DEVELOPMENT SERVICES DEPARTMENT
ENVIRONMENTAL COORDINATOR
450 110th Ave NE., P.O. BOX 90012
BELLEVUE, WA 98009-9012

OPTIONAL DETERMINATION OF NON-SIGNIFICANCE (DNS) NOTICE MATERIALS

The attached materials are being sent to you pursuant to the requirements for the Optional DNS Process (WAC 197-11-355). A DNS on the attached proposal is likely. This may be the only opportunity to comment on environmental impacts of the proposal. Mitigation measures from standard codes will apply. Project review may require mitigation regardless of whether an EIS is prepared. A copy of the subsequent threshold determination for this proposal may be obtained upon request.

File No. 16-131396-LL

Project Name/Address: Hazelwood Preliminary Plat/6018 Lk WA Blvd SE

Planner: Drew Folsom

Phone Number: (425) 452-4441

Minimum Comment Period: June 30, 2016

Materials included in this Notice:

- ☒ Blue Bulletin
- ☒ Checklist
- ☒ Vicinity Map
- ☒ ☐ ☐ ☐ Plans
- ☒ ☐ ☐ ☐ Other:

OTHERS TO RECEIVE THIS DOCUMENT:

- ☒ State Department of Fish and Wildlife / Sterwart.Reinbold@dfw.gov; Christa.Heller@dfw.wa.gov;
- ☒ State Department of Ecology, Shoreline Planner N.W. Region / Jobu461@ecy.wa.gov; sepaunit@ecy.wa.gov
- ☒ Army Corps of Engineers Susan.M.Powell@nws02.usace.army.mil
- ☒ Attorney General ecyolyef@atg.wa.gov
- ☒ Muckleshoot Indian Tribe Karen.Walter@muckleshoot.nsn.us; Fisheries.fileroom@muckleshoot.nsn.us

ENVIRONMENTAL CHECKLIST

10/9/2009

Thank you in advance for your cooperation and adherence to these procedures. If you need assistance in completing the checklist or have any questions regarding the environmental review process, please visit or call Development Services (425-452-6800) between 8 a.m. and 4 p.m., Monday through Friday (Wednesday, 10 to 4). Assistance for the hearing impaired: Dial 711 (Telecommunications Relay Service).

INTRODUCTION

Purpose of the Checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21c RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the City of Bellevue identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the City decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Answer the questions briefly, with the most precise information known, or give the best description you can. You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer or if a question does not apply to your proposal, write "do not know" or "does not apply." Giving complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the Planner in the Permit Center can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. Include reference to any reports on studies that you are aware of which are relevant to the answers you provide. The City may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

Use of a Checklist for Nonproject Proposals: *A nonproject proposal includes plans, policies, and programs where actions are different or broader than a single site-specific proposal.*

For nonproject proposals, complete the Environmental Checklist even though you may answer "does not apply" to most questions. In addition, complete the Supplemental Sheet for Nonproject Actions available from Permit Processing.

For nonproject actions, the references in the checklist to the words *project*, *applicant*, and *property* or *site* should be read as *proposal*, *proposer*, and *affected geographic area*, respectively.

Attach an 8 ½" x 11 vicinity map which accurately locates the proposed site.

Received
MAY 0 2 2016 6/15/14
Permit Processing

BACKGROUND INFORMATION

Property Owner: Mark Wittman

Proponent: Jim Merritt

Contact Person: Jim Merritt
(If different from the owner. All questions and correspondence will be directed to the individual listed.)

Address: 520 99th Ave NE
Bellevue, WA 98004

Phone: (206) 660-1400

Proposal Title: Hazelwood

Proposal Location: 6018 Lake Washington Blvd SE, Bellevue, WA 98006
(Street address and nearest cross street or intersection) Provide a legal description if available.
Attached
Please attach an 8 ½" x 11" vicinity map that accurately locates the proposal site.

Give an accurate, brief description of the proposal's scope and nature:

1. General description: Subdivide 4 existing parcels into 22 single-family residential parcels along with associated infrastructure.
2. Acreage of site: 4.89
3. Number of dwelling units/buildings to be demolished: 1
4. Number of dwelling units/buildings to be constructed: 22
5. Square footage of buildings to be demolished: 7,080
6. Square footage of buildings to be constructed: Max. per zoning-TBD
7. Quantity of earth movement (in cubic yards): 9,500
8. Proposed land use: Single-family residential development
9. Design features, including building height, number of stories and proposed exterior materials:
   New buildings will meet zoning regulations
10. Other

Estimated date of completion of the proposal or timing of phasing:

Infrastructure to be completed in 2017 and home building continuing into 2018. No phasing is proposed at this time.

Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No future additions or expansions are planned.

6/15/16

List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Additional environmental information being proposed for this project includes a site-specific geotechnical evaluation and a wetland critical areas study.

Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. List dates applied for and file numbers, if known.

No known applications are pending for governmental approvals.

List any government approvals or permits that will be needed for your proposal, if known. If permits have been applied for, list application date and file numbers, if known.

City of Bellevue Land Use, right-of-way, utility, and building permits. Washington DOE General Construction Stormwater Permit.

Please provide one or more of the following exhibits, if applicable to your proposal.
(Please check appropriate box(es) for exhibits submitted with your proposal):

☐ Land Use Reclassification (rezone) Map of existing and proposed zoning

☑ Preliminary Plat or Planned Unit Development
Preliminary plat map

☐ Clearing & Grading Permit
Plan of existing and proposed grading
Development plans

☐ Building Permit (or Design Review)
Site plan
Clearing & grading plan

☐ Shoreline Management Permit
Site plan

A. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site: ☐ Flat ☑ Rolling ☐ Hilly ☐ Steep slopes ☐ Mountains ☐ Other

b. What is the steepest slope on the site (approximate percent slope)? 14%

c. What general types of soil are found on the site (for example, clay, sand, gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Alderwood gravelly sandy loam (AgC) per the Natural Resource Conservation Service (NRCS). A geotechnical report has also been prepared detailing existing soils

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

None known.

D.F. 6/15/16

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

The project will have approximately 7,500 cubic yards of excavation and 17,000 cubic yards of on-site fill. Any fill material will come from an approved off-site source

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

Localized erosion could occur during construction activities during rain events.

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

Approximately 55% of the site will be covered with impervious surfaces with the completed project. These impervious surfaces will consist primarily of asphalt and concrete pavements, and building roof areas.

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

Temporary erosion controls such as silt fence and soil stabilization will be installed to limit potential impacts.

2. AIR

a. What types of emissions to the air would result from the proposal (i.e. dust, automobile odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Typical vehicular emissions will result from local residential traffic under developed site conditions. Temporary exhaust emissions will occur along with some noise increase from equipment during construction.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no known offsite sources of emissions or odor that may effect this proposal.

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

Construction activities will be limited to established City of Bellevue standard work hours to reduce or control emissions, noise, and other impacts to air. Water trucks or similar methods will be used to limit arrant dust from the site during construction.

3. WATER

a. Surface

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

No.

(2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If Yes, please describe and attach available plans.

No.

DH. 6/.5/14

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

None.

(4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

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

No.

b. Ground

(1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description.

No.

(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources as part of this project. The existing individual sewage system serving the existing home will be removed and connected to public sewer with this proposal.

c. Water Runoff (Including storm water)

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

Runoff will be generated from roadway, driveway and roof areas. Runoff from these areas will be routed to the proposed catch basins, underground conveyance system and stormwater vault. Runoff will be control released to the existing City of Bellevue stormwater system. An off-site storm discharge near the south boundary will be collected bypassed through this site.

(2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials will enter ground or surface waters as a result of the proposed project.

6/15/16

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

On-site catch basins, conveyance system and stormwater vault are proposed to reduce and control surface water runoff impacts.

4. Plants

a. Check or circle types of vegetation found on the site:

- [x] deciduous tree: alder, maple, aspen, other
- [x] evergreen tree: fir, cedar, pine, other
- [x] shrubs
- [x] grass
- [x] pasture
- [ ] crop or grain
- [ ] wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- [ ] water plants: water lily, eelgrass, milfoil, other
- [ ] other types of vegetation

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

Existing shrubs/grass/pasture vegetation types will be cleared due to grading of the site. A portion of the significant trees along the southern boundary will be retained. All other trees will be removed.

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

No known threatened or endangered plant species or critical habitat is on or near the site.

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

Landscaping will be proposed around the new home and will be determined during the Building Permit process.

5. ANIMALS

a. Check or circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- [x] Birds: hawk, heron, eagle, songbirds, other:
- [ ] Mammals: deer, bear, elk, beaver, other:
- [ ] Fish: bass, salmon, trout, herring, shellfish, other:

D.T. 6/15/16

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

No threatened or endangered species are known to be on or near the site.

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

The site is not known to be part of a migration route.

d. Proposed measures to preserve or enhance wildlife, if any:

No special measures are proposed or believed to be necessary to preserve or enhance wildlife areas.

6. Energy and Natural Resources

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

The project will extend existing electrical power and natural gas.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The proposed project would not affect the potential use of solar energy by adjacent properties.

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

No special energy conservation features are included in the plans for the proposal.

7. Environmental Health

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

Local fuel spills are possible from equipment during construction activities for the project. No other environmental health hazards are known or expected to result from the planned development.

(1) Describe special emergency services that might be required.

No special emergency vehicles are required for the project proposal.

(2) Proposed measures to reduce or control environmental health hazards, if any.

No special measures are proposed.

D. Fox
10/17/16

b. Noise

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

Road/vehicle noise from Lake Washington Blvd SE. may affect the built project.

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

Typical sounds and sound levels associated with individual passenger cars will occur with the project. Temporary noise level increases will result from equipment during construction activities. Construction activities will be limited to established City of Bellevue standards.

(3) Proposed measures to reduce or control noise impacts, if any:

Construction activities will be limited to established City of Bellevue standard work hours to reduce or control equipment emissions and noise.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Single family residential lot with pasture. Adjacent properties consist of residential buildings.

b. Has the site been used for agriculture? If so, describe.

Yes, a pasture used to raise farm animals is on-site.

c. Describe any structures on the site.

The site currently consists of a single-family residence, several out buildings and farm buildings.

d. Will any structures be demolished? If so, what?

All on-site structures will be demolished.

e. What is the current zoning classification of the site?

The current zoning is R-5

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is SF-H

g. If applicable, what is the current shoreline master program designation of the site?

Unknown.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

I. Approximately how many people would reside or work in the completed project?

66

j. Approximately how many people would the completed project displace?

2-3

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k. Proposed measures to avoid or reduce displacement impacts, if any:

None required

i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project complies with existing and projected land uses and plans as described by the Comprehensive Land Use Plan for the City of Bellevue.

9. Housing

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

The project will include 22 single-family residential lots. This would likely be considered middle or high income housing

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

The project will eliminate 1 single-family residential lot. It is likely considered middle income housing.

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

No special measures are proposed or expected to be necessary to control housing impacts.

10. Aesthetics

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

The maximum height of the new home will not exceed the allowable per zoning.

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

The views east of the site may be altered with the new homes.

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

No measures are proposed.

D.Ho 6/15/12

11. Light and Glare

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

Minimal lighting from the home and traffic along the driveway would occur at night.

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

Light or glare from the finished project will not be a safety hazard or interfere with views.

