CRITICAL AREAS REPORT AND CONCEPTUAL MITIGATION PLAN

GUNSHY MANOR PRELIMINARY PLAT
KING COUNTY, WASHINGTON

Prepared For:
THE ESTATE OF BARBARA J. NELSON AND THE WCN GST NONEXEMPT MARITAL TRUST #2
Redmond, Washington

Prepared By:
TALASAEA CONSULTANTS, INC.
Woodinville, Washington

28 February 2018
(Revised 28 May 2019)

Critical Areas Report
and
Conceptual Mitigation Plan

Gushy Manor Preliminary Plat
King County, Washington

Prepared For:
The Estate of Barbara J. Nelson and the WCN GST Nonexempt Marital Trust #2
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Redmond, Washington 98072

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28 February 2018
(Revised 28 May 2019)

EXECUTIVE SUMMARY

PROJECT NAME: Gunshy Manor Preliminary Plat

SITE LOCATION: The Parent Property is an irregularly-shaped group of seven parcels located south of and abutting NE Union Hill Road, abutting and extending approximately 1,300 feet east from 196th Avenue in King County, Washington. The King County tax parcels that comprise the Parent Property are 0825069013 (Parcel A), 0825069103 (Parcel B), 0825069104 (Parcel C), 0825069105 (Parcel D), 0825069012 (Parcel E), 0825069102 (Parcel F), and 0825069067 (Parcel G). The proposed preliminary plat excludes the revised Parcel E according to BLAD18-0056. The Public Land Survey System location is the NW ¼ of Section 8, T25N, R6E, Willamette Meridian.

CLIENT: The Estate of Barbara J. Nelson, Buff Nelson

PROJECT STAFF: Bill Shiels, Principal; Ann Olsen, RLA, Senior Project Manager; Jennifer Marriott, PWS, Senior Ecologist; Dave Teesdale, Senior Wetland Ecologist; and Kristen Numata, Ecologist.

DETERMINATION: Thirteen (13) wetlands and eight (8) streams were identified on Gunshy Manor. Most of these critical areas have been evaluated and approved under CADS14-0327 and CADS18-0014, except for four (4) wetlands and one (1) stream south of Stream 1. Due to the presence of salmonid species in Evans Creek, Martin Creek is classified as a Type F stream per KCC 21A.24.355. Type F streams outside of Urban Growth Areas require 165-foot standard buffers. Non-fish-bearing streams require 65-foot standard buffers outside of Urban Growth Areas. The four (4) added wetlands on Parcel F were rated as Category IV wetlands requiring 40-foot standard buffers for a moderate intensity land use outside of an Urban Growth Area.

PROPOSED DEVELOPMENT: The project site, herein referred to as “Property” or “Project Property”, consists of all parcels associated with the Parent Property excluding Parcel E. The Applicant plans to develop the Project Property with 23 single-family residences with associated tracts for critical areas, vehicle access, and amenities. A new bridge will be installed across Martin Creek to provide access to NE Union Hill Road.

ASSESSMENT OF DEVELOPMENT IMPACTS: The Gunshy Manor preliminary plat project has been designed to avoid and minimize critical area impacts to the maximum extent practicable. No wetlands or streams will be directly impacted by the project. No permanent impacts to critical area buffers are proposed, as all anticipated buffer encroachments will be offset through buffer replacement, enhancement, or averaging. An existing network of farm roads will be retained in the post-development condition to be used as passive recreation trails and limited access for maintenance vehicles.

PROPOSED MITIGATION: Mitigation sequencing following KCC 21A.24.125, which addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers, was followed for this project. The proposed mitigation plan will include buffer reestablishment to restore those portions of the Martin Creek buffer currently impacted by existing structures for the primary access road and the existing driveway as compensation for the new road intruding into the stream buffer; and buffer averaging to offset reduced buffers for the entry landscape tract, rock-lined swale, and pedestrian trail through the Martin Creek buffer. Additional buffer restoration is proposed to restore an area of temporary buffer disturbance to remove railroad ties and an existing shed. Buffer restoration will occur in select locations by removing existing man-made structures and

planting with native trees and shrubs. Buffer restoration and reestablishment areas will be monitored for a period of three years.

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1.1 Statement of Accuracy

Wetland characterizations and ratings were conducted by trained professionals at Talasaea Consultants, Inc., and adhered to the protocols, guidelines, and generally accepted industry standards available at the time the work was performed. The conclusions in this report are based on the results of analyses performed by Talasaea Consultants and represent our best professional judgment. To that extent and within the limitation of project scope and budget, we believe the information provided herein is accurate and true to the best of our knowledge. Talasaea does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

1.2 Qualifications

Field investigations and evaluations were conducted by Talasaea staff, including: Bill Shiels, Principal; Ann Olsen, RLA, Senior Project Manager; Jennifer Marriott, PWS, Senior Ecologist; David R. Teesdale, PWS, Senior Wetland Ecologist; and Kristen Numata, Ecologist. Bill Shiels has a Bachelor's Degree in Biology from Central Washington University and a Master's Degree in Biological Oceanography from the University of Alaska. He has over 40 years of experience in wetland delineations and mitigations. The conceptual mitigation design was prepared by Ann Olsen, Registered Landscape Architect, License #777. Ann has over 24 years in environmental planning, mitigation and landscape design, and project management. She serves as the firm's lead landscape architect and has successfully designed and implemented over 400 wetland/stream/shoreline mitigation projects in the Pacific Northwest for both the public and private sectors. Jennifer Marriott has a Bachelor's Degree and a Master's Degree in Biology from University of Central Florida, and a second Master's Degree in Soil and Environmental Science from the University of Florida. She has over 15 years of experience in wetland delineations and environmental permitting. David Teesdale has a Bachelor's Degree in Biology from Grinnell College, Iowa, and a Master's Degree in Ecology from Illinois State University. He has 20 years of experience in wetland delineations and biological evaluations. Kristen Numata has Bachelor's Degrees in Biology and Environmental Science from Santa Clara University.

CHAPTER 2. INTRODUCTION

2.1 Purpose of Report

This report is the result of a critical area study of Gunshy Manor. The project is located in unincorporated King County, Washington (**Figure 1**).

The purpose of this report is to outline the proposed project for the Gunshy Manor preliminary plat and how critical areas may be affected, including a discussion on existing conditions for those areas on Parcel G (**Figure 2**). A majority of Gunshy Manor, including nine (9) wetlands and seven (7) streams, have been previously classified and approved under CADS14-0327 and CADS18-0014 (**Figure 3**). The remaining wetlands south of Stream 1, including the upper reach of Stream 1, have not been incorporated into a previous CADS, but feature nomenclature is a continuation of CADS14-0327.

This report has been prepared to comply with the requirements of King County Code Title 21A.24.110 – Critical area report requirement. This report will provide and describe the following information:

- General property description;
- Methodology for critical areas investigation;
- Regulatory review;
- Proposed development and critical area impacts; and
- Proposed conceptual mitigation for the preliminary plat.

CHAPTER 3. PROPERTY DESCRIPTION

3.1 Property Location

The Parent Property, Gunshy Manor, is an irregularly-shaped group of seven parcels located south of and abutting NE Union Hill Road in King County, Washington. The King County tax parcels that comprise Gunshy Manor are 0825069013 (Parcel A), 0825069103 (Parcel B), 0825069104 (Parcel C), 0825069105 (Parcel D), 0825069012 (Parcel E), 0825069102 (Parcel F), and 0825069067 (Parcel G) (**Figure 2**). The Public Land Survey System location is the NW ¼ of Section 8, T25N, R6E, Willamette Meridian. A boundary line adjustment (BLAD18-0056) has been approved to reduce Parcel E to approximately 10 acres that will include all of the Property's frontage along 196th Avenue NE (Red Brick Road) and a portion of Evans Creek. The revised Parcel E is not included in the proposed preliminary plat. The entirety of Wetlands C and D are on the revised Parcel E, including a small portion of Wetland B and the western half of Farm Ditch D2. These Critical Areas are not included in the proposed preliminary plat boundary.

3.2 General Property Description

Gunshy Manor is located east of the Redmond City limits and south of NE Union Hill Road. Parcel A is developed with equestrian and residential improvements and facilities. Portions of Parcels B, C, D, and F (portions that for the most part are located roughly in the central portion of the Property) are used for livestock grazing and hay production and storage. Parcel G is an existing residence with out-buildings.

The topography of the western and central portions of the Property are generally flat to slightly rolling. The eastern and southern portions are characterized by moderate to steep slopes.

There are three points of roadway access to the Property. One access point to the Property is a paved driveway off of NE Union Hill Road. This driveway extends to the south-southeast and connects to a gravel farm road that provides access to the remainder of the Gunshy Manor property. There is also a private driveway off NE Union Hill Road that serves Parcel G. The third access point is a gravel farm road off of 196th Avenue NE (Red Brick Road) that extends generally to the east into the Property. A maintenance road extends from the south-central portion of the Property, starting near Stream 1, and continuing south off-property.

3.3 Existing Site Development

The Parent Property is mostly undeveloped except for the single-family homes located on Parcels A, E, and G. The structures and home within Parcel E will be included within the boundary of the new parcel through the BLA and will not be part of this Project. Typical residential structures and outbuildings exist on the subject site, as well as farm buildings, including barns, run-in sheds, etc. There are two groundwater wells on the Site, located on Parcels D and G, that will be retained.

3.4 Gunshy Manor Site History

The Nelson Family originally purchased approximately 138 acres of property known as Gunshy Manor in 1957. Over the following approximately 55 years, the Nelson Family operated on the Gunshy Manor property, a Thoroughbred and Polled Hereford breeding farm.

The majority of Gunshy Manor has been evaluated under CADS14-0327 and CADS18-0014. Mitigation activities at Gunshy Manor have been required under US Environmental Protection Agency (EPA) Administrative Order on Consent ("AOC"), Docket No. CWA-10-2016-0087 and the Washington State Department of Ecology Agreed Administrative Order Docket No. 13182 for corrective actions relating to King County Code Enforcement File No. ENFR14-0512. The required mitigation activities were reconciled with the restoration work completed in August 2018.

CHAPTER 4. METHODOLOGY

The critical areas analysis of the Site involved a two-part effort. The first part consisted of a preliminary assessment of the Site and the immediate surrounding area using published environmental information. This information includes:

1) Wetland and soils information from resource agencies;
2) Environmentally Critical Areas Map information from King County;
3) GIS analysis of orthophotography and LiDAR data; and
4) Relevant studies completed or ongoing in the vicinity of the Property supplied to us by the Client (including historical uses of the Property).

The second part consisted of site investigations where direct observations and measurements of existing environmental conditions were made. Observations included plant communities, soils and hydrology. This information was used to help characterize the site and define the limits of critical areas onsite and offsite for regulatory purposes (see **Section 3.2 – Field Investigation** below).

