2

No = Type 3



CONCEPT ENGINEERING, INC.

455 Rainier Boulevard North  
Issaquah, Washington 98027  
(425) 392-8055 Fax: (425) 392-0108

RECEIVED  
MAR 05 2008

AM  
PLANNING DEPARTMENT PM  
BY \_\_\_\_\_

March 4, 2008

City of Kirkland Planning and Community Development Department  
Jon Regala, Planner  
123 Fifth Avenue  
Kirkland, WA 98033

**RE: Wetland Buffer Reduction and Mitigation Plan for the Broad Property; Located at 10404 NE 53<sup>rd</sup> Street in Kirkland, WA; Tax Parcel Numbers 123400-0980, 123400-0979 and 123400-0978; CEI Job No. 25083.**

Dear Mr. Regala:

We prepared this letter to provide justification for the newly proposed Wetland Buffer Modification and Mitigation Plan at the above-noted property. Attached for your reference is the 11/12/07 Broad Property Wetland and Stream Delineation Study by TWC. This study provides information regarding the onsite wetland that will have its buffer reduced through this plan.

### WETLAND BUFFER MODIFICATION AND MITIGATION PLAN

The proposed wetland buffer modification and mitigation plan has been designed to comply with the conditions set forth in Kirkland Zoning Code (KZC). Wetland buffer reduction through enhancement is proposed for this project in accordance with KZC 90.60. The wetland buffer reduction will impact lots 1 and 2 (tax parcel numbers 123400 0978 and 123400 0979), which are both owned by Randy Broad. The buffer of a type 2 wetland will be reduced with this proposal. The total proposed buffer reduction area is 2,358 square feet (sf). An equal wetland buffer area of will be enhanced to mitigate for this reduction. Also the 75' wetland buffer is not reduced by more than 25' (one-third of its width) at any point per KZC 90.45.

In accordance with KZC Section 90.60, "An improvement or land surface modification shall be approved in a wetland buffer only if:"

1) It is consistent with Kirkland's Streams, Wetlands, and Wildlife Study (The Watershed Company, 1998) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc. 1998);

The subject wetland, Wetland A, is located in the Carillon Creek Drainage Basin, which is considered a primary basin in the City of Kirkland. Only the southern portion of the

ATTACHMENT 6  
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wetland buffer will be modified with this proposal. This portion of the buffer is only reduced by a maximum of 33%. In total less than 25% of the buffers perimeter is being reduced and enhanced. In addition, the wetland itself will not be modified as part of this proposal. In summary, the proposed plan is consistent with Adolfson's and Watershed's reports.

*2) It will not adversely affect water quality;*

The property's proposed use is residential, so toxins will not be present to affect the wetland's water quality. The two future homes will both be connected to the public sewer system. Also, stormwater leaving the proposed onsite impervious surfaces should be treated in a manner consistent with Kirkland Codes. Much of the stormwater entering the wetland comes from adjacent vegetated areas, or a small stream that flows through the wetland. In the proposed condition, stormwater entering the wetland / wetland buffer should remain consistent with the current conditions, and therefore water quality will not be adversely affected.

*3) It will not adversely affect fish, wildlife, or their habitat;*

The wetland does not contain fish or fish habitat. Wetland A is an urban wetland. Its water generally outlets to the stream that runs through the wetland. This stream drops through some steep terrain before flowing through an impassible culvert beneath the railroad, and eventually flowing into Carillon Creek. TWC determined that the stream running through the wetland does not contain fish habitat (11/12/07 Wetland and Stream Delineation Study). Some wildlife and wildlife habitat is present in the wetland and wetland buffer. However, portions of the wetland buffer are degraded due to the presence of invasive plant species, impervious pavers, and some sparsely vegetated areas. There is higher quality habitat to the north due to increased canopy coverage and less invasive plants. The proposed wetland buffer reduction area, south of the wetland, has lower quality wildlife and wildlife habitat, due to the degraded nature of this area. Reducing the degraded portion of the wetland buffer furthest from the wetland, and enhancing other degraded portions of the buffer closer to the wetland with plantings will not adversely affect fish, wildlife or their habitat. Instead, the mitigation plan will actually increase the overall habitat quality of the wetland buffer.

*4) It will not have an adverse effect on drainage and /or stormwater detention capabilities;*

The project does not propose any new impervious surfaces. In fact some impervious pavers and trails will be removed, decompacted, and vegetated as part of this proposal. This reduction in impervious surface, along with the additional plantings should have a positive effect on drainage.

*5) It will not lead to unstable earth conditions or create an erosion hazard;*

The portion of the wetland buffer to be reduced is on relatively flat portions of the site. The portion of the wetland buffer that is being enhanced is much steeper, and downhill of the

wetland buffer reduction area. Increased plant density on the steeper portions of the wetland buffer should provide more stable earth conditions.

- 6) *It will not be materially detrimental to any property or the City as a whole;*

The wetland buffer reduction is not materially detrimental to the property or to the City. The wetland buffer impacts comprise a very small area (2,358 sf). In addition, the applicant is proposing wetland buffer enhancement to compensate for wetland impacts.