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

No existing offsite sources of light or glare will affect the current project proposal.

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

No proposed measures to reduce or control light or glare impacts.

12. Recreation

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

No designated and informal recreational opportunities are in the immediate vicinity.

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

No existing recreational uses will be displaced by the project.

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

No specific measures to reduce or control impacts on recreation are necessary.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no known places or objects on or next to the site that are proposed for preservation registers.

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

There are no known landmarks or evidence of historic importance on or next to the site.

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

No special measures are proposed or expected to be required to reduce impacts to historic or cultural resources.

14. Transportation

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

The entrance to the site is served by Lake Washington Blvd SE.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The nearest King County Metro bus stop is approx. 0.7 miles at SE 60th St. and 119th Ave. SE.

c. How many parking spaces would be completed project have? How many would the project eliminate?

No parking spaces will be constructed other than parking within driveways, garages and on-street parking

Dh 6/15/16

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

A new access road and private access tract along with frontage improvements along Lk Washington Blvd. SE.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Approximately 220 vehicle trips per day, assuming 10 trips per dwelling unit.

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

No additional measures to reduce or control transportation impacts are proposed or expected to be necessary for the project.

15. Public Services

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

No.

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

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

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

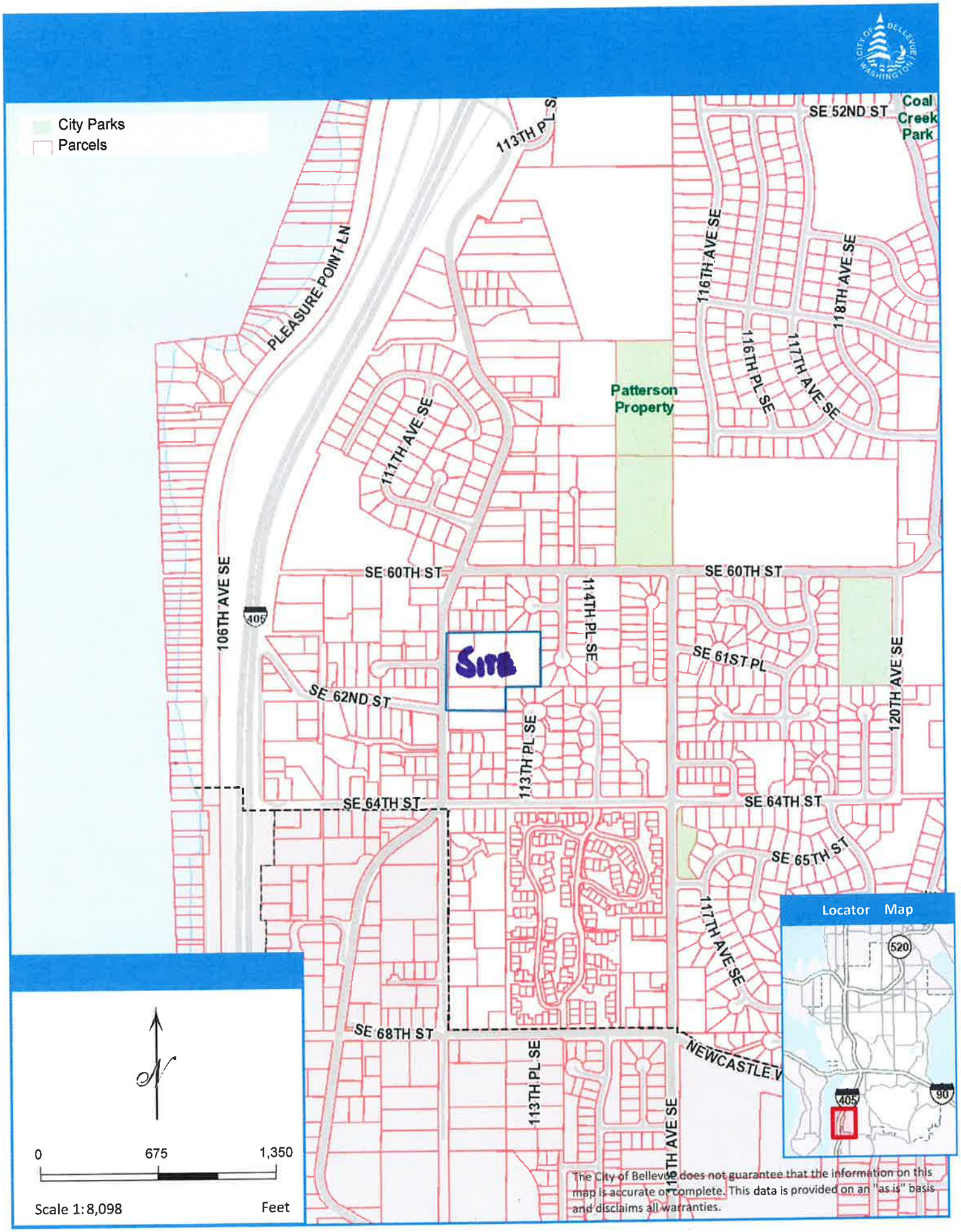
Natural Gas: Puget Sound Energy; Refuse Service: Republic Services; Electricity: Puget Sound Energy; Water and Wastewater: City of Bellevue; Communication/TV: Comcast

Signature

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

Signature Bryce Bessee Date Submitted 4/29/16

D.F. 6/15/16



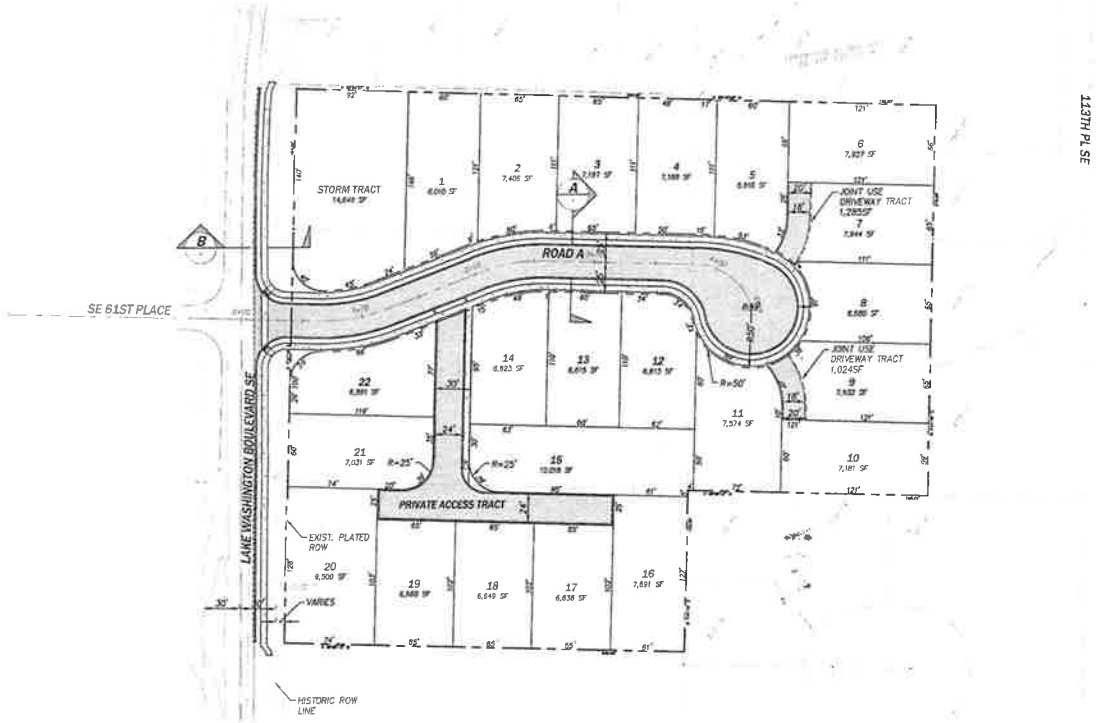
Map Generated on: 06/15/2016

PTN. OF SE 1/4 OF SEC. 20, TWP 24 N., R5E W.M.

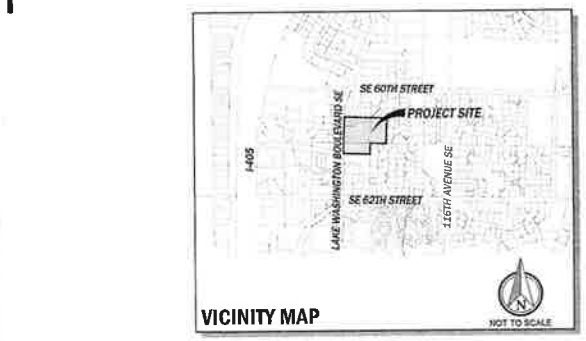
WITTMAN DEVELOPMENT

CITY OF BELLEVUE KING COUNTY, WASHINGTON

CONCEPTUAL SITE PLAN



SITE PLAN



VICINITY MAP

PROJECT DATA

GENERAL

PARCEL NO:	3343301345, 3343304342, 3343301320 AND 3343301362
ADDRESS:	6018 LAKE WASHINGTON BLVD SE BELLEVUE, WA 98006
ZONING:	R-5
PRESENT USE:	SINGLE FAMILY RESIDENCE
JURISDICTION:	CITY OF BELLEVUE

SITE DEVELOPMENT

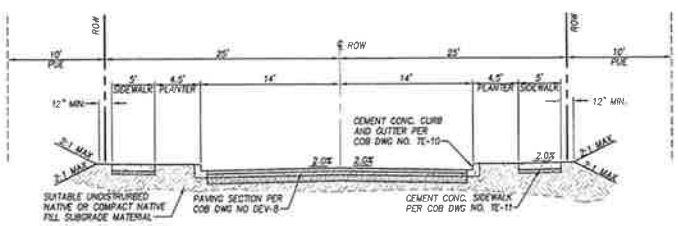
TOTAL SITE AREA	4.89 AC (213,041 SF)
PROPOSED # OF LOTS:	22
MIN. LOT SIZE	6,613 SF
MAX. LOT SIZE	10,019 SF
AVERAGE LOT SIZE	7,347 SF
ACCESS/UTILITY TRACTS	10,788 SF
ROW DEDICATION	25,902 SF
STORM TRACT	14,649 SF

SETBACKS

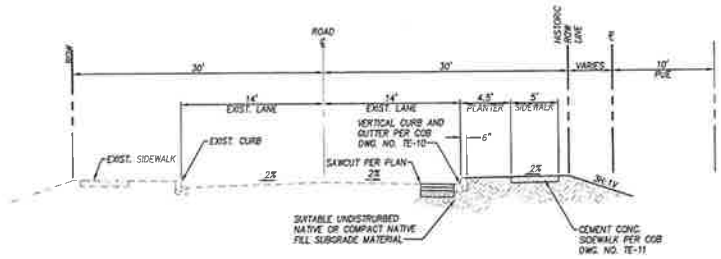
FRONT -	20'
REAR -	20'
SIDE -	5' (15' TOTAL)
BUILDING HEIGHT:	25'
MAX. BUILDING COVERAGE:	40%
MIN. LOT SIZE:	6,480 SF