This review of background materials was completed and thoroughly documented in the Critical Areas Report and Final Mitigation Plan, dated 17 August 2017 for those portions of the Site covered under CADS14-0327. This work has been updated within this report to include Parcel G as part of CADS18-0014.

4.1 Background Data Reviewed

Background information from the following sources was reviewed prior to field investigations:

- U.S. Fish and Wildlife (USFWS) National Wetlands Inventory for the Redmond Quadrangle;
- Natural Resources Conservation Service Soil Survey for the King County Area;
- King County GIS database;
- StreamNet and SalmonScape databases;
- Evans Creek Natural Area Site Management Guidelines (April 2005);
- Bear-Evans Watershed Temperature, Dissolved Oxygen and Fecal Coliform; Bacteria Total Maximum Daily Load, Water Quality Implementation Plan;
- Orthophotography from Earth Explorer, National Historical Aerials, NAIP, Bing Maps, and Google Earth; and
- LiDAR terrain data from the City of Redmond.

4.2 Field Investigation

Gunshy Manor was initially evaluated in the field by Talasaea Consultants, Inc. on 18 May 2012. Additional field work was performed on 14, 19, 21, 26 and 27 August and 15 October 2014; 15 February, 7, 8, 21, 22 April, and 16 May 2015; 2 and 12 February, 8 March, 8, 14 November, and 9 December 2016; and on 9 and 10 May 2017.

Parcel G of the Property was evaluated for critical areas on 7 December 2017. Critical areas along a 50-foot corridor along the maintenance road within the southern third of the Property were delineated on 6 December 2018. Critical areas were approximated, but not formally surveyed, outside of this corridor as no work is proposed in these areas.

Existing property conditions were documented, including relevant information concerning onsite and offsite wetlands and streams.

4.2.1 Wetland Delineation Methodology

Wetlands were delineated using the methodologies described in the U.S. Army Corps of Engineers *Regional Supplement to the Corps of Engineers Wetland Delineation and Identification Manual: Western Mountains, Valleys, and Coast Region* (U.S. Army Corps of Engineers, 2010). Wetland classes were determined with the U.S. Fish and Wildlife Service's system of wetland classification (Cowardin, *et al*. 1979).

Methodologies described in Chapter 5 (*Difficult Situations in the Western Mountains, Valleys, and Coast Region*) were utilized for wetland determinations on the Gunshy Manor property, which were later approved under CADS14-0327 and CADS18-0014. See *Critical Areas Report – Update*, dated 17 August 2017 for a discussion of Problematic Hydrophytic Vegetation. New datasheets are provided as **Appendix A**. Rating sheets for the newly added wetlands are provided as **Appendix B**.

4.2.2 Hydric Soils

Soils on the Property were considered hydric if one or more of the hydric soil indicators listed in the Corps Regional Supplement are present. Indicators include presence of organic soils, reduced, depleted, or gleyed soils, or redoximorphic features in association with reduced soils. Soils were also considered hydric if a combination of hydric soil indicators could be achieved. If the only parameter not meeting the indicator was the thickness of the layer containing the redox features, these instances were also

considered a hydric soil. Instances where redox features were lacking, started well below the depth threshold for any particular indicator, or were clearly relict features lacking diffuse boundaries were not considered as meeting a hydric soil indicator.

4.2.3 Plant Identification

Plant species were identified according to the taxonomy of Hitchcock and Cronquist (Hitchcock, *et al*. 1973). Taxonomic names were updated and plant wetland status was assigned according to *The National Wetland Plant List, Version 3.3* (Lichvar, *et al*. 2016). Vegetation was considered hydrophytic if greater than 50% of the dominant plant species had a wetland indicator status of facultative or wetter (i.e., facultative, facultative wetland, or obligate wetland).

4.2.4 Wetland Hydrology

Wetland hydrology was determined based on the presence of hydrologic indicators listed in the above-mentioned Corps Regional Supplement. These indicators are separated into Primary Indicators and Secondary Indicators. To confirm the presence of wetland hydrology, one Primary Indicator or two Secondary Indicators must be demonstrated to exist. Indicators of wetland hydrology may include, but are not necessarily limited to: drainage patterns, drift lines, sediment deposition, watermarks, stream gauge data and flood predictions, historic records, visual observation of saturated soils, and visual observation of inundation.

4.3 Ordinary High Water Mark (OHWM) Methodology

The OHWM for onsite streams and the OHWM for fish-bearing farm ditches were located and flagged in the field using wire flags. OHWM was delineated using the methodology described in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson, *et al.* 2016).

CHAPTER 5. RESULTS

This section describes the results of our in-house research and field investigations for Parcels F and G only. A thorough analysis of existing information for Gunshy Manor can be found in Chapter 4.1 of the *Critical Areas Report – Update*, dated 17 August 2017, as provided to King County for CADS14-0327. For the purpose of this report, the term “vicinity” describes an area within 300 feet of the Site.

5.1 Analysis of Existing Information

The following sources provided information on site conditions based on data compiled from resource agencies and local government.

5.1.1 USFWS National Wetlands Inventory (NWI)

The NWI does not identify wetlands on, or in the vicinity of, Parcel G. A riverine intermittent streambed seasonally flooded (R4SBC) is mapped bisecting the parcel. This feature coincides with Martin Creek on the Property. A large wetland complex is mapped along the southwestern boundary of the Property and offsite to the west that coincides with Wetland B, which is part of the Evans Creek wetland complex. Another R4SBC stream feature is mapped that somewhat coincides with Stream 1, though the

feature is mapped on the NWI mapper as a split stream, which is not consistent with field conditions.

5.1.2 Natural Resources Conservation Service

The NRCS maps one soil in the entirety of Parcel G: Everett very gravelly sandy loam, 0 to 8 percent slopes. The NRCS maps two map units over Parcel F, Everett very gravelly sandy loam, 8 to 15 percent slopes and Alderwood and Kitsap soils, very steep. None of these soil series are considered hydric by the National Technical Committee on Hydric Soils (NTCHS).

5.1.3 King County GIS Database

King County identifies a stream bisecting Parcel G consistent with part of the NWI map and Martin Creek. Another stream is mapped across Parcel F that coincides with Stream 1. These streams are located within the Evans Creek basin.

5.1.4 WDFW Priority Habitat and Species (PHS) on the Web

WDFW PHS did not map any priority habitat or occurrence of ESA listed species on, or in the vicinity of, the Site.

5.2 Analysis of Existing Conditions

A majority of Gunshy Manor (Parcels A-E and a portion of Parcel F) was previously classified and approved under CADS14-0327, which includes nine (9) wetlands and seven (7) streams. One (1) stream, Martin Creek, was classified and approved under CADS18-0014 for Parcel G. The reach of Stream 1 downstream of the bird cage was included within CADS14-0327. The reach of Stream 1 upstream of the bird cage has not been included within a CADS determination, along with the remainder of Parcel F.

Four (4) wetlands were identified south of Stream 1, labeled as Wetlands L, M, N, and P. An additional stream, Stream 2, was also identified within Parcel F. Several swales, determined to not meet the definition of a stream, were identified that were constructed as part of a surface water management system for the farm property.

5.2.1 Wetlands

5.2.1.1 Wetland L

Wetland L is a forested wetland located adjacent to the existing maintenance road and Stream 1. Typical vegetation in Wetland L includes western redcedar and devil's club.

Wetland L rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.2 Wetland M

Wetland M is a forested slope wetland located adjacent to the downhill side of the existing maintenance road. Vegetation within Wetland M includes western redcedar, salmonberry, white bark raspberry (*Rubus leucodermis*), and youth-on-age.

This wetland is presumed to be hydrologically connected to the Wetland B (discussed in CADS 14-0327), but is rated separately as a Category IV slope wetland based on a difference of Hydrogeomorphic (HGM) classification.

Wetland M rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.3 Wetland N

Wetland N is a forested slope wetland located west of the maintenance road. Typical vegetation in Wetland M includes western redcedar, vine maple (*Acer circinatum*), devil's club, salmonberry, youth-on-age (*Tolmiea menziesii*), and fringecup (*Tellima grandiflora*).

This wetland is presumed to be hydrologically connected to the Wetland B (discussed in CADS 14-0327), but is rated separately as a Category IV slope wetland based on a difference of Hydrogeomorphic (HGM) classification.

Wetland N rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.1.4 Wetland P

Wetland P is a forested slope wetland located east of the existing maintenance road. Vegetation within Wetland P includes western redcedar (*Thuja plicata*), devil's club (*Oplopanax horridus*), and salmonberry (*Rubus spectabilis*).

Wetland P rated as a Category IV wetland with an associated 40-foot buffer with a moderate intensity land use per King County Code (KCC) 21A.24.325.B for wetlands outside of a UGA.

5.2.2 Streams

5.2.2.1 Martin Creek

Martin Creek is a tributary to Evans Creek that flows westward across the north end of Parcel A before bisecting Parcel G. Martin Creek's headwaters are located off-site east of 208th Avenue NE, approximately 3,800 feet to the east. There are two small bridges located over Martin Creek within Parcel G. An additional vehicular bridge is located over Martin Creek within Parcel A that is the existing main entrance to the Property. All flows associated with Martin Creek are fully contained within the stream channel. There is no indication of flooding beyond the stream banks. No wetlands occur adjacent to Martin Creek.

The Martin Creek buffer through Parcel A is relatively undisturbed except where the driveway is located and is dominated with native vegetation such as western red cedar (*Thuja plicata*), Douglas fir (*Pseudotsuga menziesii*), and sword fern (*Polystichum munitum*). The stream buffer on Parcel G is heavily disturbed, as evidenced by the

adjacent single-family residence with maintained lawn, patio space, and other associated features.

5.2.2.2 Stream 1

Stream 1 is a perennially flowing stream located near the northern end of Parcel F that drains a relatively small basin (approximately 135 acres). Stream 1 originates within the eastern edge of Parcel F. This stream was previously identified as "Stream 1", a perennial Type F stream, in King County CADS 14-0327, though only the lower half of the stream onsite was included within that CADS.

The stream is fed primarily by groundwater and connects downstream with Evans Creek after passing through a large wetland complex associated with Evans Creek Natural Area, identified as Wetland B where it occurs within the Property. King County Type F streams located outside of the UGA require a 165-foot buffer measured from the OHWM.

5.2.2.3 Stream 2

Stream 2 is an intermittently flowing Type N stream located near the central area of the Property that drains a small area. The stream begins to channelize as surface water approximately 30 feet to the east of the access road, remaining less than two feet in width, and flows westward underneath the access road through an approximately eight-inch metal culvert. After passing underneath the access road, the stream continues to flow west until it comingles with the wetland associated with Evans Creek Natural Area.

King County Type N streams located outside of the UGA require a 65-foot buffer measured from the OHWM.

5.2.2.4 Swales

Several short, narrow segments of constructed swales occur that were not considered as regulated features. These swales were constructed for the purpose of managing surface water on the Site as part of the general land management of the farm property.