- 7) *Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;*

The only fill that is proposed in the wetland buffer addition and subtraction areas is wood chips and small amounts of fertilizer. These materials will be purchased from a local nursery and will not contain materials detrimental to water quality, fish, wildlife or their habitat. The purpose of these materials is to increase the life expectancy of the proposed plants, and to reduce the potential for erosion or invasive plant growth.

- 8) *All exposed areas are stabilized with vegetation normally associated with native wetland buffers, as appropriate; and*

This criteria is clearly met, as a detailed wetland enhancement plan comprised solely of native vegetation is proposed to stabilize the wetland buffer enhancement area.

- 9) *There is not practicable or feasible alternative development proposal that results in less impact to the buffer.*

This buffer modification is necessary to provide a reasonable house footprint on Lot 1 and Lot 2. Much of these lots are currently constrained by sensitive areas and their buffers. The northwest portion of Lot 1 is constrained by both steep slope and wetland buffers. The wetland buffer in this area will be reduced to the edge of the steep slope buffer through the proposed buffer modification plan. This accounts for approximately 381 sf of wetland buffer reduction on Lot 1. This is a relatively small buffer reduction area. However, due to the location of the wetland buffer to be reduced, this reduction is important to allow for reasonable development of the lot. Lot 2 is more significantly impacted by sensitive area buffers. After applying the KZC setbacks from all property lines and sensitive area buffers a building envelope of approximately 18' x 72' is available on Lot 2. Building an 18' deep house with a garage is not reasonable. After the proposed wetland buffer modification a 43' x 72' building envelope is available on Lot 2. This is a reasonable building envelope for new construction on a 18,800 sf lot in this area. Even after the wetland buffer modification takes place well over 50% of lot 2 will still be protected under KZC due to wetlands, steep slopes, and their associated buffers.

In addition to the 9 criteria above, KZC also requires; *"a report shall assess the habitat, water quality, stormwater detention, groundwater recharge, shoreline protection and erosion*

*protection functions of the buffer; assess the effects of the proposed modification on those functions.”*

Buffer Functions:

- **Habitat:** The wetland buffer reduction area (25-foot wide strip) has low habitat functions. This area has low species diversity, lacks canopy coverage and generally lacks native shrubs and trees. Currently there are trails with impervious pavers, cleared areas, and nonnative vegetation located in the wetland buffer. Special habitat features such as large downed woody debris or standing snags are generally absent. The buffer is significantly disturbed in this area.
- **Water quality:** The buffer's south side does little to improve water quality. The sparse vegetation and presence of impervious surface in this area provides very little opportunity for filtering pollutants.
- **Stormwater detention:** Since there are almost no surface depressions in the south portion of the wetland buffer, and since there is impervious surface in this area, the buffer area provides almost no stormwater detention benefits.
- **Groundwater recharge:** Again, due to the lack of surface depressions in the south portion of the wetland buffer, and since there is impervious surface in this area, the area provides very little opportunity for groundwater recharge. To our knowledge, wells do not exist below the site.
- **Shoreline protection:** This function is not applicable to this wetland.
- **Erosion protection:** The buffer's vegetation provides some erosion protection. However, since there is sparse vegetation in the area, the buffer does not provide a high level of erosion protection.

Effects Of The Proposed Modification On Those Functions:

- **Habitat:** As a result of this wetland buffer mitigation plan, the habitat functions of the entire sensitive area will slightly increase due to the significant increase in trees and shrubs. Plus, this area will be protected by a split rail fence and sensitive area signs so that it will not be cleared, graded or disturbed in the future.
- **Water quality:** Water quality functions should be slightly improved due to an increase in plant density.
- **Stormwater detention:** The wetland buffer modification will not significantly affect stormwater detention functions of the buffer. However, the decrease in impervious surface, and the increase in vegetation density should provide some additional stormwater detention.

- Groundwater recharge: The decrease in impervious surface and increase in vegetation density should provide some additional groundwater recharge.
- Shoreline protection: This function is not applicable.
- Erosion protection: Increased plant density over steep portions of the wetland buffer should provide increased erosion protection in the long term.

### CONCLUSION

We believe this wetland buffer modification plan is a feasible option that establishes wetland protection, provides wetland buffer enhancement, and allows for a reasonable house footprint on both Lot 1 and Lot 2. We are confident that the wetland buffer mitigation plan will allow the reduced buffer to function at a higher level than the existing standard buffer. We ask that this wetland buffer modification and mitigation plan be approved. Should you have questions or concerns, please call Mark Rigos or me at (425) 392-8055. Thank you for your kind attention.

Sincerely,  
**CONCEPT ENGINEERING, INC.**



Grant Moen  
Certified Wetland Specialist

Encl.: (5 copies) Wetland Buffer Mitigation Plan (W3.0) and Mitigation Notes and Details (W4.0)  
(1 copy) 11/12/07 Broad Property Wetland and Stream Delineation Study by TWC

Cc: Randy Broad; 220 1<sup>st</sup> St. #303, Kirkland, WA 98033  
Jennifer Mount; PO Box 3342, Kirkland, WA 98083  
Mark Rigos; CEI

GEM:gem





September 2, 2008

Jon Regala  
City of Kirkland  
Planning and Community Development  
123 – 5<sup>th</sup> Avenue  
Kirkland, WA 98033

Re: Broad Property Buffer Modification Plan Review – LSM 08-0009; TWC #060701.26

Dear Jon:

Thank you for the opportunity to review the March 4, 2008 wetland buffer reduction proposal prepared by Concept Engineering, Inc. (Concept). The submittal consists of a five-page letter and a mitigation plan in the form of three full-size sheets. (Note that a separate Concept letter regarding wetland buffer clearing restoration carries the same date.) The findings presented here are a review of the buffer reduction proposal; this office prepared a review of the restoration plan on July 2, 2007 with a follow-up letter on May 7, 2008.