SERVICE PROVIDERS

WATER AND SANITARY SEWER	CITY OF BELLEVUE
POWER/ELECTRIC	PUGET SOUND ENERGY
NATURAL GAS	PUGET SOUND ENERGY
TELEPHONE	CENTURY LINK, FRONTIER
CABLE/INTERNET	COMCAST, FRONTIER
SCHOOL DISTRICT	RENTON SCHOOL DISTRICT
GARBAGE	REPUBLIC SERVICES



A TYPICAL ROAD SECTION - ROAD A (LOCAL ACCESS STREET)
NOT TO SCALE



B TYPICAL ROAD SECTION - LAKE WASHINGTON BLVD SE
NOT TO SCALE

CP|H CONSULTANTS
Site Planning • Civil Engineering
Land Use Consulting • Project Management

February 12, 2016

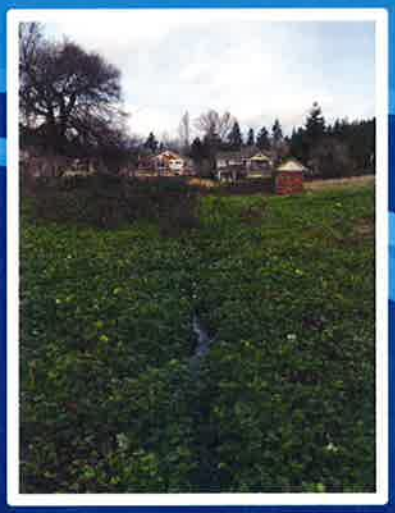
CONFLUENCE
ENVIRONMENTAL COMPANY

REPORT

WITTMAN DEVELOPMENT CRITICAL AREAS STUDY

Prepared for:

JR Merritt Construction LLC
January 19, 2016



Confluence Environmental Company
146 North Canal Street, Suite 111
Seattle, WA 98103
206.397.3741
www.confenv.com

Received
MAY 02 2016
Permit Processing

Wittman Development Critical Areas Study

REPORT

Prepared for:

JR Merritt Construction LLC
927 Belfair Rd
Bellevue, WA 98004

Attn: Jim Merritt

Authored by:

Kerrie McArthur and Ruth Park
Confluence Environmental Company

January 19, 2016

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Figure 1 Project Site and Vicinity
Figure 2 NWI Wetlands near Project Area

Appendices

Appendix A Wetland Determination Data Forms
Appendix B Wetland Rating Forms
Appendix C NRCS Soil Map and Descriptions
Appendix D Site Photographs

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WITTMAN DEVELOPMENT CRITICAL AREAS STUDY

1.0 INTRODUCTION

On December 18, 2015, Confluence Environmental Company (Confluence) conducted a site visit at 6018 Lake Washington Blvd SE, Bellevue, King County, WA (Tax Parcels #3343301320, 3343301342, 3343301345, and 3343301362) (Figure 1). The purpose of the site visit was to determine the presence and extent of critical areas on and adjacent to the property. The 4.89-acre site currently has one residence, and the owner is interested in the feasibility of subdividing it into additional lots for residential development.

2.0 METHODS

2.1 *Desktop Analysis*

Confluence evaluated the study area for the presence of critical areas using available GIS databases. The following databases were reviewed:

- City of Bellevue (eCityGov 2015),
- King County iMap (King County 2015),
- National Wetland Inventory (NWI) (USFWS 1981),
- DNR Stream Mapping (DNR 2015),
- Soil Survey (NRCS 2014),
- Priority Habitat and Species (WDFW 2015a), and
- SalmonScape (WDFW 2015b)

2.2 *Wetland Delineation*

The U.S. Army Corps of Engineers (Corps 1987) usually require that the following three characteristics be present for an area to be identified as a wetland: (1) hydrophytic vegetation, (2) hydric soil, and (3) wetland hydrology. Confluence used the methods described in the Corps of Engineers Wetland Delineation Manual (Corps 1987) and the local Regional Supplement (Corps 2010) to delineate wetland boundaries. Confluence uses the PLANTS Database (USDA NRCS 2015) for scientific names and the 2014 National Wetland Plant List (Lichvar 2014) to determine the wetland indicator status of plants. Delineated and surveyed wetland boundaries are subject to verification and approval by jurisdictional agencies.

Wetland determination data forms are in Appendix A. The location of test plots and wetland edges on the property were recorded using a differential GPS with sub-meter accuracy.

2.3 *Wetland Rating*

We determined wetland ratings using the Washington State Wetland Rating System for Western Washington (Hruby 2004[1]) to assess the resource value of the wetlands identified on the site. This rating system is based on the wetland functions and values, sensitivity to disturbance, rarity, and irreplaceability. Wetland rating forms are in Appendix B.

3.0 RESULTS

3.1 *Site Description*

The site is located in the Newport neighborhood of Bellevue (Figure 2). The four parcels that comprise the site are a total of 4.89 acres. One residence and several accessory structures are near the middle of the site. A small building is also located in the very southeast of the site. Several horses and a llama are boarded at the site and have access to the parcel where the residence is located. The entire property is fenced, and the other parcels may have hosted livestock in the past, but do not currently. The three parcels facing Lake Washington Blvd SE are maintained by mowing, while the east parcel is less maintained and has more shrub species. The topography of the site is higher on the east and lower to the west, and also slopes south to north.

The property is surrounded by higher density of residential development on all sides. As the surrounding properties have been developed, this site has become the repository for much of the stormwater in the area, leading to some wetter areas on site both near Lake Washington Blvd SE, and approximately in the middle of the site.

According to NRCS (2014), the soils on the property are mapped as Alderwood gravelly sandy loam, which are moderately well drained (Appendix C).

3.1.1 Wetlands

No reviewed sources (i.e., eCityGov 2015, King County 2015, WDFW 2015a, USFWS 1981) mapped wetlands on the site. The NWI database (USFWS 1981) was searched for wetlands in the vicinity of the property. According to the database, the nearest wetland is a 0.5 acre freshwater emergent wetland 0.25 mile (mi) to the southeast. There is one other wetland about 0.3 mi to the southeast, and Lake Washington is about 0.35 mi west (Figure 2).

3.1.2 Streams

No reviewed sources (i.e., DNR 2015, eCityGov 2015, WDFW 2015a, WDFW 2015b) mapped a creek running through the site, however upon visiting the site there is a stormwater channel passing through the site from the south to the north approximately midway through the site (Figure 1). The source of the water is a stormwater pipe from the residential development to the south (Appendix D, Photo 1).

[1] Although there is an updated rating system (2014) published by Ecology for rating wetlands in western Washington, Bellevue Land Use Code (LUC) 20.25H.095B specifies that the 2004 rating system be used.

The water flows through the site via an open channel and drains into a catch basin on the property to the north (Appendix D, Photo 2).

3.2 Wetlands

Confluence observed and delineated one area with wetland characteristics ("Area A"), and dug a total of 9 test pits (TPs) within the project area (Figure 5). Area A was characterized by test pits TP-4 and TP-6 (Appendix D, Photos 9-10, 13-14).

3.2.1 Area A

Area A is approximately 1500 square feet (ft^2) located on the north part of the site, along the stormwater channel (Photo 14). Area A began about halfway along the stormwater channel and continued until the northern edge of the property where the water drained into a catch basin. TP-4 and TP-6 were used to characterize Area A. Dominant vegetation were creeping buttercup (*Ranunculus repens*) and Himalayan blackberry (*Rubus armeniacus*) which passed the dominance test in TP-6 and the Prevalence Index in TP-4. Soils in the top layer (0-8 inches in TP-4 and 0-5 inches in TP-6) were very dark grayish brown (10YR 3/2) loam. In TP-4, soils in the second layer were entirely gravel, and soils in the third layer were dark grayish brown (10YR 4/2) sandy loam with dark yellowish brown (10YR 3/6) redoximorphic concentrations in the pore linings. In TP-6, soils in the second layers were very dark grayish brown (10YR 3/2) loam with 15% dark reddish brown (5YR 3/4) redoximorphic concentrations in the matrix, while the third layer was dark gray (7.5YR 4/1) loam with 30% dark reddish brown (5YR 3/4) redoximorphic concentrations in the matrix. The third layer of soils in TP-4 met the Depleted Matrix (F3) indicator for hydric soils. The second layer of soils in TP-6 met the Redox Dark Surface (F6) indicator for hydric soils. Soils were saturated throughout much of the Area A, with about 2 inches of standing water in the area near the catch basin. The water table depth met the High Water Table (A2) indicator for hydrology. Area A is isolated, fed by the stormwater pipe from the property to the south. While Area A met all three indicators of wetland, the area may not be regulated as a wetland due to unnatural hydrology, as discussed in Section 4.0, below.

According to the Cowardin classification system (Cowardin 1979), Area A is a palustrine emergent wetland. Area A was rated as a Category IV wetland with a water quality score of 16, a hydrologic score of 4, and a habitat score of 7 (Appendix B).

3.3 Uplands

The upland area is characterized by TP-1, TP-2, TP-3, TP-5, TP-7, TP-8, and TP-9 (Appendix D, Photos 3-8, 11-12, 15-19). Upland areas were generally those that were developed, or higher in elevation. However, the upland test pits represent areas that were low and wet, but did not meet the three wetland criteria. Dominant species were Himalayan blackberry, creeping buttercup, unidentified grasses, reed canary grass (*Phalaris arunduncea*), and birdsfoot trefoil (*Lotus corniculatus*). In the top layer, soils were very dark grayish brown (10YR 3/2). Below that layer, soils ranged from very dark brown (10YR 2/2) to brown (10YR 5/3) to very dark gray (10YR 3/1) to brown (10YR 4/3) to grayish brown (10YR 5/2) to light brownish gray (10YR 6/2) loam or sandy loam. Redoximorphic concentrations were found in TP-3 and TP-5 (20-30% dark reddish brown [2.5YR 2.5/4]); TP-1, TP-2, and TP-7 (1-40% dark

yellowish brown [10YR 4/6]); TP-8 (1% dark yellowish brown [10YR 3/6]); and TP-9 (1% light brownish gray [10YR 6/2]). The water table was typically present at the ground surface, and in some areas, there was even standing water, although there has been record rainfall this season; thus, the presence of standing water is more likely due to the record rainfall rather than the presence of a wetland.

3.4 Streams

Confluence did identify a channel which flowed from south to north, approximately in the middle of the site (Figure 1). The channel is 323 ft long, and does not connect to any other channels on, or off site. From the outlet of the stormwater pipe to the south until about the middle of the site, the channel is somewhat defined with higher banks. At approximately TP-6, the flow spreads out and the channel is not as defined. At the north end, the flow backs up somewhat as the water drains into the catch basin. However, Confluence did not identify an ordinary high water mark (OHWM) associated with this channel, which is a feature on the landscape that defines a body of water, such as a stream. Some of the characteristics that define an OHWM are a scoured channel, sediment bars, root scour, and characteristic vegetation above and below the OHWM. Confluence did not observe these characteristics associated with the channel.

4.0 REGULATORY IMPLICATIONS

Development within a critical area or its buffer requires compliance with LUC 20.25H. The following sections discuss the regulations, including possible buffers and setbacks, around Area A and the stormwater channel. Figure 1 shows the critical areas.