5.3 Wildlife Surveys and Habitat Assessments

The Site was evaluated for wildlife and habitats concurrently with delineation efforts and observations of additional wildlife were recorded during the December 2017 field visit. The general habitat on the Site consists of maintained lawn and Douglas fir canopy. No unique habitats occur onsite. General wildlife observations during fieldwork included a several Red-tailed hawks and songbirds. No bald eagles were heard or seen over multiple field assessments. No bald eagle nests were observed, nor are any expected due to the lack of suitably sized trees in a landscape position preferred by bald eagles.

5.3.1 Listed Species - Salmonids

There are eight (8) streams located on the Property, including the main stems of Evans and Martin Creek, all of which are classified as Type F. Martin Creek and the unnamed streams are tributaries to Evans Creek, which is known to support runs of anadromous fish, including Puget Sound Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), sockeye (*O. nerka*), steelhead (*O. mykiss*), and coastal cutthroat trout (*O. clarki*)

(SalmonScape). The *Evans Creek Natural Area Site Management Guidelines*, published in April 2005 by King County, identifies Evans Creek as the home to populations of Chinook, coho, and sockeye salmon (See Appendix F of the Critical Areas Report). Steelhead and cutthroat trout were identified as occurring within the greater Bear Creek basin, but were not specified for Evans Creek.

The following table provides a summary of identified salmonid species in Evans Creek at Gunshy Manor, and thus assumed present within Martin Creek, as well as the Federal or State status.

Table 1. Salmonid Presence in Evans Creek at Gunshy Manor (Parcel E)

Salmonid Species	StreamNet	SalmonScape	Federal Status	State Status
Fall Chinook	Migration Only	Documented Presence	Threatened	Candidate
Coho	Spawning and Rearing	Documented Spawning	None	None
Winter steelhead	Not Mapped	Documented Presence	Threatened	None
Sockeye	Not Mapped	Modeled Presence	None	None

CHAPTER 6. REGULATORY REVIEW

6.1 Critical Areas Ratings and Setbacks

The Site is located outside of the Urban Growth Area (UGA) of King County, therefore critical areas (wetlands and streams) are regulated under King County Code (KCC) 21A.24. Wetlands were rated using the *Washington State Wetland Rating System for Western Washington* (2004), as updated in 2008 (KCC 21A.24.318). Streams were typed according to KCC 21A.24.355.

The following is a summary of critical areas and their buffers either approved under CADS14-0327 or CADS18-0014, or as required under KCC 21A.24.

Table 2. Critical Areas Summary

Critical Area Name	Parcel	Classification*	Buffer Width (feet)		
			Approved Per CAD14-0327	Approved per CAD18-0014	Standard Per KCC 21.24A
Wetland A	C & D	Category IV	40 feet		
Wetland B	C, E & F	Category I	225 feet		
Wetland C	E	Category III	60 feet		
Wetland D	E	Category III	60 feet		
Wetland E	C	Category III	60 feet		
Wetland G	D & F	Category IV	40 feet		
Wetland H	C	Category IV	40 feet		
Wetland I	C	Category IV	40 feet		
Wetland K	C	Category IV	40 feet		

Wetland L	F	Category IV			40 feet
Wetland M	F	Category IV			40 feet
Wetland N	F	Category IV			40 feet
Wetland P	F	Category IV			40 feet
Martin Creek	A	Type F	165 feet		
Martin Creek	G	Type F		165 feet	
Evans Creek	E	Type F	165 feet		
Stream 1	F	Type F	165 feet		
Stream 2	F	Type N			65 feet
Farm Ditch D1	C, D, & F	Type F	165 feet		
Farm Ditch D2	B, C & E	Type F	165 feet		
Farm Ditch D3	C	Type F	165 feet		
Spur Farm Road Ditch	C	Type F	165 feet		

* Classification of either wetland Category per KCC 21A.24.318 or Aquatic Area Type per KCC 21A.24.355

CHAPTER 7. PROPOSED DEVELOPMENT AND CRITICAL AREAS IMPACTS

7.1 Project Description

The Client plans to subdivide the Project Property into 23 single-family residences (**Appendix C**). Site elements will include a trail system, a private internal road, and utility infrastructure. Access will be provided from NE Union Hill Road with a new road and bridge over Martin Creek in order to maintain proper sight lines from the bend in Union Hill Road immediately east of the Site. In addition to the stream buffer impacts outlined below, a network of farm roads exists across the Site, both within and outside of critical areas buffers. These roads will be retained in the post-development condition to be converted to use as passive recreation trails and for limited maintenance vehicle use.

7.2 Stormwater Treatment

Stormwater facilities will be located on the individual lots, given the large size of the residential lots. A stormwater vault will be provided to address runoff from the internal road. The proposed stormwater runoff will be handled using flow control best management practices, such as dispersion, bioretention, and possibly infiltration, depending on location of septic drain fields and as verified by the geotechnical investigation. In addition to the above stormwater facilities, a rock-lined drainage swale will be provided west of the new access road by Union Hill Road to ensure no impact to the property immediately west of this new access road.

7.3 Assessment of Development Impacts

The Gunshy Manor preliminary plat has been designed to avoid critical area impacts to the maximum extent possible, and to minimize where avoidance is impossible. No

impacts to wetlands or streams are proposed for this Project. Minor encroachments to stream buffer will be necessary for the NE Union Road access to the Site and for the main entrance site-triangle for safety reasons, and trail access to a retained well. These required buffer impacts have been minimized to the greatest extent practicable to use the smallest footprint required to meet the King County requirements, as well as address potential safety concerns for future users. Where stream buffer impacts are unavoidable, appropriate mitigation is provided to compensate for the proposed impacts.

Permanent impacts proposed include:

- 20,136 square feet of Martin Creek buffer reduced for a linear alteration (access road);
- 4,924 square feet of reduced Martin Creek buffer for a landscaped buffer and adjacent drainage swale; and
- 448 square feet of reduced Martin Creek buffer for an access trail to connect the new entrance to an existing well to be maintained.

In addition to those permanent impacts, proposed temporary impacts include:

- 2,094 square feet of disturbance to the Martin Creek buffer to remove railroad ties and a shed; and
- 29,888 square feet of temporary disturbance to remove existing structures and asphalt as part of the buffer restoration/reestablishment.

The retention of the farm roads as passive recreation trails and limited access paths for maintenance vehicles are not being considered a buffer impact, where the farm roads occur within buffers, since these farm roads occur in the existing condition. These roads are used regularly by vehicles for farm management and access. The use of these roads by vehicles will be greatly diminished in the proposed condition since maintenance vehicles will only require access periodically.

7.3.1 Buffer Reduction for Linear Alterations

The project proposes to reduce stream buffer consistent with KCC 21A.24.070.A.1 to allow for the required access road to the development. Buffer intrusions will be the minimum necessary to meet King County standards. The access road will require a new bridge over Martin Creek that can handle two-way vehicular and pedestrian traffic. The existing Martin Creek road bridge on Parcel A is being abandoned and will be reestablished as stream buffer. The deck will be removed and the footings will remain to not disturb the creek bed or banks. This existing driveway does not meet the sight distance guidelines for King County and will not be used for vehicular access. Two existing bridge structures on Parcel G (both vehicular and pedestrian) over Martin Creek will be partially removed and replaced with a single bridge capable of handling the anticipated traffic. The upper decks of all existing bridges will be removed and the footings will be kept in place. A total of 20,136 square feet of Martin Creek buffer will be impacted for this access road off Union Hill Road. Buffer impacts due to this road have increased from previous site plan iterations due to the size of the road increasing now that this is the only access point to the Site.

Compensation for the Martin Creek buffer intrusion necessary for the new Union Hill Road entrance will be provided by removing the existing house and associated structures within the Martin Creek buffer and restoring these areas with native vegetation. Temporary impacts to the stream buffer will be necessary in conjunction with the removal of these existing structures, though these areas will be regraded and planted after removal of existing structures. The remainder of the Martin Creek buffer that does not contain structures will remain in its current vegetated condition. A native canopy exists that will be maintained where present. Native understory species will recruit into these areas once regular maintenance ceases. Other areas not contained within the post-development critical areas will be maintained by the Homeowner's Association for the development, once established. Vegetative enhancement is proposed over 29,888 square feet of Martin Creek buffer to restore those areas covered by structures.

7.3.2 Buffer Reduction for Landscaping, Swale, and Trail

There are three areas adjacent to the primary access point from NE Union Hill road that will be averaged out of the stream buffer. These areas include an entryway landscape tract (Tract H) along the east edge of the access point, a rock-lined swale along the west edge, and a surface trail extending eastward from the access point that will provide access to an existing groundwater well. The project proposes to reduce the Martin Creek stream buffer by 4,924 square feet for these three elements combined. The buffer will be replaced adjacent to the existing Martin Creek buffer within areas that are, at a minimum, equivalent to the structure and function provided by the stream buffer to be reduced. This 11,868 square foot buffer replacement area is being provided consistent with KCC 21A.24.358.E.1.a for no net loss of total buffer area, and ultimately will provide a net gain of 6,944 square feet of Martin Creek buffer.

7.3.3 Temporary Buffer Impact for Regrading

Approximately 2,094 square feet of Martin Creek buffer near where Martin Creek exits the property to the west will be temporarily impacted to remove several railroad ties and a shed to regrade and restore these areas as vegetated buffer.

CHAPTER 8. PROPOSED MITIGATION

8.1 Agency Policies and Guidelines

The mitigation proposed for critical areas impacts is in accordance with the following policies, codes, and regulatory guidance:

King County Code, Chapter 21A.24, "Critical Areas"

8.2 Mitigation Sequencing

KCC 21A.24.125 addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers. The code requires that "*an applicant for a development proposal or alteration, shall apply the following sequential measures, which appear in order of priority, to avoid impacts to critical areas and critical area buffers:*

1. *Avoiding the impact or hazard by not taking a certain action;*
    a. *Minimizing the impact or hazard by:*
    b. *limiting the degree or magnitude of the action with appropriate technology; or*
2. *Taking affirmative steps, such as project redesign, relocation or timing;*
3. *Rectifying the impact to critical areas by repairing, rehabilitating or restoring the affected critical area or its buffer;*
4. *Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;*
5. *Reducing or eliminating the impact or hazard over time by preservation or maintenance operations during the life of the development proposal or alteration;*
6. *Compensating for the adverse impact by enhancing critical areas and their buffers or creating substitute critical areas and their buffers; and*
7. *Monitoring the impact, hazard or success of required mitigation and taking remedial action."*

The project has avoided all direct impacts to the on-site wetlands and streams. The project has minimized impacts to the wetland and stream buffers almost entirely, except where encroachments are necessary for the access road, landscape tract, rock-lined swale, a small access trail, and minor regrading in the Martin Creek stream buffer. Several iterations of site design options have been evaluated to determine the best site plan that meets both the restrictions of the Site and the requirements of a viable project. Critical areas on-site effectively block all access points to the unencumbered portions of the Site, thus requiring minor buffer encroachments to ensure safe access into and out of the Site.