### Findings

- Item 7 on page 3 of the Concept letter discusses “wetland buffer addition and subtraction areas.” These are buffer averaging terms; the drawings show no such averaging areas.
- Buffer reduction via enhancement is proposed on two adjoining lots with off-site wetlands to the north. After buffer reduction and building setbacks, Lot 2 would yield approximately 3,750 square feet of building envelope. A rough calculation shows that without the proposed buffer reduction, Lot 1 would still yield 5,370 square feet of building envelope, not including the driveway for Lot 3. Kirkland Zoning Code (KZC) 90.602.b.9. requires there be no practical or feasible alternative with less buffer impact. It appears that application of the standard buffer would still allow a reasonably sized building envelope for Lot 1. Protection of the standard buffer is especially important, given the steep nature of the buffer in the vicinity of Lot 1.
- The proposal mentions regular watering and suggests that an irrigation system may be used. However, it does not require that a system be installed. It is unrealistic to assume that the enhancement area will be adequately watered by hand.
- Sheet W4, number 3 refers to shrub percent cover standards over time. However, there is no requirement that shrubs be native species. Also, sapling tree cover is not included.
- Species diversity standards are not mentioned and survival standards are proposed for all five years. Survival is very difficult to track beyond the second or third year due to volunteer and replacement/substitute plantings. Therefore, a diversity standard requiring a minimum number of established native species is a better and more easily tracked performance standard.

- Sheet W4, number 8 requires an installation inspection by the City. However, no as-built report submittal requirement is mentioned prior to City inspection.
- Sheet W4, number 20 mentions that monitoring be conducted “per the approved mitigation/restoration monitoring plan.” It is not clear whether the details in number 20 constitute the plan or if it references a separate document that was not provided in this submittal. Number 20 goes on to describe some attributes of the monitoring program, but does not specify that monitoring is to take place at least twice per year as required in KZC section 90.55 4.
- Sheet W4, number 1 under *preparation and planting notes*, requires the contractor to spray Himalayan blackberry sprouts. There is no requirement that herbicide applicators be state licensed.
- The plant schedule has a small inset box at the top that lists tree and shrub quantities of 28 and 86, respectively. These quantities do not match the proposed quantities of 56 to 84 trees and 304 to 380 shrubs.
- Both the deciduous and evergreen tree planting details on Sheet W4 require tree staking. Such staking will not benefit the proposed 2-gallon trees and may actually be detrimental to their growth. The shrub planting detail requires 4 inches of woodchip mulch, but also refers to compost. Compost and woodchip mulch are not synonymous terms.
- No bond quantity worksheet or estimate was provided for review.

### **Recommendations**

- 1) Clarify whether buffer averaging is proposed.
- 2) Revise the submittal to adhere to the standard buffer on Lot 1.
- 3) Include a requirement for a temporary aboveground irrigation system to cover all restoration planting areas.
- 4) Revise the percent cover performance standard to refer to native shrubs and sapling trees.
- 5) Include a native species diversity performance standard outlining minimum numbers of established native tree and shrub species.
- 6) Eliminate survival standards beyond the second year.
- 7) Require an as-built report be prepared and submitted to the City upon project installation completion. The as-built study should document any departures from the original plan.
- 8) Specify that monitoring site visits are to take place twice per year. The first visit can be a simple maintenance/weeding inspection. The second visit should contain the bulk of the monitoring measurements documented in an annual report, which also recaps the findings of the maintenance inspection.
- 9) Require that only individuals who are state licensed herbicide applicators conduct all herbicide treatment.
- 10) Clarify the inconsistent plant quantities in the plant schedule.

J. Regala  
September 2, 2008  
Page 3 of 3

- 11) Eliminate tree staking from the planting details. Replace the term “compost” with “woodchip mulch” in the shrub detail (except where it is intended as a soil amendment).
- 12) Provide an itemized bond quantity estimate for review. The estimate should include all installation costs plus costs associated with monitoring and maintenance for the five-year establishment period.

The applicant should address each of the points noted above to ensure the buffer reduction proposal will be in conformance with the letter and intent of the Kirkland Zoning Code.

Please call with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Hugh Mortensen". The signature is written in a cursive, flowing style.

Hugh Mortensen, PWS  
Senior Ecologist





CONCEPT ENGINEERING, INC.