4.1 Area A

The Corps Manual (Corps 2010) differentiates between general wetlands and "irrigated" wetlands. The manual states that

> *Irrigation augments the natural hydrology of the affected areas in both intended and unintended ways, through leakage of water from delivery channels and ditches, application of water to irrigated pastures and fields, and overflow of unused or excess irrigation water into other areas down gradient. The added water, over time, may create new wetlands or augment and enlarge previously existing wetlands.*

According to Bellevue LUC 20.25H.095A,

> *Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway.*

Although the site containing Area A does not meet the strict definition of irrigated wetlands as defined by the Corps or the definition of unintentionally created wetlands according to Bellevue LUC, Area A meets the intention of these definitions. That is, while the site was not irrigated, the stormwater channel across it is comparable since it is unnatural hydrology in an area that was previously an upland.

It is due to the presence of that directed stormwater that water collects at the site and has allowed other wetland characteristics to develop, this is, hydric soils and hydrophytic vegetation, thus the intention of the Corps definition is met. Likewise, based on aerial imagery available on the King County iMAP site, the channel was created after July 1, 1990 (i.e. the channel is not present in the 1998 aerial imagery but is present in the 2000 aerial imagery). Although the wetland was not unintentionally created as a result of the construction of a road, street, or highway, it was unintentionally created in an upland area from stormwater discharge, thus the intention of Bellevue LUC is met. In both cases, the definition is not strictly met, but the hydrology is unnatural, and therefore the area should not be regulated as a wetland.

Bellevue LUC 20.25H.095 B.4. designates Category I, II, III, and IV wetlands. It specifies that Category IV wetlands must be over 2500 ft^2. The table of wetland buffers (LUC 20.25H.095 C.1.a.i.) does not include a buffer for Category IV wetlands under 2500ft^2. Per LUC 20.25H.095 D.2., there are also no setbacks required for Category IV wetlands. However, per LUC 20.25H.105 C.1., a mitigation ration of 1.5:1 is required for Category IV wetlands. Thus, since Area A is under 2500 ft^2, there would be no buffer or setback, but there would be mitigation required for any direct impacts.

4.2 Streams

LUC 20.25H.075 A defines streams as

> *An aquatic area where surface water produces a channel, not including a wholly artificial channel, unless the artificial channel is:*
>
> 1. *Used by salmonids; or*
> 2. *Used to convey a stream that occurred naturally before construction of the artificial channel.*

Although the surface water produces a channel, it is wholly artificial. Since 1) the source of the water in the channel is entirely from a stormwater pipe, 2) the channel is not used by salmonids, and 3) the channel was not used to convey any natural stream, it does not meet the definition of a stream. Thus, the artificial channel would not be subject to buffers, setbacks, or mitigation.

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Figures

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CONFLUENCE ENVIRONMENTAL COMPANY

N

0 50 100 150 200 250 Feet

0 8 16 24 32 40 Meters

Wittman Development Critical Areas Study
Prepared for JR Merrit Construction

Figure 1 Project Site and Delineated Possible Critical Areas

- Catch basin
- Stormwater channel
- Test pits
- Area A
- Surveyed parcels

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CONFLUENCE
ENVIRONMENTAL COMPANY

N

0 300 600 900 1,200 1,500 Feet

0 40 80 120 160 200 Meters

Wittman Development Critical Areas Study
Prepared for JR Merrit Construction

Figure 2 NWI Wetlands near Project Area

- NWI wetlands
- Area A
- Surveyed parcels

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Appendix A

Wetland Determination Forms

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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Withman City/County: Bellevue / King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Construction LLC State: WA Sampling Point: TP1

Investigator(s): KAM/REP/LMO Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): hillslope bottom Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: record rainfall this season. Hydrology Note: wetland hydrology present throughout site regardless of upland or wetland designation due to record rainfall this season.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		

Herb Stratum (Plot size: 10')			
1. Ranunculus repens	100	✓	FAC
2. Unid lawn grass	10		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		330 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					loam	
10-15	10YR 3/3	90	10YR 7/6	1	C		loam	charcoal gravelly
15-16	10YR 5/3	60	10YR 7/6	40	C		s: loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:
low light
Layers do not meet any indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1) 2"
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Next to sidewalk w/ elevated grade, which is preventing water from getting to the ditch next to the street.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Whitman City/County: Bellevue/King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Construction LLC State: WA Sampling Point: TP-2

Investigator(s): KAM/LMO/RFP Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): hillslope bottom Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Molehills @ ~ same elevation as our test pit, about 20' away. Recent rainfall this season. See "Hydrology Note" on TP-1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		

Herb Stratum (Plot size: ____)			
1. Ranunculus repens	60	✓	FAC
2. Taraxacum officinale	10		FACU
3. Unid grass	60	✓	FAC
4. Trifolium sp.	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	132 = Total Cover		

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	10
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					loam	gravelly
10-12	10YR 5/3	100					loam	
12-16	10YR 3/2	90	10YR 4/6	10	C	M	loam	sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks: 2nd layer meets coloring criteria of depleted matrix, but is too deep to meet F3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Similar to TP-1. TP-2 is next to elevated sidewalk which is impounding the water

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Wittman City/County: Bellevue / King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Corporation LLC State: WA Sampling Point: TP-3

Investigator(s): KAM/LMO/REP Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): channel bank Local relief (concave, convex, none): convex Slope (%): 5%

Subregion (LRR): A Lat: 42.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
Next to "channel"
channel is ~2' wide. See "Hydrology Note" on TP-1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		

Herb Stratum (Plot size: 10')			
1. Ranunculus repens	90	✓	FAC
2. unID grass	20	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:
Black cottonwood & H. blackberry nearby

SOIL

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR3/2	100	—				loam	
11-15	10YR3/1	70	2.5YR2.5/1	30	C	PL/M	loam	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:
Layer does not meet any indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3) 0-7"
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): ___
Water Table Present?	Yes ✓	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Witlman City/County: Bellevue / King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Construction LLC State: WA Sampling Point: TP-4

Investigator(s): KAM / REP / LMO Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): [illegible] Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: [illegible] NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: See "Hydrology Note" on TP-1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Rubus armeniacus	15	✓	FACU
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: 10')			
1. Ranunculus repens	100	✓	FAC
2. UNID grass	10		FAC
3. Epilobium ciliatum	[illegible]		FACW
4. Lotus corniculatus	3		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	116 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	113	x 3 =	339
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	136 (A)		405 (B)

Prevalence Index = B/A = 2.97

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation no
- ____ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: [illegible] growing out of standing H_2O

SOIL

Sampling Point: JP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					loam	
8-10							GRAVEL (no soil)	
10-18	10YR 4/2	60	10YR 3/6	10	C	PL	sandy loam	sandy [illegible]

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

3rd layer meets F3 and water

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3) none
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2"

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Wittman City/County: Bellevue/King Sampling Date: 12-18-15

Applicant/Owner: JK Homes Construction LLC State: WA Sampling Point: TP-5

Investigator(s): KAM/KEP/LMO Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): hillslope middle Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): A Lat: 47.547901 Long: -122.190060 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:
See "Hydrology Note" on TP-1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		

Herb Stratum (Plot size: 10')			
1. Phalaris arundinacea	20	✓	FACW
2. Ranunculus repens	70	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 0')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: JP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/2	100					loam	
9-21	10YR 2/2	80	2.5YR 3/4	20	C	M	loam	
21-22	10YR 4/1	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

Layers do not meet any indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0.5"

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Wittman City/County: Bellevue / King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Construction LLC State: WA Sampling Point: TP 6

Investigator(s): KAM/REP/LMO Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Indianwood gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
See "Hydrology Note" on TP 1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 10')			
1. Ranunculus ficaria	100	✓	FAC
2. Rumex crispus	3		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	103 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: TP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 5/2	100						
5-11	10YR 5/2	85	5YR 5/1	15	C	M		
11-15	10YR 5/1	70	5YR 5/1	30	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:
2nd layer meets F6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): 60"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 5"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
next to stormwater channel, ~3' away

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Willman City/County: Bellevue/King Sampling Date: 12-18-15

Applicant/Owner: SR Merrill Construction LLC State: WA Sampling Point: TP-7

Investigator(s): KAM/RLP/LMO Section, Township, Range: S20 T24N, R5E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: W/C A connect A1 to A2 then connect even 1 ins to ea other + odd 1 ins to ea other. End w/ connect 18 + 19 See Hydrology Note & TP-1 Com

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Rubus armeniacus	10	✓	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 10')			
1. Ranunculus repens	100	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	110 (A)		340 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: TP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	[illegible]						
12-16	2.5Y 5/2	70	[illegible]	30		PL		
	10YR 3/2	50						
[illegible]	2.5Y 5/2	70	10YR 7/6	30				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

Better light, sunnier
2 matrix colors in 2nd layer
Layers dont meet any indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 2

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Wittman City/County: Bellevue/King Sampling Date: 12-18-15

Applicant/Owner: JR Merritt Construction LLC State: WA Sampling Point: TP-8

Investigator(s): KAM/LMO/REP Section, Township, Range: 32D, T24N, R5E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:
See "Hydrology Note" on TP-1 Form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. Rubus armeniacus	10	✓	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 10')			
1. Ranunculus repens	100	✓	FAC
2. Lotus corniculatus	20	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:
Juncus effusus nearby

SOIL

Sampling Point: TP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					loam	
8-16	10YR 3/2	99	10YR 3/6	1	C	M	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ___ **No** ✓

Remarks: low light

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Whitman City/County: Bellevue/King Sampling Date: 12-10-15

Applicant/Owner: JR Homes Construction LLC State: WA Sampling Point: TP-9

Investigator(s): KAM, TMO, RCF Section, Township, Range: S20, T24N, R5E

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): ____

Subregion (LRR): A Lat: 47.547901 Long: -122.190030 Datum: WGS84

Soil Map Unit Name: Indianola gravelly sandy loam NWI classification: upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: Adjacent to fence, water impounding – higher than adjacent road. See "Hydrology Note" on TP-1 form.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus armeniacus	10	✓	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		

Herb Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1. Phalaris arundinacea	20	✓	FACW
2. Ranunculus repens	80	✓	FAC
3. UNID grass	20	✓	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		

Woody Vine Stratum (Plot size: 10')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	____	x 2 = ____
FAC species	____	x 3 = ____
FACU species	____	x 4 = ____
UPL species	____	x 5 = ____
Column Totals:	____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ✓ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ 5 - Wetland Non-Vascular Plants[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: TP-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					loam	
7-17	10YR 4/3	99	10YR 7/2	1	C	M	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:
Layers don't meet any indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 4

Water Table Present? Yes ✓ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix B

Wetland Rating Form

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for double-sided printing

Wetland name or number A

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): A Date of site visit: 12-18-15

Rated by Ruth Park Trained by Ecology? Yes ✓ No___ Date of training 6/2014

SEC: 20 TWNSHP: 24N RNGE: 5E Is S/T/R in Appendix D? Yes___ No ✓

Map of wetland unit: Figure 1 Estimated size 1435 ft²

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I___ II___ III___ IV ✓

Category I = Score >=70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions	16
Score for Hydrologic Functions	4
Score for Habitat Functions	7
TOTAL score for Functions	27

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ Does not Apply ✓

Final Category (choose the "highest" category from above) IV

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	✓
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	✓	Check if unit has multiple HGM classes present	

Wetland name or number A

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. *Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered* ***animal or plant*** *species (T/E species)?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		✓
SP2. *Has the wetland unit been documented as habitat for any State listed Threatened or Endangered* ***animal*** *species?* For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		✓
SP3. *Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?*		✓
SP4. *Does the wetland unit have a local significance in addition to its functions?* For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		✓

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Wetland name or number A

Classification of Wetland Units in Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
NO – go to 2 **YES** – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? **YES – Freshwater Tidal Fringe** **NO – Saltwater Tidal Fringe (Estuarine)**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for ***Riverine*** *wetlands. If it is Saltwater Tidal Fringe it is rated as an* ***Estuarine*** *wetland.* Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
NO – go to 3 **YES** – The wetland class is **Flats**

If your wetland can be classified as a "Flats" wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet both** of the following criteria?
___The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
___At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4 **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?
✓ The wetland is on a slope (*slope can be very gradual*), yes
✓ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. no
✓ The water leaves the wetland **without being impounded**?
NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).*
NO - go to 5 **YES** – The wetland class is **Slope**

Slope is the closest, though wetland is from stormwater flow, not seeps

Wetland name or number A

5. Does the entire wetland unit **meet all** of the following criteria?

____ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river

____ The overbank flooding occurs at least once every two years.

NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.