In addition to the above requirements outlined within KCC 21A.24.125, modification to a critical area buffer is allowed for linear alterations pursuant to KCC 21A.24.070, *Alteration Exception*, if:

> *A. The director may approve alterations to critical areas, critical area buffers and critical area setbacks not otherwise allowed by this chapter as follows:*
>
> *1. Except as otherwise provided in subsection A.2. of this section, for linear alterations, the director may approve alterations to critical areas, critical area buffers and critical area setbacks only when all of the following criteria are met:*
>
> *a. there is no feasible alternative to the development proposal with less adverse impact on the critical area;*
> *b. the proposal minimizes the adverse impact on critical areas to the maximum extent practical;*
> *c. the approval does not require the modification of a critical area development standard established by this chapter;*
> *d. the development proposal does not pose an unreasonable threat to the public health, safety or welfare on or off the development proposal site and is consistent with the general purposes of this chapter and the public interest;*

e. the linear alteration:

(1) connects to or is an alteration to a public roadway, regional light rail transit line, public trail, a utility corridor or utility facility or other public infrastructure owned or operated by a public utility; or

(2) is required to overcome limitations due to gravity;

No specifications are provided in the code to address compensation for buffer intrusions resulting from linear alterations. In lieu of detailed guidance, proposed compensation for buffer intrusions resulting from the required access road will be buffer restoration and buffer replacement, respectively. Portions of the Martin Creek buffer where the house and associated structures currently exist will be restored through the removal of the structures, and those areas subsequently restored with native soils, plants, and large woody material. An existing groundwater well, located inside of the garage, will be maintained in the post-development condition for use by the development. A small structure will be constructed around the well for protection that will remain within the buffer. Pedestrian access will be provided to this well and structure from the proposed new access road. Enhancement activities will occur in this area around this well and structure. No enhancement plantings are provided in other portions of the Martin Creek buffer where vegetation already exists; enhancement plantings are only proposed where structures, a house, shed, patio, driveways, etc. preclude the growth of any plants. A monitoring and maintenance plan will be developed to ensure the long-term success of the mitigation areas where enhancement plantings are proposed.

Modification to a stream buffer outside of a UGA must also meet the guidelines in KCC 21A.24.358 for buffer modifications not associated with a linear alteration:

E. The department may approve a modification of buffer widths if:

1.a. The department determines that through buffer averaging the ecological structure and function of the resulting buffer is equivalent to or greater than the structure and function before averaging and meets the following standards:

(1) the total area of the buffer is not reduced;

(2) the buffer area is contiguous; and

(3) averaging does not result in the reduction of the minimum buffer for the buffer area waterward of the top of the associated steep slopes or for a severe channel migration hazard area;

The newly added buffers used to offset reduced buffers for the landscape tract, rock-lined swale, and access trail are equivalent or better than the buffer before averaging, especially given the maintained, disturbed nature of the existing buffer where reductions with averaging are proposed. The areas proposed to replace the buffer already have existing native vegetation, and at a minimum, there will be no net reduction of buffer structure or function, with a net improvement of buffer structure and function anticipated. As no enhancement is proposed within the areas identified as buffer replacement to compensate for lost buffer due to non-linear alterations, no performance monitoring is

proposed for these areas. These areas will be identified through the placement of critical area fencing and signage to prevent human intrusions.

8.3 Mitigation Summary

Mitigation proposed across the Site includes:

- 2,094 sf of buffer restoration after temporary grading impacts;
- 6,944 sf of buffer averaging (net gain) along Martin Creek;
- 27,794 sf of buffer reestablishment of pre-existing disturbances along Martin Creek.

8.4 Martin Creek Buffer Reestablishment

Martin Creek buffer reestablishment will occur on Parcel G through the removal of an existing single-family residence and other associated structures, except the groundwater well to be retained with a protective structure and access trail added. Stream buffer restoration within these areas where structures have been removed will include the following measures:

1) Remove bridges, residence, and above and below ground structures;
2) Scarify soils and amend with topsoil from on-site sources if possible;
3) Installation of habitat features such as rootwads, down logs, and stumps;
4) Plant a variety of native deciduous and evergreen tree and shrub species; and
5) Install of critical area fencing and signs at buffer boundaries where required.

The removal of the existing bridges to be decommissioned will include the removal of the decks, but not the associated footers. As the footers in their existing conditions do not affect stream flow, potential damage to the stream ecosystem will be reduced by only removing the upper portions (decking) of the bridges.

8.5 Performance Monitoring and Maintenance

Stream buffer restoration and reestablishment activities around Martin Creek, a total of 29,888 sf, will be monitored for a minimum of three (3) years, consistent with County requirements to ensure compliance with detailed performance objectives. Upon preliminary approval of this conceptual mitigation design, a final mitigation plan will be prepared that outlines the performance objectives, as well as detailed elements of the mitigation plant installation, long-term monitoring and maintenance, contingency plans, and other elements. Critical area fencing will be placed at the perimeter of the mitigation areas as required to ensure pedestrian and pet traffic is restricted into the designated mitigation areas.

CHAPTER 9. SUMMARY

This report is the result of a critical areas investigation for Gunshy Manor, located in King County, Washington.

Thirteen (13) wetlands and eight (8) streams were identified on Gunshy Manor. Most of these critical areas have been evaluated and approved under CADS14-0327 and CADS18-0014, except for four (4) wetlands and one (1) stream south of Stream 1 on

Parcel F. Due to the presence of salmonid species in Evans Creek, Martin Creek is classified as a Type F stream per KCC 21A.24.355. Type F streams outside of Urban Growth Areas require 165-foot standard buffers. Non-fish-bearing streams require 65-foot standard buffers outside of Urban Growth Areas. The four (4) added wetlands were rated as Category IV wetlands requiring 40-foot standard buffers for a moderate intensity land use outside of an Urban Growth Area.

The Applicant plans to develop the Project Property with 23 single-family residences. Primary access to the proposed development will be provided off Union Hill Road by a new bridge across Martin Creek on Parcel G.

The Gunshy Manor preliminary plat project has been designed to avoid and minimize critical area impacts to the maximum extent practicable. No wetlands or streams will be directly impacted by the project. No permanent impacts to critical area buffers are proposed as all anticipated buffer encroachments will be offset through buffer replacement, enhancement, or averaging. An existing network of farm roads will be retained in the post-development condition to be used as passive recreation trails and for limited access by maintenance vehicles.

Mitigation sequencing following KCC 21A.24.125, which addresses avoiding impacts to critical areas and the sequence of actions that must be followed to justify impacts to any critical areas, including buffers, was followed for this project. The proposed mitigation plan will include buffer reestablishment to restore those portions of the Martin Creek buffer currently impacted by existing structures for the primary access road and the existing driveway as compensation for the new road intruding into the stream buffer; and buffer averaging to offset reduced buffers for the landscape tract, rock-lined swale, and pedestrian trail through the Martin Creek buffer. Additional buffer restoration is proposed to restore an area of temporary buffer disturbance to remove railroad ties and an existing shed. Buffer restoration will occur in select locations by removing existing man-made structures and planting with native trees and shrubs. Buffer restoration and reestablishment areas will be monitored for a period of three years.

CHAPTER 10. REFERENCES

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Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

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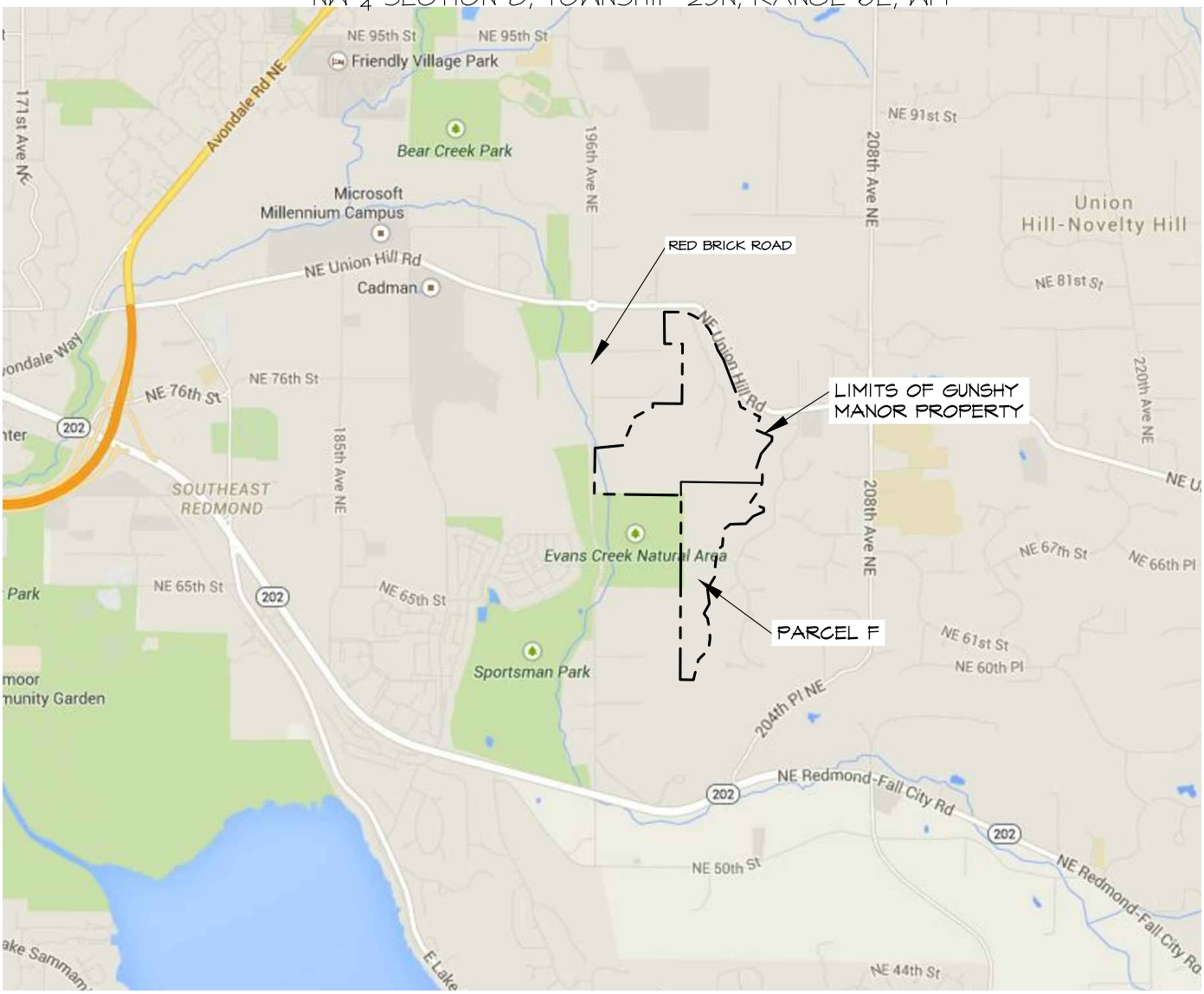
FIGURES

NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



SOURCE: GOOGLE MAPS; WWW.GOOGLE.COM/MAPS (ACCESSED 2019-01-17)

DRIVING DIRECTIONS:

1) FROM SEATTLE TAKE I-90 TO BELLEVUE
2) TAKE EXIT 11B FROM I-90E
3) TAKE WA-520E TO REDMOND
4) AT THE NEXT TRAFFIC SIGNAL, TURN RIGHT ONTO NE UNION HILL ROAD
5) AT THE TRAFFIC CIRCLE, CONTINUE ONTO ONTO NE UNION HILL ROAD
6) ARRIVE AT DESTINATION ON THE RIGHT:
   20005 NE UNION HILL RD
   REDMOND, WA 98053

NOTE: EVANS CREEK LOCATION DOES NOT REFLECT FIELD CONDITIONS

NORTH

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Woodinville, Washington 98077
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FIGURE #3

VICINITY MAP & DRIVING DIRECTIONS
GUNSHY MANOR - PARCEL F
KING COUNTY, WASHINGTON

DESIGN	DRAWN	PROJECT
	KM	1147B
SCALE	NTS	
DATE	1-17-2019	
REVISED		

1

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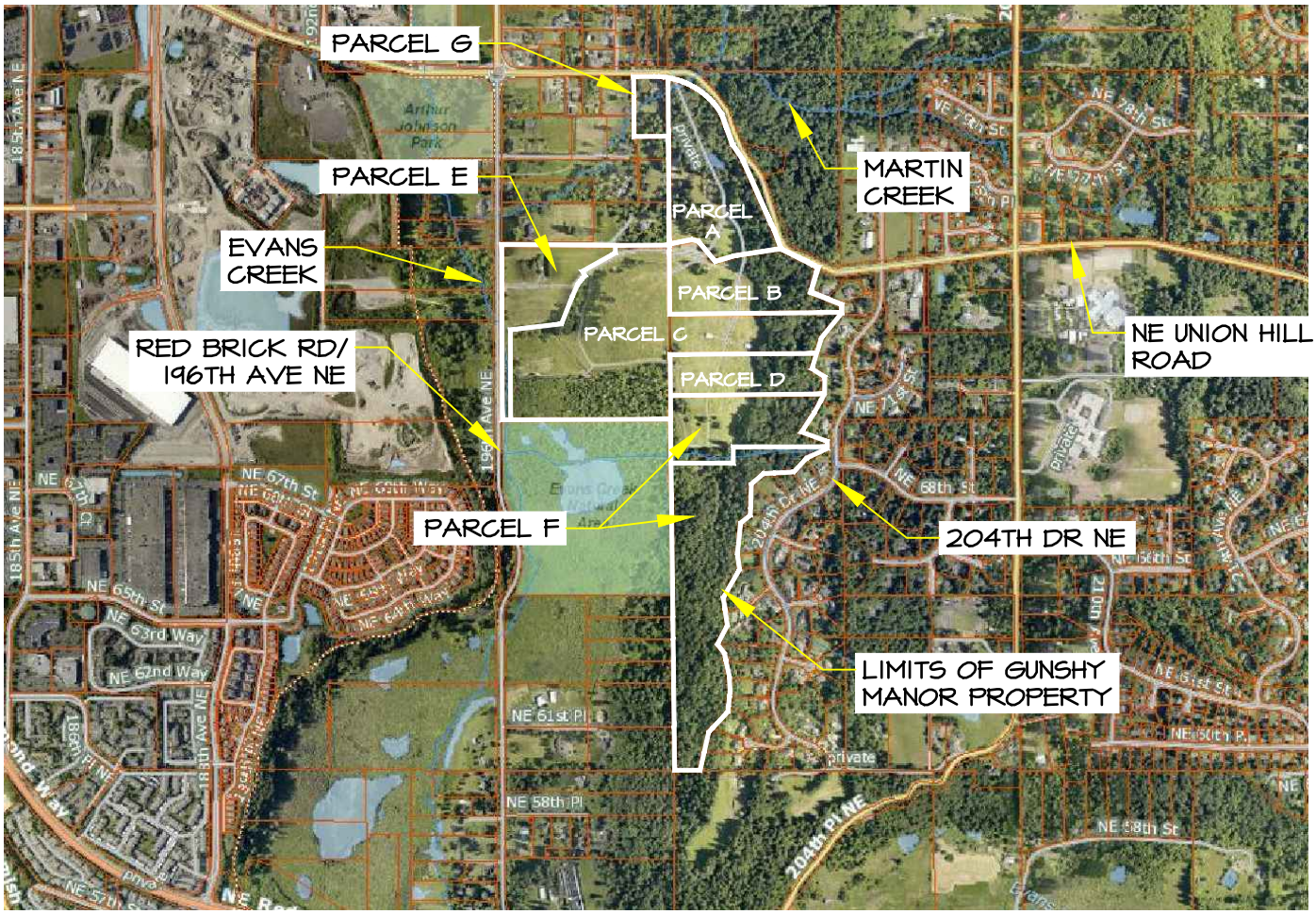
NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



SOURCE: KING COUNTY IMAP;
Http://www5.kingcounty.gov/iMAP/viewer.htm?mapset=kcproperty (ACCESSED 11-27-2018)

PARCEL A - 0825069013

PARCEL B - 0825069103

PARCEL C - 0825069104

PARCEL D - 0825069105

PARCEL E* - 0825069012

PARCEL F - 0825069102

PARCEL G - 0825069067

* NOT INCLUDED IN THE PROJECT AREA

NORTH

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FIGURE #2

PARCEL MAP
GUNSHY MANOR

REDMOND, WASHINGTON

DESIGN	DRAWN	PROJECT
	MW/KM	1147B

SCALE: NTS

DATE: 11-28-2018

REVISED

2

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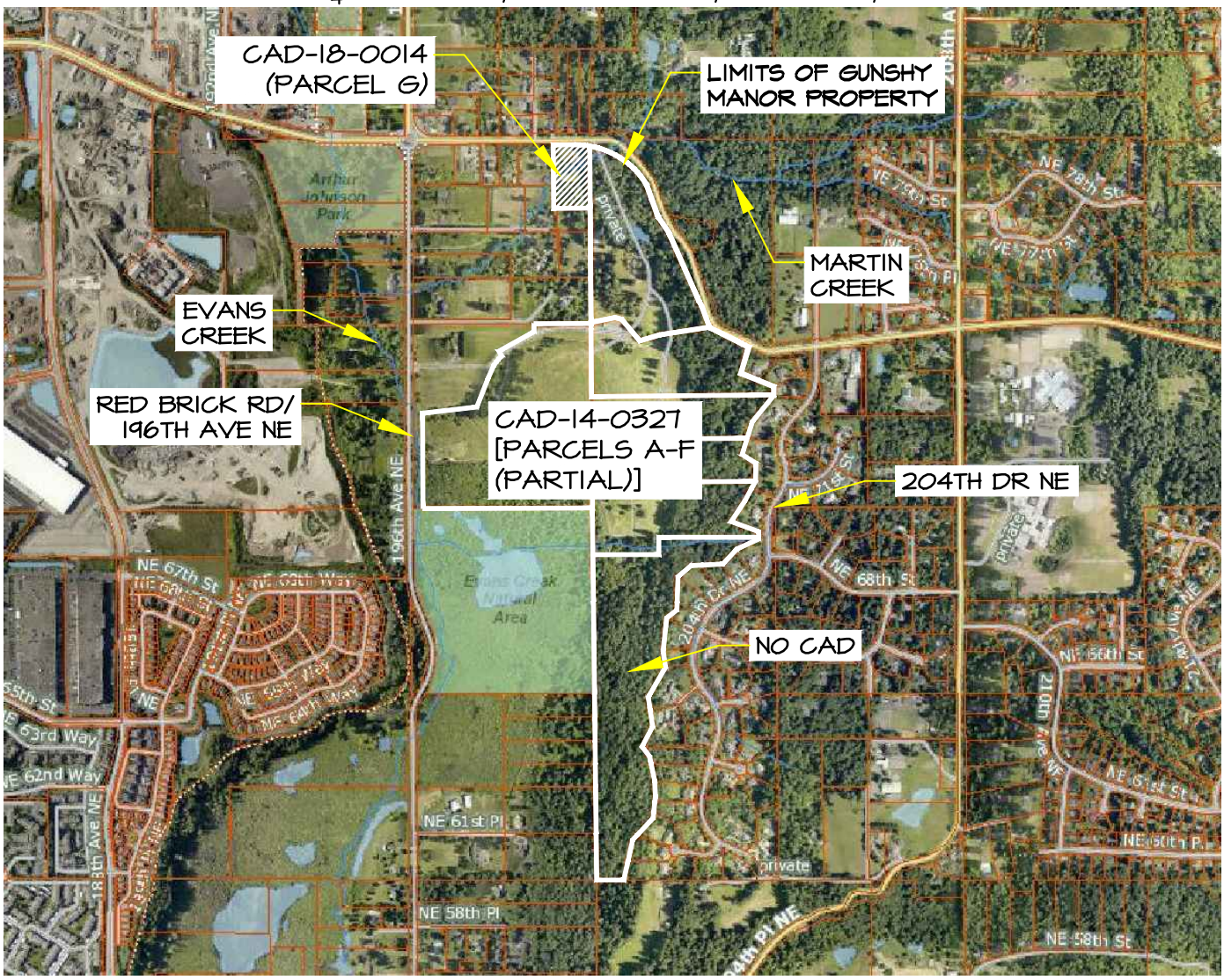
NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



SOURCE: KING COUNTY IMAP;
Http://www5.kingcounty.gov/iMAP/viewer.htm?mapset=kcproperty (ACCESSED 01-09-2018)

NORTH

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FIGURE #3

CRITICAL AREA DESIGNATIONS MAP
GUNSHY MANOR

REDMOND, WASHINGTON

DESIGN	DRAWN	PROJECT
	MW/KM	1147B
SCALE	NTS	
DATE	11-28-2018	
REVISED		

3

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NW $\frac{1}{4}$ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM

LEGEND

TYPE	DESCRIPTION
PEMIA	PALUSTRINE EMERGENT, PERSISTENT TEMPORARY FLOODED
PFOA	PALUSTRINE FORESTED, TEMPORARY FLOODED
PFO/SSC	PALUSTRINE FORESTED, SCRUB-SHRUB, SEASONALLY FLOODED
R4SBC	RIVERINE INTERMITTENT, STREAMBED, SEASONALLY FLOODED

SOURCE: U.S. FISH AND WILDLIFE SERVICE, (2018). NATIONAL WETLANDS INVENTORY WEBSITE, U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, WASHINGTON D.C. http://ww.fws.gov/wetlands/

NORTH

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FIGURE #4

NATIONAL WETLANDS INVENTORY MAP
GUNSHY MANOR PRELIMINARY PLAT
REDMOND, WASHINGTON

DESIGN	DRAWN	PROJECT
	MW	1147B
SCALE	NTS	
DATE	2-27-2018	4
REVISED		

Z:\DRAWING\1100-1199\TAL1147B\Plans\TAL-1147B (2019-05) FIGURE 4 NWI REMAKE.dwg

APPENDIX A

USACE Datasheets, Talasaea 2019

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-P1

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40

Subregion (LRR): A Lat: 47.66556 Long: -122.07214 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap Soils, very steep. NWI classification: None

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 ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: Upland point located 5' NW of flag P-1. Sample point is indicative of upland conditions, despite the dominance of facultative vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum*	60	Yes	FACU
2. *Thuja plicata*	15	Yes	FAC
3.			
4.			
	75 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Oplopanax horridus*	80	Yes	FAC
2. *Rubus spectabilis*	20	Yes	FAC
3.			
4.			
5.			
	100 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Urtica dioica*	5	No	FAC
2. *Tolmiea menziesii*	60	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (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:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

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

☐ 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: Hydrophytic vegetation criteria met.