455 Rainier Boulevard North  
Issaquah, Washington 98027  
(425) 392-8055 Fax: (425) 392-0108

RECEIVED  
JUN 18 2009  
AM  
BY PLANNING DEPARTMENT PM

June 10, 2009

City of Kirkland  
Planning and Community Development  
Attention: Susan Greene  
123 5<sup>th</sup> Avenue  
Kirkland WA 98033

**RE: Wetland Buffer Mitigation Plan Revision for Randy Broad; Located on Vacant Lots 1 and 2 Immediately South of 10404 (Lot 3) NE 53<sup>rd</sup> Street Kirkland, WA 98033; Kirkland LSM No. 08-0009; Kirkland ZON No. 08-0004; CEI Job No. 25083**

Dear Susan,

Thank you for meeting with Randy Broad and I on 6/8/2009 to discuss your requested revisions to my Wetland Buffer Mitigation Plan (Sheet W3.0). Your primary revision was to eliminate any wetland buffer reduction on Lot 1. Now, only Lot 2 shows a wetland buffer reduction. The mitigation ratio is still 1:1, as a portion of Lot 2's wetland buffer will be enhanced with an approximate total of 100 trees and shrubs. The wetland buffer reduction area and mitigation area are each 1,980 square feet. I have attached 3 copies of Sheets W3.0 and W4.0 (Mitigation Notes and Details) for your review. I have also attached an updated bond quantity worksheet.

As necessary, please forward W3.0 and W4.0 to Hugh Mortensen at The Watershed Company. Please call me at (425) 392-8055 if you have questions, concerns, and/or need additional copies.

Sincerely,  
CONCEPT ENGINEERING, INC.

Mark Rigos, P.E.  
Certified Wetland Biologist

Encl.: 3 Copies of Updated W3.0 and W4.0  
Updated Bond Quantity Worksheet (for Mitigation)  
Cc: Randy Broad; 220 1<sup>st</sup> Street #303, Kirkland, WA 98033  
Jennifer Mount; PO Box 3342, Kirkland, WA 98083

MJR:mjr

ATTACHMENT 8  
ZON08-00004





CONCEPT ENGINEERING, INC.

455 Rainier Boulevard North  
Issaquah, Washington 98027  
(425) 392-8055 Fax: (425) 392-0108

**Updated Letter: September 28, 2009**

Original Letter: March 4, 2008

City of Kirkland Planning and Community Development Department  
Susan Greene, Planner  
Jon Regala, Planner  
123 Fifth Avenue  
Kirkland, WA 98033

**RE: Wetland Buffer Modification and Mitigation for Lot 2 Owned by Randy Broad Property;  
Site Located South of 10404 NE 53<sup>rd</sup> Street in Kirkland, WA; Tax Parcel No. 123400-0979;  
CEI Job No. 25083.**

Dear Mr. Regala and Ms Greene:

At Susan Greene's request, I updated this wetland buffer modification and mitigation letter for the above-noted project. During the past 1-2 years, I have performed a significant work amount of work to obtain approval from The Watershed Company (Watershed - Kirkland's wetland reviewing company) and the City of Kirkland for the proposed wetland buffer modification. The work product has included bond quantity worksheets, mitigation plans, notes and details, response letters, etc. Grant Moen (former CEI wetland specialist) supported me on many of these tasks.

### **WETLAND BUFFER MODIFICATION AND MITIGATION PLAN**

Our proposed wetland buffer modification and mitigation plan has been designed to comply with Kirkland Zoning Code (KZC), specifically KZC 90.60. In exchange, wetland buffer enhancement is proposed for a portion of the existing wetland buffer that is disturbed. The wetland buffer reduction will only impact Lot 2 (tax parcel no. 123400 0979), which is the southwest lot of a 3-lot boundary line adjustment recently approved by the City of Kirkland and recorded with King County. The wetland, identified as Wetland A, is classified in accordance with KZC as a type 2 wetland. The standard wetland buffer width is 75 feet. We propose to reduce the buffer by 25 feet, so the revised wetland buffer on Lot 2 would be 50 feet. Most of the wetland is located on the lot to the north, which is Lot 3 (tax parcel no. 123400-0080). The proposed wetland buffer reduction area is 1,977 square feet (0.045 acres). An equal wetland buffer area is proposed to be enhanced to mitigate for this reduction.

In accordance with KZC Section 90.60, *"An improvement or land surface modification shall be approved in a wetland buffer only if:"*

- 1) *It is consistent with Kirkland's Streams, Wetlands, and Wildlife Study (The Watershed Company, 1998) and the Kirkland Sensitive Areas Regulatory Recommendations Report (Adolfson Associates, Inc. 1998);*

Wetland A is located in the Carillon Creek Drainage Basin, which is considered by Kirkland to be a primary drainage basin. Only the southern portion of the wetland buffer will be modified with this proposal. This portion of the buffer is only reduced by a maximum of 33%. In total less than 15% of the buffer's perimeter is being reduced. In addition, the wetland itself will not be modified as part of this proposal. In summary, the proposed plan is consistent with Adolfson's and Watershed's reports.

2) *It will not adversely affect water quality;*

Lot 2's proposed use is residential, so toxins should not be present to affect the wetland's water quality. Lot 2's future home will be connected to the public sewer system. Also, stormwater generated from the home should be treated in a manner consistent with KZC and the adopted 1998 King County Surface Water Design Manual. Much of the stormwater entering the wetland comes from nearby seeps and a small seasonal stream that begins at two ornamental ponds. In the proposed condition, stormwater entering the wetland / wetland buffer should remain consistent with current conditions, and therefore water quality will not be adversely affected.