NO - go to 6 **YES** – The wetland class is **Riverine**

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.* – no

NO – go to 7 **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8 **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	*HGM Class to Use in Rating*
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

Wetland name or number A

S	**Slope Wetlands** **WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality**	**Points** (only 1 score per box)
S	**S 1. Does the wetland unit have the potential to improve water quality?**	*(see p.64)*
S	S 1.1 Characteristics of average slope of unit: Slope is1% or less *(a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance)* points = 3 Slope is 1% - 2% points = 2 Slope is 2% - 5% points = 1 Slope is greater than 5% points = 0	2
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic *(use NRCS definitions)* YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: *Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches.* Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > ½ of area points = 2 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure 1 6
S	**Total for S 1** *Add the points in the boxes above*	8
S	**S 2. Does the wetland unit have the opportunity to improve water quality?** Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. *Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.* ✓ Grazing in the wetland or within 150ft ✓ Untreated stormwater discharges to wetland — Tilled fields, logging, or orchards within 150 feet of wetland ✓ Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other_____ **YES** multiplier is **2** **NO** multiplier is **1**	*(see p.67)* multiplier 2
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by S2 ***Add score to table on p. 1***	16

Comments

Wetland name or number A

S	**Slope Wetlands** HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	**Points** (only 1 score per box)
	S 3. Does the wetland unit have the potential to reduce flooding and stream erosion?	*(see p.68)*
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. *Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows)* Dense, uncut, **rigid** vegetation covers > 90% of the area of the wetland. points = 6 Dense, uncut, **rigid** vegetation > 1/2 area of wetland points = 3 Dense, uncut, **rigid** vegetation > 1/4 area points = 1 More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid (all Ranunculus repens) points = 0	0
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2
S	*Add the points in the boxes above*	2
S	**S 4. Does the wetland have the opportunity to reduce flooding and erosion?** Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? *Note which of the following conditions apply.* — Wetland has surface runoff that drains to a river or stream that has flooding problems ✓ Other Properties on lower end but large catch basin @ bottom, so benefit is minimal *(Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam)* YES multiplier is **2** NO multiplier is **1**	*(see p. 70)* multiplier 2
S	**TOTAL - Hydrologic Functions** Multiply the score from S 3 by S 4 ***Add score to table on p. 1***	4

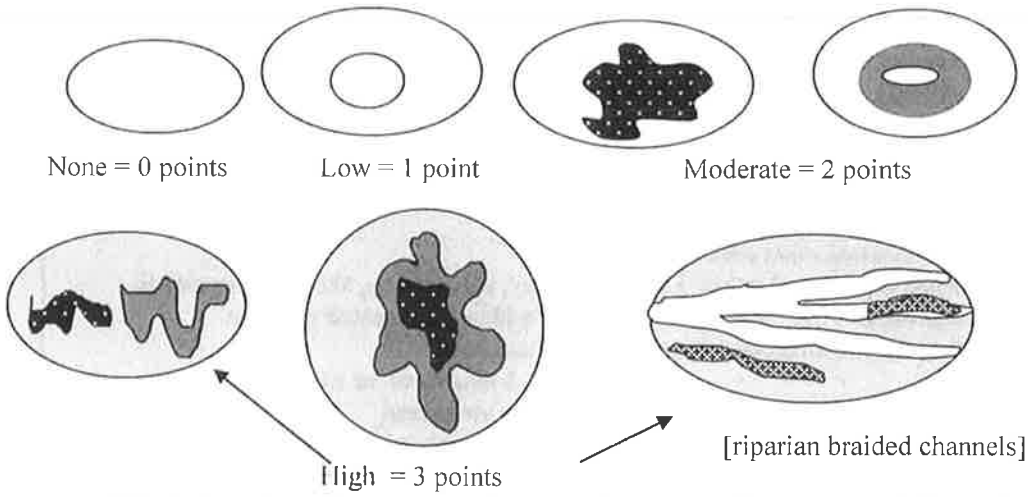
Comments

Wetland name or number A

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that unit functions to provide important habitat	**Points** (only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?	
H 1.1 Vegetation structure ***(see p. 72)*** *Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is ¼ acre or more than 10% of the area if unit is smaller than 2.5 acres.* ____Aquatic bed __✓__Emergent plants ____Scrub/shrub (areas where shrubs have >30% cover) ____Forested (areas where trees have >30% cover) *If the unit has a forested class check if:* ____The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon *Add the number of vegetation structures that qualify. If you have:* 4 structures or more — points = 4 3 structures — points = 2 2 structures — points = 1 1 structure — points = 0 Map of Cowardin vegetation classes	**Figure** 1 0
H 1.2. Hydroperiods ***(see p. 73)*** *Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ acre to count. (see text for descriptions of hydroperiods)* ____Permanently flooded or inundated — 4 or more types present — points = 3 __✓__Seasonally flooded or inundated - whole wetland — 3 types present — points = 2 ____Occasionally flooded or inundated — 2 types present — point = 1 ____Saturated only — 1 type present — points = 0 ____Permanently flowing stream or river in, or adjacent to, the wetland __✓__Seasonally flowing stream in, or adjacent to, the wetland — stream = stormwater ditch ____ ***Lake-fringe wetland*** **= 2 points** ____***Freshwater tidal wetland*** **= 2 points** Map of hydroperiods	**Figure** 1 1
H 1.3. Richness of Plant Species ***(see p. 75)*** Count the number of plant species in the wetland that cover at least 10 ft^2. (*different patches of the same species can be combined to meet the size threshold)* *You do not have to name the species.* *Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle* If you counted: > 19 species — points = 2 *List species below if you want to:* 5 - 19 species — points = 1 < 5 species — points = 0	0

Total for page 1

Wetland name or number A

H 1.4. Interspersion of habitats *(see p. 76)* Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.  None = 0 points Low = 1 point Moderate = 2 points [riparian braided channels] High = 3 points NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	Figure 1 1
H 1.5. Special Habitat Features: *(see p. 77)* *Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.* ____Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). ____Standing snags (diameter at the bottom > 4 inches) in the wetland ____Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet turned grey/brown)* ____At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. *(structures for egg-laying by amphibians)* ____ Invasive plants cover less than 25% of the wetland area in each stratum of plants *NOTE: The 20% stated in early printings of the manual on page 78 is an error.*	0
H 1. TOTAL Score - potential for providing habitat *Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5*	2

Comments

Wetland name or number A

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 Buffers *(see p. 80)* *Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."* — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5** — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4** — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4** — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . **Points = 3** — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3** **If buffer does not meet any of the criteria above** — No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** — No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2** — Heavy grazing in buffer. **Points = 1** — Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland **Points = 0.** ✓ Buffer does not meet any of the criteria above. **Points = 1** Aerial photo showing buffers	Figure 2 1
H 2.2 Corridors and Connections *(see p. 81)* H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (*dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor*). YES = **4 points** (*go to H 2.3*) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a **Lake-fringe** wetland, if it does not have an undisturbed corridor as in the question above? YES = **2 points** (*go to H 2.3*) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR no within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? yes. Lake WA YES = **1 point** NO = **0 points**	1

Total for page 2

Wetland name or number A

H 2.3 Near or adjacent to other priority habitats listed by WDFW ***(see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)***

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

____**Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

____**Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).

____**Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

____**Old-growth/Mature forests:** (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%; crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.

____**Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158*).

____**Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

____**Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161*).

____**Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

____ **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).*

____**Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

____**Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

____**Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

____**Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has **3 or more** priority habitats = **4 points**
If wetland has **2** priority habitats = **3 points**
If wetland has **1** priority habitat = **1 point** No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

Wetland name or number A

H 2.4 Wetland Landscape *(choose the **one** description of the landscape around the wetland that best fits)* ***(see p. 84)*** There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 **There are at least 3 other wetlands within** ½ mile, BUT the connections between them are disturbed NW wetlands points = 3 **The wetland is Lake-fringe on a lake with** disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0	3
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type *Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.*	**Category**
SC 1.0 Estuarine wetlands *(see p. 86)* Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO ___ N/A	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	**Cat. I**
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native *Spartina* spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	**Cat. I** **Cat. II** **Dual rating I/II**

Wetland name or number A

SC 2.0 Natural Heritage Wetlands *(see p. 87)* Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)* S/T/R information from Appendix D ___ or accessed from WNHP/DNR web site ___ YES____ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO ✓ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO ✓ not a Heritage Wetland	**Cat. I**
SC 3.0 Bogs *(see p. 87)* Does the wetland unit (**or any part of the unit**) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog.* ***If you answer yes you will still need to rate the wetland based on its functions.*** 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. *1.* Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover *(> 30% coverage of the total shrub/herbaceous cover)?* 2. YES = Category I No ✓ Is not a bog for purpose of rating	**Cat. I**

Wetland name or number A

SC 4.0 Forested Wetlands ***(see p. 90)*** Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* — **Old-growth forests**: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — **Mature forests**: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO ✓ not a forested wetland with special characteristics	**Cat. I**
SC 5.0 Wetlands in Coastal Lagoons ***(see p. 91)*** Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)* YES = Go to SC 5.1 NO ✓ not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	**Cat. I** **Cat. II**

Wetland name or number A

SC 6.0 Interdunal Wetlands *(see p. 93)* Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO ✓ not an interdunal wetland for rating ***If you answer yes you will still need to rate the wetland based on its functions.*** In practical terms that means the following geographic areas: • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	**Cat. II** **Cat. III**
Category of wetland based on Special Characteristics *Choose the "highest" rating if wetland falls into several categories, and record on p. 1.* If you answered NO for all types enter "Not Applicable" on p.1	N/A