SOIL

Sampling Point: TP-P1

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/2	100	-	-	-	-	silt loam	
12-16	10YR 3/2	80	10YR 4/2	20	D	M	mucky silt	10YR 4/2 inclusion
16-20	10YR 2/2	100	-	-	-	-	silt loam	10% charcoal present in matrix

[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: Hydric soil criteria not met. 12-16" layer is a mineral soil with a minor sapric organic component. It does not meet the NRCS definition of a true organic soil.

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): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Wetland hydrology criteria not met.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-P2

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40

Subregion (LRR): A Lat: 47.66552 Long: -122.07169 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: Wetland sample point located 2' north of flag P-2

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	85	Yes	FAC
2. *Acer macrophyllum**	15	No	FACU
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Oplopanax horridus*	35	Yes	FAC
2. *Rubus spectabilis*	15	Yes	FAC
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

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

☐ 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: Hydrophytic vegetation present

*Acer macrophyllum rooted in upland.

SOIL

Sampling Point: TP-P2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100	-	-	-	-	MSL*	
8-14	10YR 4/1	95	10YR 4/4	5	C	M	MSL*	5% coal in matrix
14-20	Gley1-4N	100	-	-	-	-	-	undecomposed wood in matrix

[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: *MSL = Mucky silt loam. Hydric soil criteria met. MSL is a mineral soil with a minor sapric organic component. It does not meet the NRCS definition of a true organic soil.

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): 10"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 10"

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Wetland hydrology present.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-N3

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 35

Subregion (LRR): A Lat: 47.66588 Long: -122.07166 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: Wetland piont located 10' south of flag N-2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	25	Yes	FAC
2. *Acer macrophyllum**	75	N/A	FACU
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Acer circinatum*	30	Yes	FAC
2. *Oplopanax horridus*	20	Yes	FAC
3. *Rubus spectabilis*	15	Yes	FAC
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Tolmiea menziesii*	10	Yes	FAC
2. *Tellima grandiflora*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (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:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

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

☐ 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: Hydrophytic vegetation criteria met.

SOIL

Sampling Point: TP-N3

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 2/1	100	-	-	-	-	MSL*	*MSL = mucky silt loam
16-22	10YR 4/1	95	10YR 4/4	5	C	M	silt loam	diffuse redox boundaries.

[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: Hydric soil criteria met. MSL is a mineral soil with a minor sapric organic component. It does not meet the NRCS definition of a true organic soil.

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): 0.25"

Water Table Present? Yes ☒ No ☐ Depth (inches): +0.25"

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Wetland not ponded due to slope, but surface water sheet flow present with a 0.25" depth. Wetland hydrology criteria met.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-N4

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 35

Subregion (LRR): A Lat: 47.66604 Long: -122.07127 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: Upland point located 10' west of flag N-2.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum*	30	Yes	FACU
2.			
3.			
4.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Acer circinatum*	20	Yes	FAC
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

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	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:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 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: Hydrophytic vegetation criteria not met. Dominance test is not greater than 50%.

SOIL

Sampling Point: TP-N4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100	-	-	-	-	loam	
14-20	10YR 4/1	80	10YR 4/4	20	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: Hydric soil criteria not met.

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): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks: Wetland hydrology criteria not met.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-N5

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 40

Subregion (LRR): A Lat: 47.66636 Long: -122.07170 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☒ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: Wetland point located 3' south of flag M-6. Plot labeled as wetland, despite lack of hydrophytic vegetation, based on positive indicators of hydric soils and wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	90	Yes	FAC
2. *Acer macrophyllum**	10	No	FACU
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Rubus spectabilis*	5	Yes	FAC
2. *Rubus leucodermis*	2	Yes	FACU
3.			
4.			
5.			
	7 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Tolmiea menziesii*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (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:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 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: Hydrophytic vegetation criteria not met. Dominance test is not greater than 50%.

SOIL

Sampling Point: TP-N5

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 2/1	100	-	-	-	-	MSL*	*MSL= mucky silt 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: Hydric soil criteria met. MSL is a mineral soil with a minor sapric organic component. It does not meet the NRCS definition of a true organic soil.

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): 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: Water table present at surface. Wetland hydrology criteria met.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-N6

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 40

Subregion (LRR): A Lat: 47.66651 Long: -122.07135 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: Upland point located 10' south of flag M-7.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tsuga heterophylla*	50	Yes	FACU
2. *Thuja plicata*	15	No	FAC
3. *Acer macrophyllum*	35	Yes	FACU
4.			
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Rubus spectabilis*	25	Yes	FAC
2.			
3.			
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Polysitchum munitum*	60	Yes	FACU
2. *Geranium roberteum*	2	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	62	= Total Cover	
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 38 % Cover of Biotic Crust 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (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:

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 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: Hydrophytic vegetation criteria not met. Dominance test not greater than 50%.

SOIL

Sampling Point: TP-N6

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/2	100	-	-	-	-	loam	
6-20	10YR 4/2	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: Hydric soil criteria not met.

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): _____

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks: No indication of wetland hydrology.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-L7

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40

Subregion (LRR): A Lat: 47.66692 Long: -122.06990 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: Wetland point located 5' north of flag L-3.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer macrophyllum**	90	N/A	FACU
2. *Thuja plicata*	10	Yes	FAC
3.			
4.			
	100 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Oplopanax horridus*	90	Yes	FAC
2.			
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 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:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

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

☐ 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: *Acer macrophyllum rooted in upland. Hydrophytic vegetation criteria not met.

SOIL

Sampling Point: TP-L7

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/1	100	-	-	-	-	mucky loam	
6-20	10YR 5/1	90	10YR 4/4	10	C	M	mucky 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: Hydric soil criteria met. Mucky loam is a mineral soil with a minor sapric organic component. It does not meet the NRCS definition of a true organic soil.

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): 16

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 10

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: Saturation within 12" of the soil surface. Wetland hydrology criteria met.

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

Project/Site: TAL-1147B City/County: King County Sampling Date: 12-6-2018

Applicant/Owner: Buff Nelson State: WA Sampling Point: TP-8

Investigator(s): KM/AE Section, Township, Range: S8, T25N, R06E. W.M.

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40

Subregion (LRR): A Lat: 47.66692 Long: -122.06960 Datum: NAD83

Soil Map Unit Name: Alderwood and Kitsap soils, very steep NWI classification: None

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 ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: Test pit located 3' south of flag L-3. Sample plot located in upland, despite a dominance of facultative vegetation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Thuja plicata*	75	Yes	FAC
2. *Acer macrophyllum*	15	No	FACU
3.			
4.			
	90 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Oplopanax horridus*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15ft)			
1. *None*			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 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:

☒ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

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

☐ 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: Hydrophytic vegetation criteria met.

SOIL

Sampling Point: TP-L8

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 Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 3/2	100	-	-	-	-	loam	
3-20	10YR 4/3	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: Hydric soil criteria not met.

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): _____

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks: Wetland hydrology criteria not met.

APPENDIX B

Wetland Rating Sheets (2004, revised 2008), Talasaea 2019

Wetland name or number L, N

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): TAL- 1147B Wetland L and N Date of site visit: 12-6-2018

Rated by Kellen Maloney Trained by Ecology? Yes ✔ No ___ Date of training 10-2018

SEC: 8 TWNSHP: 25N RNGE: 6E Is S/T/R in Appendix D? Yes ___ No ✔

Map of wetland unit: Figure ____ Estimated size 0.5 - 1 ac

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	0
Score for Hydrologic Functions	0
Score for Habitat Functions	21
TOTAL score for Functions	**21**

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ Does not Apply ✔

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

Cat. 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 L, N

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 L, N

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*),

✔ 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.

✔ 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**

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 – 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 L, N

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	0
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 ___ 0
S	**Total for S 1** *Add the points in the boxes above*	0
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 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by S2 ***Add score to table on p. 1***	0

Comments

Wetland name or number L, N

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 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	0
S	*Add the points in the boxes above*	0
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_____ *(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 1
S	**TOTAL - Hydrologic Functions** Multiply the score from S 3 by S 4 ***Add score to table on p. 1***	0

Comments

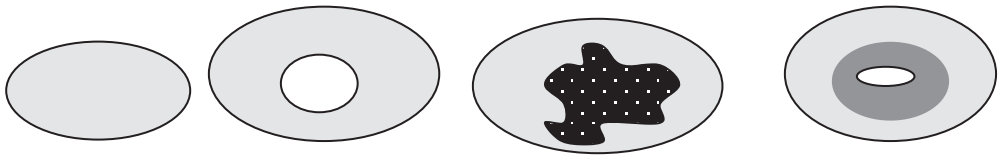
Wetland name or number L, N

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 <u>potential</u> to provide habitat for many species?	
H 1.1 <u>Vegetation structure</u> ***(see p. 72)***	**Figure ___**
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	0
H 1.2. <u>Hydroperiods</u> ***(see p. 73)***	**Figure ___**
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 — 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 ____ ***Lake-fringe wetland* = 2 points** ____***Freshwater tidal wetland* = 2 points** Map of hydroperiods	1
H 1.3. <u>Richness of Plant Species</u> ***(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	1