3) *It will not adversely affect fish, wildlife, or their habitat;*

The wetland does not contain fish or fish habitat. Wetland A is an urban wetland. Surface water that leaves the wetland sheet flows into the stream that runs through the wetland. This stream drops through some steep terrain before flowing through a fish impassible culvert beneath the railroad, and eventually flows into Carillon Creek. Watershed determined that the stream running through the wetland does not contain fish habitat (11/12/07 Wetland and Stream Delineation Study). Some wildlife and wildlife habitat is present in the wetland and wetland buffer. However, portions of the wetland buffer are degraded due to the presence of invasive plant species, impervious pavers, and sparsely vegetated areas. There is higher quality habitat to the north due to increased canopy coverage and less invasive plants. The proposed wetland buffer reduction area, south of the wetland, has lower quality wildlife habitat, due to the degraded nature of this area. Reducing the degraded portion of the wetland buffer furthest from the wetland, and enhancing other degraded portions of the buffer closer to the wetland with plantings will not adversely affect fish, wildlife or their habitat. Instead, the mitigation plan will actually increase the overall habitat quality of the wetland buffer.

4) *It will not have an adverse effect on drainage and/or stormwater detention capabilities;*

For the buffer reduction itself, the project proposes no impervious surfaces. In fact, some of the impervious pavers and trails will be removed, decompacted, and/or re-vegetated as part of this proposal. The reduction in impervious surface, along with the additional plantings should have a positive effect on drainage.

5) *It will not lead to unstable earth conditions or create an erosion hazard;*

The portion of the wetland buffer to be reduced is on relatively flat portions of the site. The portion of the wetland buffer that is being enhanced is steeper and downhill of the wetland buffer reduction area. Increased plant density on the steeper portions of the wetland buffer should provide more stable earth conditions.

6) *It will not be materially detrimental to any property or the City as a whole;*

The wetland buffer reduction is not materially detrimental to the property or to the City. The wetland buffer impacts comprise a very small area at 1,977 square feet. In addition, the applicant is proposing wetland buffer enhancement to compensate for wetland buffer impacts.

7) *Fill material does not contain organic or inorganic material that would be detrimental to water quality or to fish, wildlife, or their habitat;*

The only fill that is proposed are wood chips and small amounts of fertilizer. These materials will be purchased from a local nursery and will not contain materials detrimental to water quality, fish, wildlife or their habitat. The purpose of these materials is to increase the life expectancy of the proposed plants and to reduce the potential for erosion or invasive plant growth.

- 8) *All exposed areas are stabilized with vegetation normally associated with native wetland buffers, as appropriate; and*

This criteria is clearly met, as a detailed wetland enhancement plan comprised solely of native vegetation is proposed to stabilize the wetland buffer enhancement area.

- 9) *There is not practicable or feasible alternative development proposal that results in less impact to the buffer.*

This buffer modification is necessary to provide a reasonable house footprint on Lot 2. Much of this lot is currently constrained by sensitive areas and their buffers. If a home were to be placed on Lot 2 without buffer reduction, the home's depth would be very shallow, and in our opinion, not reasonable. After applying KZC setbacks from all property lines and sensitive area buffers a building envelope of approximately 14 feet x 60 feet is available on Lot 2. Building a 14-foot deep home with a garage is not reasonable. Following the proposed wetland buffer modification, a 38-foot x 60-foot building envelope is available. This is much closer to a reasonable building envelope (including garage) on an 18,800 square foot lot. Even after the wetland buffer modification takes place, significantly more than 50% of Lot 2 will still be protected by KZC due to wetlands, steep slopes, and associated buffers.

In addition to the 9 criteria above, KZC also requires; *"a report shall assess the habitat, water quality, stormwater detention, groundwater recharge, shoreline protection and erosion protection functions of the buffer; assess the effects of the proposed modification on those functions."*

### **Buffer Functions**

- **Habitat:** The wetland buffer reduction area (25-foot wide strip) has low habitat functions. This area has low species diversity, lacks canopy coverage, and generally lacks native shrubs and trees. Currently, there are trails with impervious pavers, cleared areas, and non-native vegetation located in the wetland buffer. Special habitat features such as large downed woody debris or standing snags are generally absent. The buffer is partly degraded in this area.
- **Water Quality:** The buffer's south side does little to improve water quality. The sparse vegetation and presence of impervious surfaces in this area provides little opportunity for filtering pollutants.
- **Stormwater Detention:** Since there are almost no surface depressions in the south portion of the wetland buffer, and since there are impervious surfaces in this area, the buffer area provides almost no stormwater detention benefits.
- **Groundwater Recharge:** Again, due to the lack of surface depressions in the south portion of the wetland buffer, and since there are impervious surfaces, the area provides very little opportunity for groundwater recharge. To our knowledge, wells do not exist below the site.
- **Shoreline Protection:** This function is not applicable to this wetland.

- Erosion Protection: The buffer's vegetation provides some erosion protection. However, since there is sparse vegetation in the area, the buffer does not provide a high level of erosion protection.