Appendix C

NRCS Soil Map and Description

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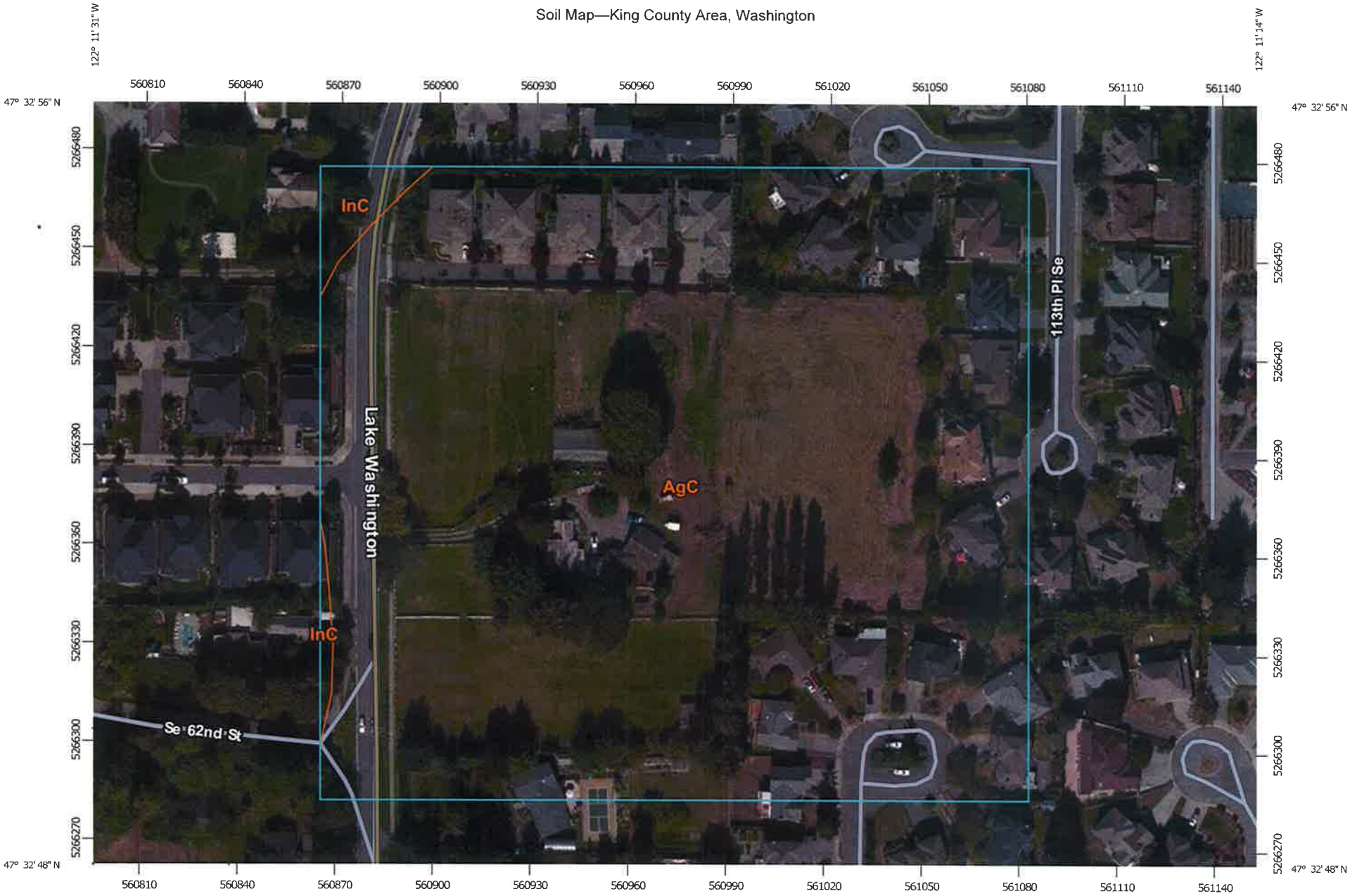
for double-sided printing

Soil Map—King County Area, Washington



Map Scale: 1:1,630 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

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

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 11, Sep 14, 2015

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

Date(s) aerial images were photographed: Aug 31, 2013—Oct 6, 2013

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

Map Unit Legend

King County Area, Washington (WA633)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AgC	Alderwood gravelly sandy loam, 8 to 15 percent slopes	10.2	98.2%
InC	Indianola loamy sand, 5 to 15 percent slopes	0.2	1.8%
Totals for Area of Interest		**10.4**	**100.0%**

LOCATION ALDERWOOD WA

Established Series
Rev. AD/BAL/KMS
11/2014

ALDERWOOD SERIES

The Alderwood series consists of moderately deep to a densic contact, moderately well drained soils formed in glacial drift and outwash over dense glaciomarine deposits. Alderwood soils are on glacially modified hills and ridges on glacial drift plains and have slopes of 0 to 65 percent. The mean annual precipitation is about 1,000 mm and the mean annual temperature is about 10 degrees C.

TAXONOMIC CLASS: Loamy-skeletal, isotic, mesic Aquic Dystroxerepts

TYPICAL PEDON: Alderwood gravelly sandy loam - forested. (Colors are for moist soil unless otherwise noted.)

A--0 to 18 cm; very dark grayish brown (10YR 3/2) gravelly sandy loam, brown (10YR 5/3) dry; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine roots; few fine irregular pores; 20 percent gravel; moderately acid (pH 5.8); abrupt smooth boundary. (7 to 18 cm thick)

Bw1--18 to 53 cm; dark yellowish brown (10YR 4/4) very gravelly sandy loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; many fine tubular and irregular pores; 35 percent gravel; gradual smooth boundary; moderately acid (pH 5.8).

Bw2--53 to 75 cm; brown (10YR 4/3) very gravelly sandy loam, pale brown (10YR 6/3); dry; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; few very fine tubular pores; 40 percent gravel; moderately acid (pH 5.8); clear wavy boundary. (Combined Bw1 and Bw2 horizons is 35 to 67cm thick)

Bg--75 to 89 cm; 50 percent olive brown (2.5Y 4/4) very gravelly sandy loam, light yellowish brown (2.5Y 6/4) dry and 50 percent dark grayish brown (2.5Y 4/2) iron-manganese nodules with strong brown (7.5YR 5/6) coatings on fragments, light brownish gray (2.5Y 6/2) and reddish yellow (7.5YR 6/6) dry; massive; slightly hard, very friable, nonsticky and nonplastic; few fine roots; common fine tubular and interstitial pores; 45 percent gravel; moderately acid (pH 6.0); abrupt wavy boundary. (8 to 38 cm thick)

2Cd1--89 to 109 cm; dark grayish brown (2.5Y 4/2) very gravelly sandy loam, light brownish gray (2.5Y 6/2) dry; dark yellowish brown (10YR 4/4), olive (5Y 4/4), yellowish red (5YR 4/6) and strong brown (7.5YR 5/6) coatings in cracks; massive; extremely hard; extremely firm, nonsticky and nonplastic; few fine roots; few fine tubular pores; 40 percent gravel; moderately acid (pH 6.0); abrupt irregular boundary. (13 to 51 cm thick)

2Cd2--109 to 150 cm; grayish brown (2.5Y 5/2) dense glacial till that breaks to very gravelly sandy loam, light gray (2.5Y 7/2) dry; massive; extremely hard, extremely firm, nonsticky and nonplastic; 40 percent gravel; moderately acid (pH 6.0).

TYPE LOCATION: Snohomish County, Washington; about 8 km east of Lynnwood on Maltby road; 61meters south and 122 meters east of the center of section 28, T. 27 N., R. 5 E. Willamette Meridian;
Latitude: 47.7980000
Longitude: -122.1760000
Datum: WGS84.

RANGE IN CHARACTERISTICS:
Depth to densic contact: 50 to 100 cm
Mean annual soil temperature: 8 to 13 degrees C.
Moisture control section: dry 60 to 75 consecutive days following the summer solstice
Reaction: strongly acid to slightly acid
Depth to redox features with chroma of 2 or less: 45 to 75 cm
Particle-size control section (weighted average):
>Clay content: 5 to 15 percent
>Rock fragments: 35 to 65 percent

A horizon
Hue: 10YR or 7.5YR
Value: 2 or 3 moist, 3 to 5 dry
Chroma: 2 to 4, moist or dry
Total fragments: 15 to 65 percent
Grave content: 15 to 65 percent
Cobble content: 0 to 5 percent
Stone content: 0 to 5 percent

Bw horizons
Hue: 10YR or 7.5YR
Value: 2 to 6, dry or moist
Chroma: 2 to 6, dry or moist
Fine earth texture: sandy loam, coarse sandy loam, or loam
Total fragments: 15 to 65 percent
Grave content: 15 to 65 percent
Cobble content: 0 to 5 percent
Stone content: 0 to 5 percent

Bg horizon
Hue: 10YR or 2.5Y
Value: 5 to 7 dry
Chroma: 2 to 4, moist or dry
Fine earth texture: sandy loam, coarse sandy loam, or loam
Redox concentrations - beginning within 75 cm of the surface
Total fragments: 35 to 85 percent
Grave content: 35 to 85 percent
Cobble content: 0 to 25 percent
Stone content: 0 to 5 percent

2Cd horizons
Hues: 10YR or 2.5Y
Value: 4 to 8 dry
Chroma:1 to 3, moist or dry
Fine earth texture: sandy loam, fine sandy loam, coarse sandy loam, or loamy sand
Total fragments: 15 to 45 percent
Grave content: 15 to 45 percent
Cobble content: 0 to 10 percent
Stone content: 0 to 5 percent

An E horizon less than 3 cm thick is sometimes present.

COMPETING SERIES: This is the Whidbey series. Whidbey soils are dry 75 to 90 consecutive days following the

summer solstices.

GEOGRAPHIC SETTING: These soils are on glacial drift plains at elevations of 0 to about 245 meters. Slope is 0 to 65 percent. The soils formed in glacial till. Alderwood soils are in a cool marine climate. The summers are cool and dry, and the winters are mild and wet. Mean annual precipitation is 406 to 1524 millimeters, most of which falls as rain from November through March. Mean January temperature is 3 degrees C, mean July temperature is 16 degrees C, and mean annual temperature is 10 degrees C. The growing season (-2 degrees C) is about 200 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the, , Everett, , Indianola, , McChord, and Whidbey series. Everett and Indianola soils lack a densic layer. McChord soils have a densic horizon at 100 to 150 cm.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY: Moderately well drained; high saturated hydraulic conductivity above the densic layer and low saturated hydraulic conductivity in the densic material. A perched water table is at its highest from January through March.

USE AND VEGETATION: Used mostly for woodland, field crops, hay and pasture, orchards, vineyards, wildlife habitat, watershed, and non-farm uses. The natural vegetation is Douglas-fir, western hemlock, western redcedar, and red alder with an understory of salal, Oregon-grape, western brackenfern, western swordfern, Pacific rhododendron, red huckleberry, evergreen huckleberry, and Orange honeysuckle.

DISTRIBUTION AND EXTENT: Northwestern Washington; MLRA 2. The series is extensive.

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Portland, Oregon

SERIES ESTABLISHED: Snohomish County, Washington 1936.

REMARKS: Diagnostic horizons and features recognized in this soil:
Ochric epipedon - from 0 to 18 cm
Cambic horizon - from 18 to 89 cm
Densic contact - from 89 to 150 cm
Aquic feature - redox depletions with chroma of 2 or less at 75cm.
Particle-size control section - 25 to 89 cm.
Zone of episaturation - 68 to 89 cm.

9/2013 The OSD was revised as part of the SDJR harmonization project. The Alderwood soils is mapped extensively in MLRA 2 and the map units need to be redesigned to more accurately reflect the landforms and series complexity.