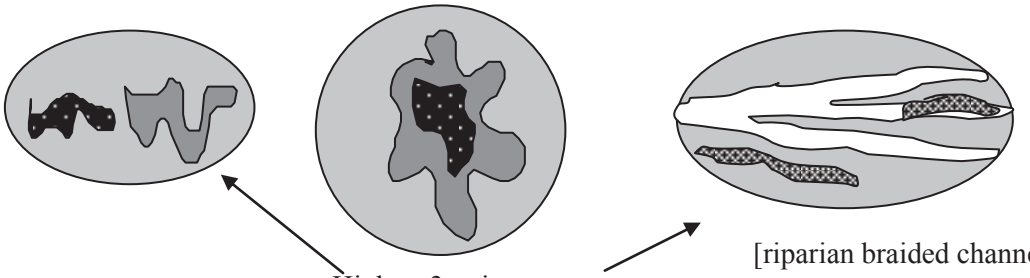
Total for page 2

H 1.4. Interspersion of habitats *(see p. 76)* — **Figure ___**

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



High = 3 points [riparian braided channels]

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

0

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.*

3

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

5

Comments

Wetland name or number L, N

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 ___** 5
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 within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Total for page 7

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)*	4

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 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	5
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	16
TOTAL for H 1 from page 14	5
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**21**

Wetland name or number L, N

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 ✔	
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	
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.	No

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	No
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	No

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	No
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	No

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	No
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	**NA**

Wetland name or number M, P

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): TAL- 1147B Wetland M and P Date of site visit: 12-6-2018

Rated by Kellen Maloney Trained by Ecology? Yes ✔ No ___ Date of training 10-2018

SEC: 8 TWNSHP: 25N RNGE: 6E Is S/T/R in Appendix D? Yes ___ No ✔

Map of wetland unit: Figure ____ Estimated size 0.25 ac

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	0
Score for Hydrologic Functions	0
Score for Habitat Functions	20
TOTAL score for Functions	**20**

Category based on SPECIAL CHARACTERISTICS of wetland

I___ II___ Does not Apply___

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

Cat. 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	

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 M, P

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*),

✔ 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.

✔ 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**

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 – 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 M, P

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	0
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 ___ 0
S	**Total for S 1** *Add the points in the boxes above*	0
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 1
S	**TOTAL - Water Quality Functions** Multiply the score from S1 by S2 ***Add score to table on p. 1***	0

Comments

Wetland name or number M, P

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 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	0
S	*Add the points in the boxes above*	0
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_____ *(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 1
S	**TOTAL - Hydrologic Functions** Multiply the score from S 3 by S 4 ***Add score to table on p. 1***	0

Comments

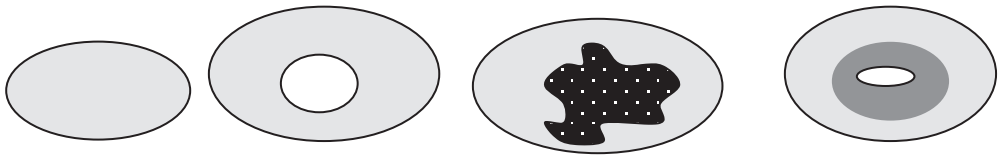
Wetland name or number M, P

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 <u>potential</u> to provide habitat for many species?	
H 1.1 <u>Vegetation structure</u> ***(see p. 72)***	**Figure ___**
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	0
H 1.2. <u>Hydroperiods</u> ***(see p. 73)***	**Figure ___**
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 — 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 ____ ***Lake-fringe wetland* = 2 points** ____***Freshwater tidal wetland* = 2 points** Map of hydroperiods	0
H 1.3. <u>Richness of Plant Species</u> ***(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	1

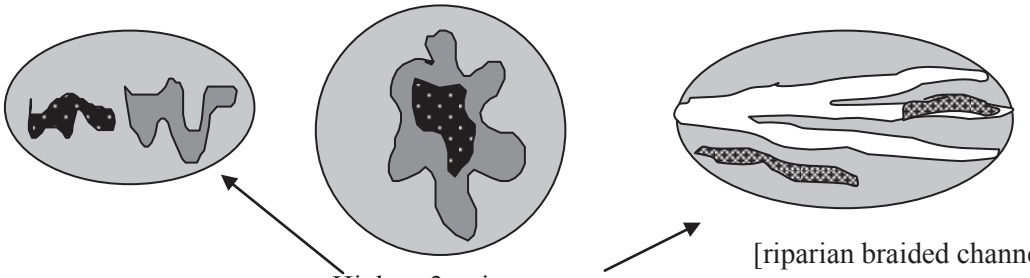
Total for page 1

H 1.4. Interspersion of habitats ***(see p. 76)*** — **Figure ___**

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



High = 3 points [riparian braided channels]

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

0

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.*

3

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

4

Comments

Wetland name or number M, P

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 ___** 5
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 within 3 mi of a large field or pasture (>40 acres) OR within 1 mi of a lake greater than 20 acres? YES = **1 point** NO = **0 points**	2

Total for page 7

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)*	4

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 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	5
H 2. TOTAL Score - opportunity for providing habitat *Add the scores from H2.1,H2.2, H2.3, H2.4*	16
TOTAL for H 1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	**20**

Wetland name or number M, P

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 ✔	
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	
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.	No

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	No
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	No

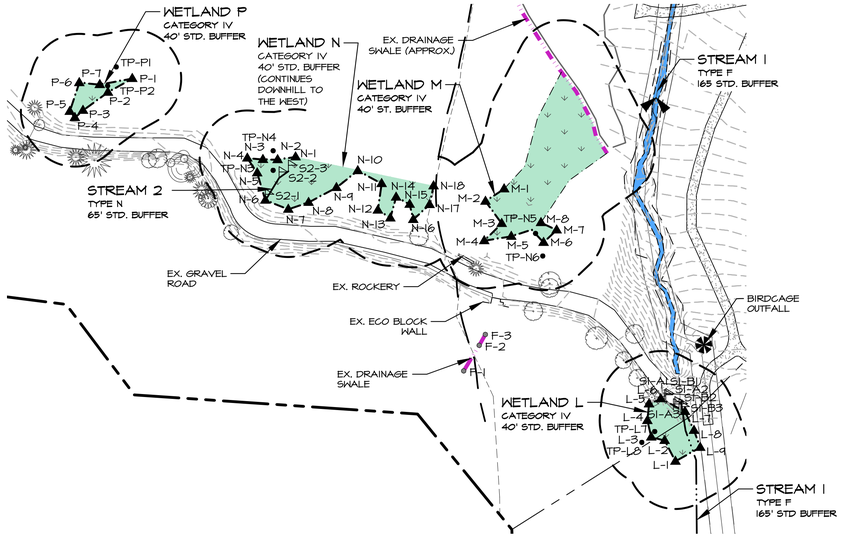
SC 4.0 Forested Wetlands ***(see p. 90)*** Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? *If you answer yes you will still need to rate the wetland based on its functions.* — **Old-growth forests**: (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	No
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	No

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	No
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	**NA**

APPENDIX C

Sheet W1.0 – Existing Conditions Plan
Sheet W1.1 – Existing Conditions Plan
Sheet W1.2 – Proposed Site Plan, Impacts & Mitigation Overview Plan
Sheet W1.3 – Impacts & Mitigation Viewport & Conceptual Planting List

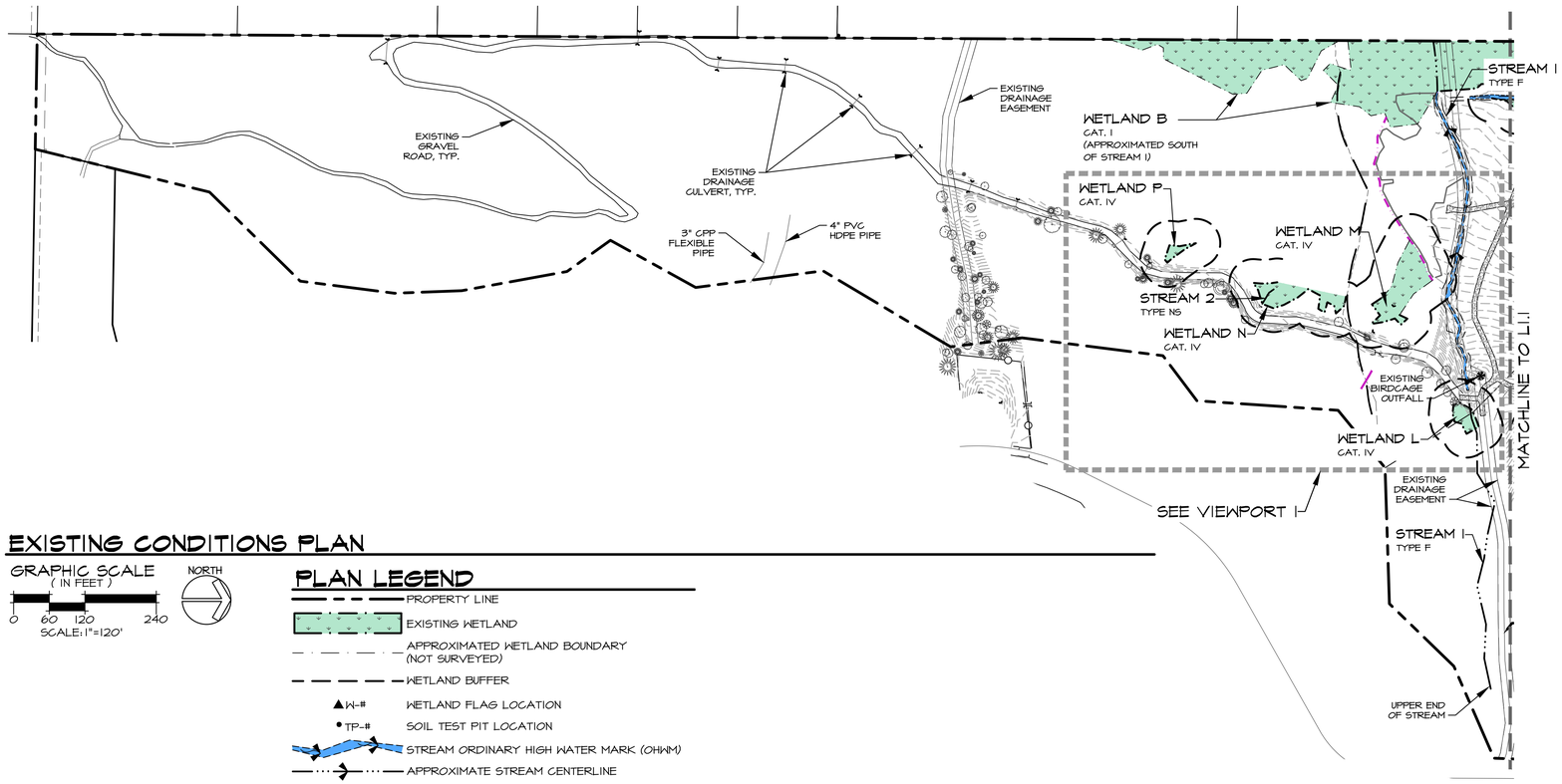
NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