### Effects Of The Proposed Modification On Those Functions

- Habitat: As a result of this wetland buffer mitigation plan, over time as the proposed trees mature, the habitat functions of the entire sensitive area will slightly increase. Plus, this area will be protected by a split rail fence and sensitive area signs so that it will not be cleared, graded, or disturbed in the future.
- Water Quality: Water quality functions should be slightly improved due to an increase in plant density.
- Stormwater Detention: The wetland buffer modification will not significantly affect stormwater detention functions of the buffer. However, the decrease in impervious surface, and the increase in vegetation density should provide some additional stormwater holding and absorption capacities.
- Groundwater Recharge: The decrease in impervious surface and increase in vegetation density should provide some additional groundwater recharge.
- Shoreline Protection: This function is not applicable.
- Erosion Protection: Increased plant density over steep portions of the wetland buffer should provide increased erosion protection in the long term.

### CONCLUSION

We believe this wetland buffer modification plan is a feasible option that establishes wetland protection, provides wetland buffer enhancement, and ultimately allows for a reasonable house footprint on Lot 2. We are confident that the wetland buffer mitigation plan will allow the reduced buffer to function at a higher level than the existing standard buffer. We request that the wetland buffer modification be approved. If you have any questions or concerns, please call me at (425) 392-8055. Thank you for your kind attention.

Sincerely,  
**CONCEPT ENGINEERING, INC.**



Mark Rigos, P.E.  
 Certified Wetland Biologist

Cc: Randy Broad; 220 1<sup>st</sup> Street, #303, Kirkland, WA 98033  
 Jennifer Mount; PO Box 3342, Kirkland, WA 98083  
 MJR/GEM:mjr/gem



August 18, 2009

Susan Greene  
City of Kirkland  
Planning and Community Development  
123 – 5<sup>th</sup> Avenue  
Kirkland, WA 98033

Re: Broad Property – June 10, 2009 Submittal – Buffer Reduction Plan Review  
TWC project number 060701.26

Dear Susan:

Thank you for the opportunity to review the revised buffer reduction plans. The submittal included a June 10, 2009 letter from Concept Engineering, Inc, two full size sheets showing the mitigation proposed (W3.0 & W4.0), and a June 17, 2009 bond Quantity Worksheet.

Most of my comments have been addressed in this revised submittal. However, a few minor items remain.

The cost of mulch is not accurately reflected on the quantity worksheet by the woodchip charge under “general items.” Note 7 on Sheet W4.0 requires 4 inches of hog fuel mulch be spread across the entire mitigation area. At 1997 square feet, the quantity of mulch required is 25 cubic yards. Since there is no 4-inch thick hog fuel mulch line item on the King County worksheet, we have found a cost of \$18.50 per yard (delivered) is accurate for most projects. Therefore, the cost for this item should be \$462.50. Since labor is included in the plant costs, the 13 hours of landscaping labor should cover the cost of spreading the mulch.

The maintenance costs appear too low. At \$40 per hour for one laborer, \$360 per year allows for only nine hours of maintenance each year. At minimum it would seem that the site should be weeded twice per year, with more frequent weeding possible depending on site success.

Similarly the monitoring costs are low at \$1,000 per year. This cost needs to cover two annual site visits, maintenance memos/communication, plus a full annual report.

Per Kirkland Zoning Code section 90.145.3, the amount of the bond shall be 125 percent of the estimated cost. This is not reflected on the bond quantity estimate, but is easily calculated

The performance standards list benchmarks for percent native plant cover over time. The plan requires 60% cover at the end of Year 1. This is unachievable. No cover standard is needed in Years 1 or 2.

The applicant should address each of the points noted above to ensure the plan will be in conformance with the letter and intent of the Kirkland Zoning Code.

Please call with any questions.

Broad Buffer Reduction Plan review  
S. Greene  
August 18, 2009  
Page 2 of 2

Attachment 10

Sincerely,

A handwritten signature in blue ink that reads "Hugh Mortensen". The signature is written in a cursive style with a large initial "H" and a long, sweeping underline.

Hugh Mortensen, PWS  
Senior Ecologist

## NATURAL GREENBELT PROTECTIVE EASEMENT

---

**Grantor:** \_\_\_\_\_, owner of the hereinafter described real property, hereby grants to

**Grantee:** The City of Kirkland, a municipal corporation.

A natural greenbelt protective easement over and across the following described real property to wit ("Easement Area"):

No tree trimming, tree topping, tree cutting, tree removal, shrub or brush-cutting or removal of native vegetation, application of pesticides, herbicides, or fertilizers; construction; clearing; or alteration activities shall occur within the Easement Area without prior written approval from the City of Kirkland. Application for such written approval to be made to the Kirkland Department of Planning and Community Development who may require inspection of the premises before issuance of the written approval and following completion of the activities. Any person conducting or authorizing such activity in violation of this paragraph or the terms of any written approval issued pursuant hereto, shall be subject to the enforcement provisions of Chapter 170, Ordinance 3719, the Kirkland Zoning Code. In such event, the Kirkland Department of Planning and Community Development may also require within the immediate vicinity of any damaged or fallen vegetation, restoration of the affected area by planting replacement trees and other vegetation as required in applicable sections of the Kirkland Zoning Code. The Department also may require that the damaged or fallen vegetation be removed.