2011 The TL was moved and the current typical pedon is borderline in meeting the Aquic subgroup criteria and is also borderline in meeting Humic subgroup criteria. Based on the range of characteristics, the present classification is marginal to being Aquic subgroup and marginal to not meeting Humic subgroup criteria. It is recommended a new typical pedon be selected to represent the series concept and classification.

The series has had a long history in classification, much of it involves the cementation or not of the upper part of the glacial till. The series in 1978 started as a loamy-skeletal, mixed, mesic Dystric Entic Durochrepts, then in 1988 to a loamy-skeletal, mixed, mesic, ortstein Aquic Haplorthods, then in 1994 to a loamy-skeletal, mixed, mesic Vitrandic Durochrepts, then in 2000 to a loamy-skeletal, isotic, mesic Vitrandic Dystroxerepts and in 2011 to a loamy-skeletal, isotic, mesic Aquic Dystroxerepts. The 89 to 109 cm horizon is the horizon in question as to cementation or not, and if cemented, what is the cementing agent. The material was studied in the late 1960's and early 1970's and it was though at that time to be cemented, but the cementing agent was not easily identifiable. The strength of Vitrandic properties in the upper part of the solum is very weak. Given all this change in classification the typical pedon has remained the same and the concept of a moderately deep and moderately well drained soil has remained the same.
An in depth study of the glacial till is needed throughout the Puget Sound foothills on several similar soil series.

ADDITIONAL DATA: Partial data available for this series. Sample # S71WA033002, 71WA033003, S04WA-061-

002, and S09WA053098.

National Cooperative Soil Survey
U.S.A.

Appendix D

Site Photographs

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APPENDIX D – WITTMAN DEVELOPMENT CRITICAL AREAS STUDY SITE PHOTOS

Photo 1 —Stormwater pipe from property to the south which has created the stormwater channel on site.

Photo 2 —Catch basin on property to the north which drains the stormwater channel.

Photo 3 —TP-1 soil profile.

Photo 4 —TP-1, view to southwest.

Photo 5 —TP-2 soil profile.

Photo 6 —TP-2, view to west.

Photo 7 —TP-3 soil profile.

Photo 8 —TP-3, view to east.

Photo 9 —TP-4 soil profile.

Photo 10 —TP-4, view to north.

Photo 11 —TP-5 soil profile.

Photo 12 —TP-5, view to east.

Photo 13 —TP-6 soil profile.

Photo 14 —TP-6, view to north. Note adjacent stormwater channel.

Photo 15 —TP-7 soil profile.

Photo 16 —TP-8 soil profile.

Photo 17 —TP-8, view to north.

Photo 18 —TP-9 soil profile.

Photo 19 —TP-9, view to northwest.

CONFLUENCE
ENVIRONMENTAL COMPANY

CONFLUENCE
ENVIRONMENTAL COMPANY

March 22, 2016

Mr. Mark Wittman
6018 Lake Washington Blvd
Bellevue, WA 98006

Re: 6018 Lake Washington Blvd Air Photo Analysis of Stormwater Cannel

Dear Mark:

On December 18, 2015, Confluence Environmental Company (Confluence) conducted a site visit at 6018 Lake Washington Blvd SE, Bellevue, King County, WA (Tax Parcels #3343301320, 3343301342, 3343301345, and 3343301362) (Figure 1) (Confluence 2016). The purpose of the site visit was to determine the presence and extent of critical areas on and adjacent to the property. During the site visit, a stormwater channel passing through the site was observed. The source of the water is a stormwater pipe from the residential development to the southeast.

This letter was prepared to provide additional documentation that the stormwater channel is a result of stormwater runoff and not a piped stream. To document the origin of the stormwater channel, historical aerial photographs of the property and surrounding area were reviewed to determine if the channel was present prior to the neighboring development where the runoff originates from.

Aerial photographs from 1936, 1964, 1980, 1990, 1998, 2000, and 2002 were obtained from King County (King County 2016), Google Earth (Google Inc. 2016), and National Environmental Title Research, LLC (NETR 2016). These images were reviewed for the presence and absence of the development discharging stormwater and the presence or absence of the stormwater channel. The images that were reviewed are attached.

As shown in the 1936 aerial photograph, the neighboring development had not been constructed and there was no visible sign of a channel on the property. The same holds true for the 1964 and 1980 aerial photographs. In the 1990 aerial photograph, the neighboring development, to the southeast of the property has been constructed; however, there is no visible sign of a channel on the property. It is not until the 1998, 2000, and 2002 aerial photographs that the stormwater channel on the property is visible. This aerial photograph series clearly shows that the stormwater channel did not appear on the property until after the neighboring development was constructed, indicating that the source of water of the channel is solely from stormwater from the neighboring development and is not a natural watercourse. The City of Bellevue land Use Code 20.25H.075 A defines streams as

> *An aquatic area where surface water produces a channel, not including a wholly artificial channel, unless the artificial channel is:*

Received
MAY 02 2016
Permit Processing

1. *Used by salmonids; or*
2. *Used to convey a stream that occurred naturally before construction of the artificial channel.*

Based on the aerial photograph analysis, the stormwater channel does not meet this definition of a stream. Although the surface water produces a channel, it is wholly artificial because 1) the source of the water in the channel is entirely from a stormwater pipe, 2) the channel is not used by salmonids, and 3) the channel was not used to convey any natural stream. Thus, the artificial channel would not be subject to buffers, setbacks, or mitigation.

If you have comments or questions, please feel free to contact me. My contact information is below.

Respectfully yours,

KERRIE MCARTHUR
Senior Biologist
206.999.6201
kerrie.mcarthur@confenv.com

ATTACHMENTS

1936 iMAP.pdf
1964 NETR.pdf
1980 NETR.pdf
1990 Google Earth.pdf
1998 iMAP.pdf
2000 iMAP.pdf
2002 iMAP.pdf

REFERENCES

Confluence (confluence Environmental Company). 2016. Wittman Development Critical Areas Study. Prepared for Mark Wittman, Bellevue WA and JR Merritt Construction, Bellevue, WA.

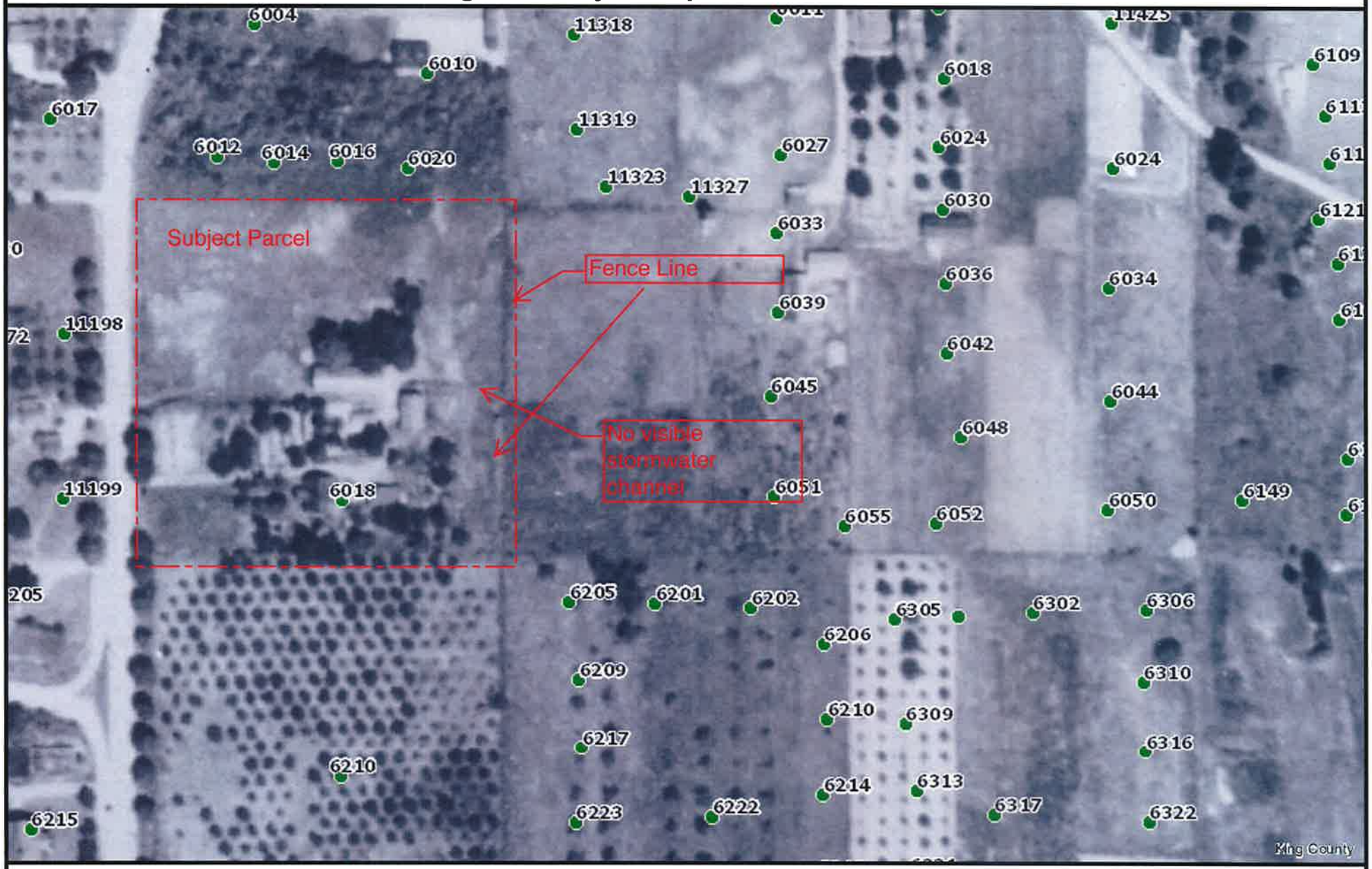
Google Inc. 2016. Google Earth Historical Imagery (Version 7.1.5.1557). Available at http://www.google.com/earth/explore/showcase/historical.html (accessed March 15, 2016).

King County. 2016. iMAP: Interactive Mapping Tool. King County GIS Center, Seattle, WA. Available at http://gismaps.kingcounty.gov/iMap/?center=-13610988%2C6013985&scale=577790.554289& (accessed March 15, 2016).

NETR (Nationwide Environmental Title research, LLC). 2016. Historic Aerials. Nationwide Environmental Title research, LLC, Tempe, Arizona. Available at http://www.historicaerials.com/aerials.php?op=home (accessed March 15, 2016).

1098-001 Air photo interp letter.doc

King County iMap 1936 Air Photo



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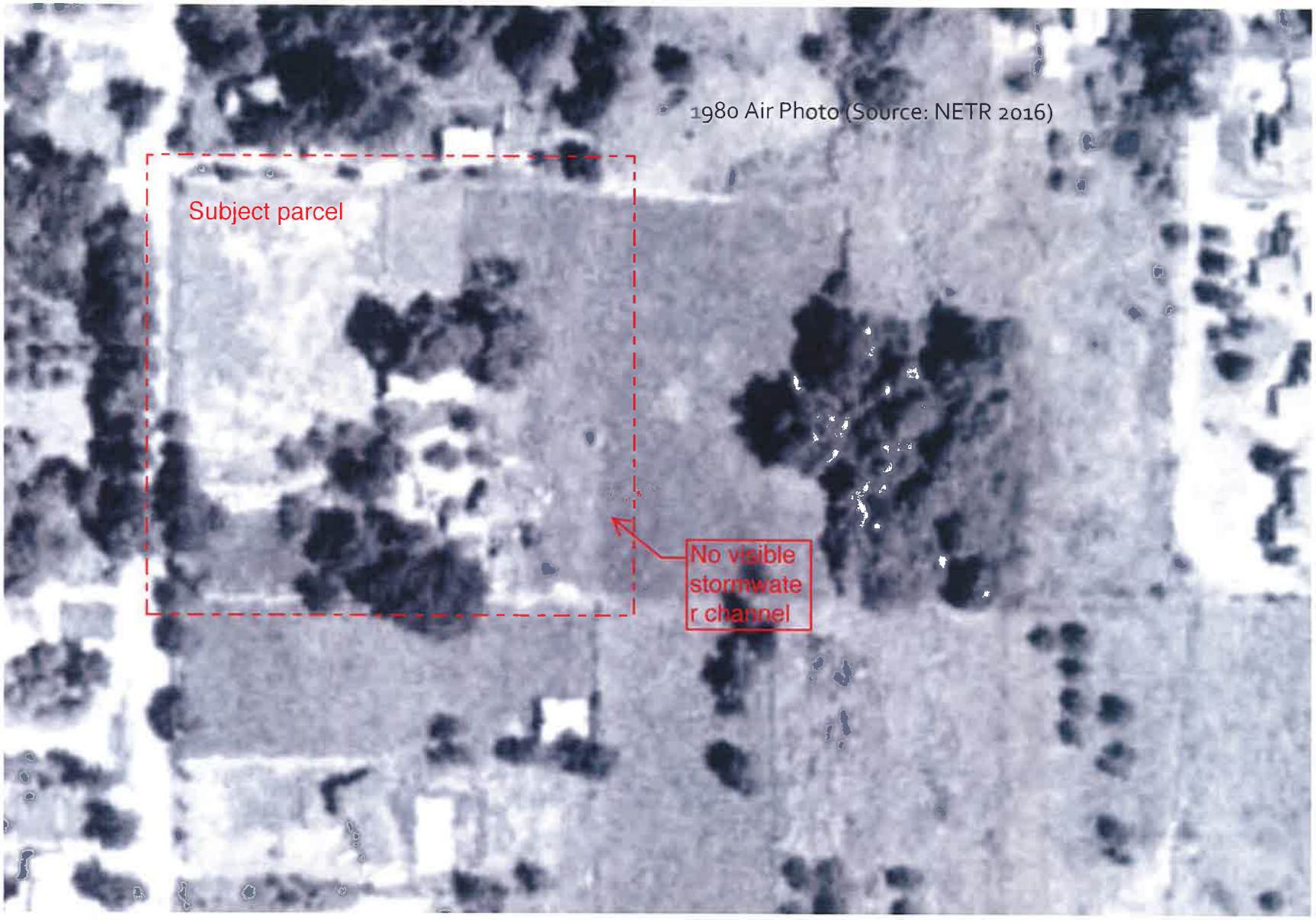
Date: 3/15/2016 Notes:

King County
GIS Center

1964 Air Photo (Source: NETR 2016)
Subject parcel
No visible stormwater channel


1980 Air Photo (Source: NETR 2016)
Subject parcel
No visible stormwate r channel

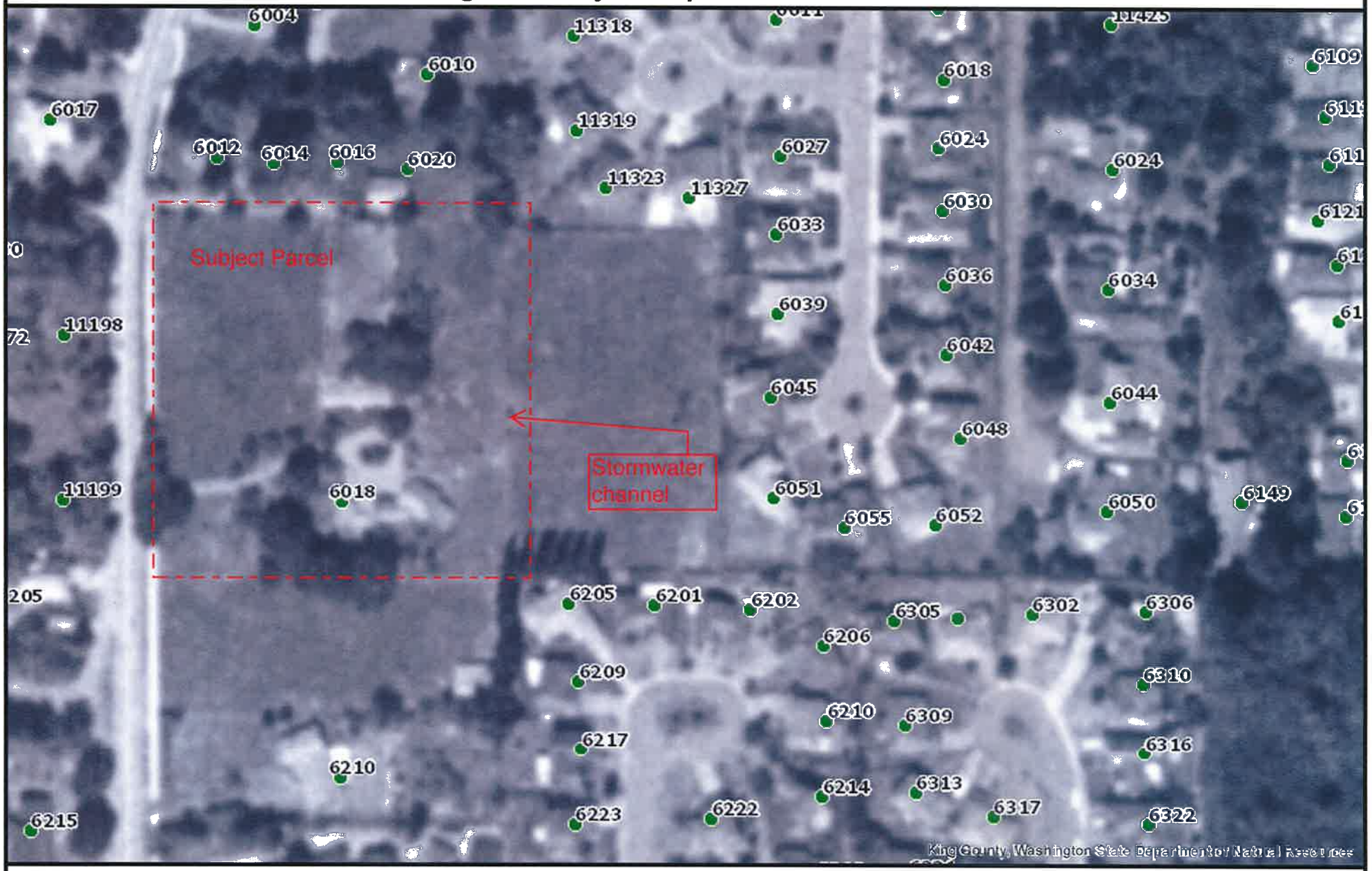
Google earth

feet 800

meters 200

1990 Aerial Photograph

King County iMap 1998 Air Photo



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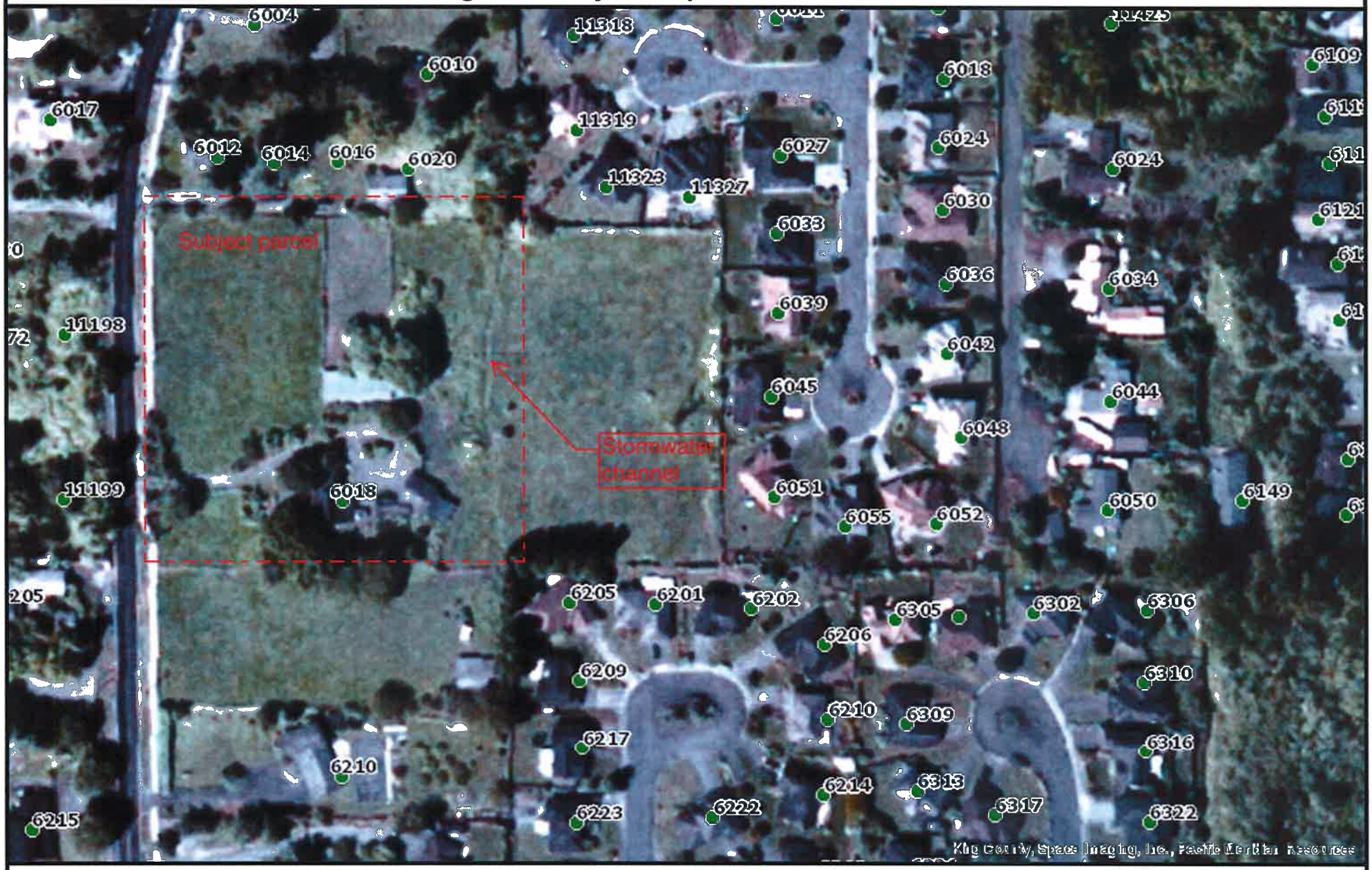
King County iMap 2000 Air Photo



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King County iMap 2002 Air Photo

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Date: 3/15/2016 Notes:

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