It is the responsibility of the property owner to maintain critical areas and their buffers by removing non-native, invasive, and noxious plants in a manner that will not harm critical areas or their buffers and in accordance with Kirkland Zoning Code requirements for trees and other vegetation within critical areas and critical area buffers.

The City shall have a license to enter the Easement Area (and the property if necessary for access to the Easement Area) for the purpose of monitoring compliance with the terms of this easement.

Development outside of this Natural Greenbelt Protective Easement may be limited by codified standards, permit conditions, or movement of the critical area.

Each of the undersigned owners agree to defend, pay, and save harmless the City of Kirkland, its officers, agents, and employees from any and all claims of every nature whatsoever, real or imaginary, which may be made against the City, its officers, agents, or employees for any damage to property or injury to any person arising out of the existence of said Natural Greenbelt Protective Easement over said owner's property or the actions of the undersigned owners in carrying out the responsibilities under this agreement, including all costs and expenses, and recover attorney's fees as may be incurred by the City of Kirkland in defense thereof; excepting therefrom only such claims as may arise solely out of the negligence of the City of Kirkland, its officers, agents, or employees.

This easement is given to satisfy a condition of the development permit approved by the City of Kirkland under Kirkland File/Permit No. \_\_\_\_\_, for construction of \_\_\_\_\_ upon the following described real property:

This easement shall be binding upon the parties hereto, their successors and assigns, and shall run with the land.

DATED at Kirkland, Washington, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.





**(Corporations Only)**

OWNER(S) OF REAL PROPERTY

\_\_\_\_\_  
(Name of Corporation)

\_\_\_\_\_  
By President

\_\_\_\_\_  
By Secretary

**(Corporations Only)**

STATE OF WASHINGTON)

) SS.

County of King )

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

\_\_\_\_\_ and

\_\_\_\_\_ to

me, known to be the President and Secretary, respectively, of

\_\_\_\_\_, the

corporation that executed the Natural Greenbelt Protective Easement and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth, and on oath stated that they were authorized to sign said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name

Notary Public in and for the State of Washington, Residing at:

My commission expires: \_\_\_\_\_





**SAVE HARMLESS AGREEMENT - WETLAND**

The undersigned, being all of the owners of the hereinafter described real property, hereby agree to indemnify, defend, and save harmless the City of Kirkland, its officers and employees from any claim, real or imaginary, filed against the City of Kirkland, its officers, or employees, alleging damage or injury caused by fault on the part of the undersigned, their employees or agents, and/or the City of Kirkland, its officers, or employees and arising out of maintenance, flooding, damming or enlargement of the wetland existing on the hereinafter described real property; provided, however, this agreement shall not include damage resulting from the sole fault of the City of Kirkland, its officers, or employees. Fault as herein used shall have the same meaning as set forth in RCW 4.22.01. This Agreement shall also include all reasonable cost and expense, including attorney's fees, incurred by the City of Kirkland in investigation and/or defense of any such claim.

This Agreement shall be binding upon the heirs, successors, and assigns of the parties hereto and shall run with the land.

The real property subject to this Agreement is situated in Kirkland, King County, Washington, and described as follows:

DATED at Kirkland, Washington, this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**(Sign in blue ink)**

**(Individuals Only)**

OWNER(S) OF REAL PROPERTY (INCLUDING SPOUSE)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(Individuals Only)**

STATE OF WASHINGTON)

) SS.

County of King )

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared \_\_\_\_\_ and \_\_\_\_\_

to me known to be the individual(s) described herein and who executed the Save Harmless Agreement - Wetland and acknowledged that \_\_\_\_\_ signed the same as \_\_\_\_\_ free and voluntary act and deed, for the uses and purposes therein mentioned.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name

Notary Public in and for the State of Washington, Residing at:

\_\_\_\_\_  
My commission expires: \_\_\_\_\_



**(Corporations Only)**

OWNER(S) OF REAL PROPERTY

\_\_\_\_\_  
(Name of Corporation)

\_\_\_\_\_  
By President

\_\_\_\_\_  
By Secretary

**(Corporations Only)**

STATE OF WASHINGTON)

County of King ) SS.  
)

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

\_\_\_\_\_ and \_\_\_\_\_ to me, known to be the President and Secretary, respectively, of

\_\_\_\_\_, the corporation that executed the Save Harmless Agreement - Wetland and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth, and on oath stated that they were authorized to sign said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name  
Notary Public in and for the State of Washington, Residing at:

\_\_\_\_\_  
My commission expires: \_\_\_\_\_

The foregoing Agreement is accepted by the City of Kirkland this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_

CITY OF KIRKLAND

BY: \_\_\_\_\_



**SAVE HARMLESS AGREEMENT - STREAM**

The undersigned, being all of the owners of the hereinafter described real property, hereby agree to indemnify, defend, and save harmless the City of Kirkland, its officers and employees from any claim, real or imaginary, filed against the City of Kirkland, its officers, or employees, alleging damage or injury caused by fault on the part of the undersigned, their employees or agents, and/or the City of Kirkland, its officers, or employees and arising out of maintenance, flooding, damming or enlargement of the stream existing on the hereinafter described real property; provided, however, this agreement shall not include damage resulting from the sole fault of the City of Kirkland, its officers, or employees. Fault as herein used shall have the same meaning as set forth in RCW 4.22.01. This Agreement shall also include all reasonable cost and expense, including attorney's fees, incurred by the City of Kirkland in investigation and/or defense of any such claim.

This Agreement shall be binding upon the heirs, successors, and assigns of the parties hereto and shall run with the land.

The real property subject to this Agreement is situated in Kirkland, King County, Washington, and described as follows:

See Exhibit A

DATED at Kirkland, Washington, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**(Sign in blue ink)**

**(Individuals Only)**

OWNER(S) OF REAL PROPERTY (INCLUDING SPOUSE)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(Individuals Only)**

STATE OF WASHINGTON)

) SS.

County of King )

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

and \_\_\_\_\_  
to me known to be the individual(s) described herein and who executed the Save Harmless Agreement and acknowledged that \_\_\_\_\_ signed the same as \_\_\_\_\_ free and voluntary act and deed, for the uses and purposes therein mentioned.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name  
Notary Public in and for the State of Washington, Residing at: \_\_\_\_\_  
My commission expires: \_\_\_\_\_

**(Partnerships Only)**

OWNER(S) OF REAL PROPERTY

\_\_\_\_\_  
(Name of Partnership or Joint Venture)

\_\_\_\_\_  
By General Partner

\_\_\_\_\_  
By General Partner

\_\_\_\_\_  
By General Partner

**(Partnerships Only)**

STATE OF WASHINGTON)

County of King ) SS.  
)

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared \_\_\_\_\_ and \_\_\_\_\_ to me, known to be \_\_\_\_\_ general \_\_\_\_\_ partners of \_\_\_\_\_, the partnership that executed the Save Harmless Agreement and acknowledged the said instrument to be the free and voluntary act and deed of each personally and of said partnership, for the uses and purposes therein set forth, and on oath stated that they were authorized to sign said instrument.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name  
Notary Public in and for the State of Washington, Residing at:

My commission expires: \_\_\_\_\_

**(Corporations Only)**

OWNER(S) OF REAL PROPERTY

\_\_\_\_\_  
(Name of Corporation)

\_\_\_\_\_  
By President

\_\_\_\_\_  
By Secretary

**(Corporations Only)**

STATE OF WASHINGTON)

) SS.

County of King )

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

\_\_\_\_\_ and \_\_\_\_\_ to me, known to be the President and Secretary, respectively, of

\_\_\_\_\_, the corporation that executed the Save Harmless Agreement and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth, and on oath stated that they were authorized to sign said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name

Notary Public in and for the State of Washington, Residing at:

My commission expires: \_\_\_\_\_



# GEOLOGICALLY HAZARDOUS AREAS COVENANT

<i>File No.:</i>	
<i>Parcel Number:</i>	
<i>Project Name:</i>	
<i>Project Address:</i>	

Declarant \_\_\_\_\_ hereby declares and agrees as follows:

1. Declarant is the owner of the real property described below and incorporated herein by reference, which is the "property" referred to herein.
2. Declarant agrees to defend, indemnify, and hold the City of Kirkland harmless from all loss, including claim made therefor, which the City may incur as a result of any landslide or seismic activity occurring on the property and for any loss including any claim made therefor resulting from soil disturbance on the "property" in connection with the construction of improvements, including but not limited to storm water retention and foundations. "Loss" as used herein means loss including claim made therefor from injury or damage incurred on or off the "property," together with reasonable expenses including attorneys fees for investigation and defense of such claim.
3. This hold harmless is a perpetual covenant running with the "property" and is binding upon the Declarant's successor and assigns.
4. The real property subject to this Agreement is situated in Kirkland, King County, Washington, and described as follows:  
SEE EXHIBIT A

DATED at Kirkland, Washington, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**(Sign in blue ink)**

**(Individuals Only)**

OWNER(S) OF REAL PROPERTY (INCLUDING SPOUSE)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(Individuals Only)**

STATE OF WASHINGTON)

) SS.

County of King

)

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

\_\_\_\_\_ and \_\_\_\_\_ to

me known to be the individual(s) described herein and who executed the Geologically Hazardous Areas Covenant and acknowledged that

\_\_\_\_\_ signed the same as \_\_\_\_\_ free and voluntary

act and deed, for the uses and purposes therein mentioned.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name

Notary Public in and for the State of Washington, Residing at:

\_\_\_\_\_  
My commission expires: \_\_\_\_\_



**(Corporations Only)**

OWNER(S) OF REAL PROPERTY

\_\_\_\_\_  
(Name of Corporation)

\_\_\_\_\_  
By President

\_\_\_\_\_  
By Secretary

**(Corporations Only)**

STATE OF WASHINGTON)

) SS.

County of King )

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, \_\_\_\_\_ personally appeared

\_\_\_\_\_ and

\_\_\_\_\_ to

me, known to be the President and Secretary, respectively, of

\_\_\_\_\_, the corporation that executed the Geologically Hazardous Areas Covenant and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth, and on oath stated that they were authorized to sign said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
Notary's Signature

\_\_\_\_\_  
Print Notary's Name

Notary Public in and for the State of Washington, Residing at:

My commission expires: \_\_\_\_\_