VIEWPORT 1: SOUTH WETLANDS DELINEATION

GRAPHIC SCALE (IN FEET)
0 30 60 120
SCALE: 1"=60'

NORTH



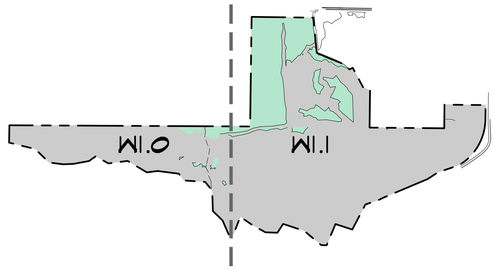
EXISTING CONDITIONS PLAN

GRAPHIC SCALE (IN FEET)
0 60 120 240
SCALE: 1"=120'

NORTH

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- WETLAND BUFFER
- ▲W-# WETLAND FLAG LOCATION
- • TP-# SOIL TEST PIT LOCATION
- STREAM ORDINARY HIGH WATER MARK (OHWM)
- APPROXIMATE STREAM CENTERLINE
- STREAM BUFFER
- ⚐ S-# STREAM FLAG LOCATION
- SWALE CENTERLINE
- • SW-# SWALE CENTERLINE FLAG LOCATION
- FIELD DRAIN CENTERLINE
- EXISTING 2-FT CONTOUR
- SURVEYED EXISTING TREES



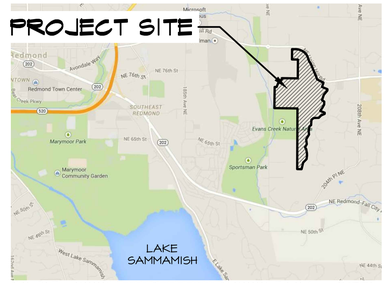
SITE KEY MAP

SCALE: 1"=800'

NORTH

VICINITY MAP

NTS



SOURCE: GOOGLE MAPS; WWW.MAPS.GOOGLE.COM
(ACCESSED 1/11/2017)

NORTH

CONTACTS

PROJECT PROPONENT

NAME:	WILLIAM C. NELSON, JR
ADDRESS:	16508 NE 79TH STREET REDMOND, WA 98052
PHONE:	(425) 881-7831

PROPERTY OWNER

NAME:	THE ESTATE OF BARBARA J. NELSON AND THE WCN GST NONEXEMPT MARITAL TRUST #2
ADDRESS:	16508 NE 79TH STREET REDMOND, WA 98052
PHONE:	(425) 881-7831
CONTACT:	WILLIAM C. NELSON, JR.

ENGINEER AND SURVEYOR

NAME:	ESM CONSULTING ENGINEERS, LLC
ADDRESS:	33400 8TH AVE S, SUITE 205 FEDERAL WAY, WA 98003
PHONE:	(800) 345-5694
CONTACT:	ERIC LABRIE, A.I.C.P.

ENVIRONMENTAL CONSULTANT

NAME:	TALASAEA CONSULTANTS, INC.
ADDRESS:	15020 BEAR CREEK RD. NE WOODINVILLE, WA 98077
PHONE:	(425) 861-7550
CONTACT:	ANN OLSEN, SENIOR PROJECT MANAGAER JENNIFER MARRIOTT PWS, SENIOR WETLAND ECOLOGIST

SHEET INDEX

NOT FOR CONSTRUCTION

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NOTES

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TALASAEA CONSULTANTS, INC.
Resource & Environmental Planning
15020 Bear Creek Road Northeast – Woodinville, Washington 98077
Bus (425) 861-7550 – Fax (425) 861-7549

CRITICAL AREAS MITIGATION PLAN
EXISTING CONDITIONS PLAN
GUNSHY MANOR
KING COUNTY, WA

Revisions	Date	By
SITE PLAN REVISIONS	4-20-2018	KM
SITE PLAN REVISIONS	10-16-2018	MW
SITE PLAN REVISIONS	11-19-2018	MW
SOUTHERN PROPERTY	2-20-2019	MW
CITY COMMENTS	6-21-2019	MW/FH

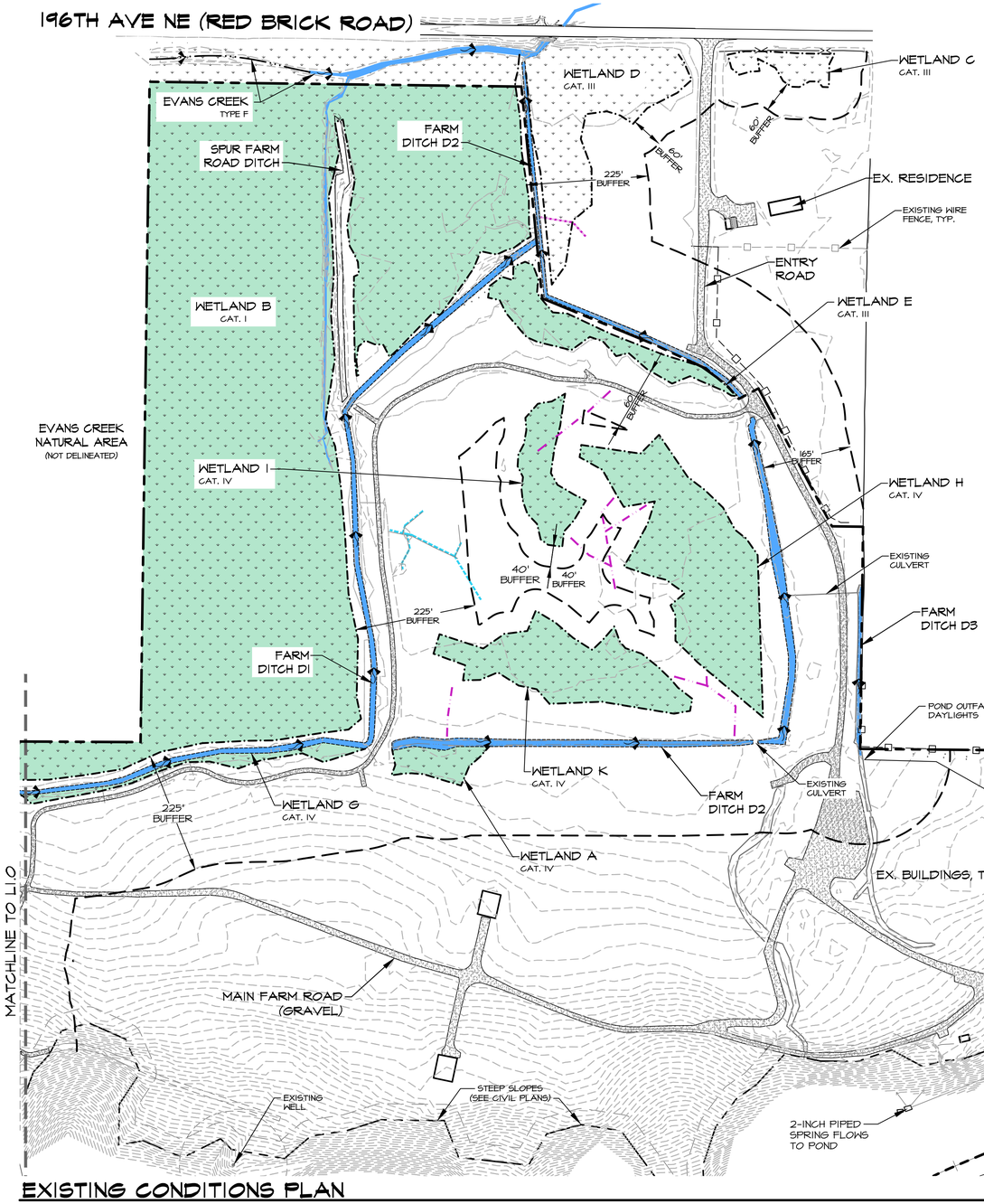
Date	2-27-2018
Scale	AS NOTED
Designed	AO
Drawn	MW
Checked	AO
Approved	BS

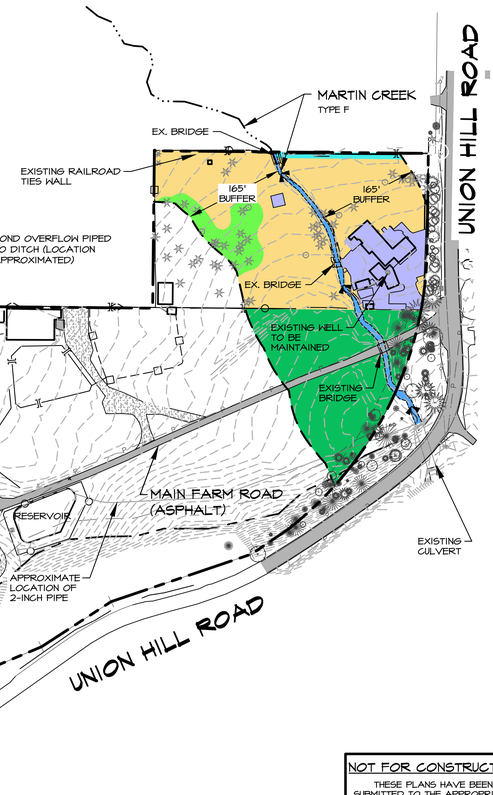
Project # 1147B

Sheet # W1.0

Z:\DRAWINGS\1100-1199\TAL1147B\Plans\TAL-1147B WP 2018-06 (entry ROW change3).dwg
Plotted June 21, 2019

NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM





EXISTING MARTIN CREEK BUFFER CONDITIONS LEGEND

- IMPERMEABLE SURFACES; BUILDINGS, PATIOS, AND DRIVEWAY.
- RESIDENTIAL LANDSCAPE DOMINATED BY LAWN WITH AREAS OF HIMALAYAN BLACKBERRY, AND ENGLISH IVY.
- RELATIVELY MATURE WESTERN REDCEDAR FOREST WITH NO UNDERSTORY; DEGRADED BY HUMAN DISTURBANCE.
- MATURE CONIFER FOREST WITH NATIVE UNDERSTORY

EXISTING CONDITIONS PLAN

GRAPHIC SCALE (IN FEET)
0 60 120 240
SCALE: 1"=120'

NORTH

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- APPROXIMATED WETLAND BOUNDARY (NOT SURVEYED)
- STREAM ORDINARY HIGH WATER MARK (OHWM)
- APPROXIMATE STREAM CENTERLINE
- CRITICAL AREAS BUFFER / SPLIT RAIL FENCE
- SWALE CENTERLINE
- FIELD DRAIN CENTERLINE
- EXISTING 2-FT CONTOUR
- SURVEYED EXISTING TREES

NOT FOR CONSTRUCTION

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CRITICAL AREAS MITIGATION PLAN
EXISTING CONDITIONS PLAN
SUNSHY MANOR
KING COUNTY, WA

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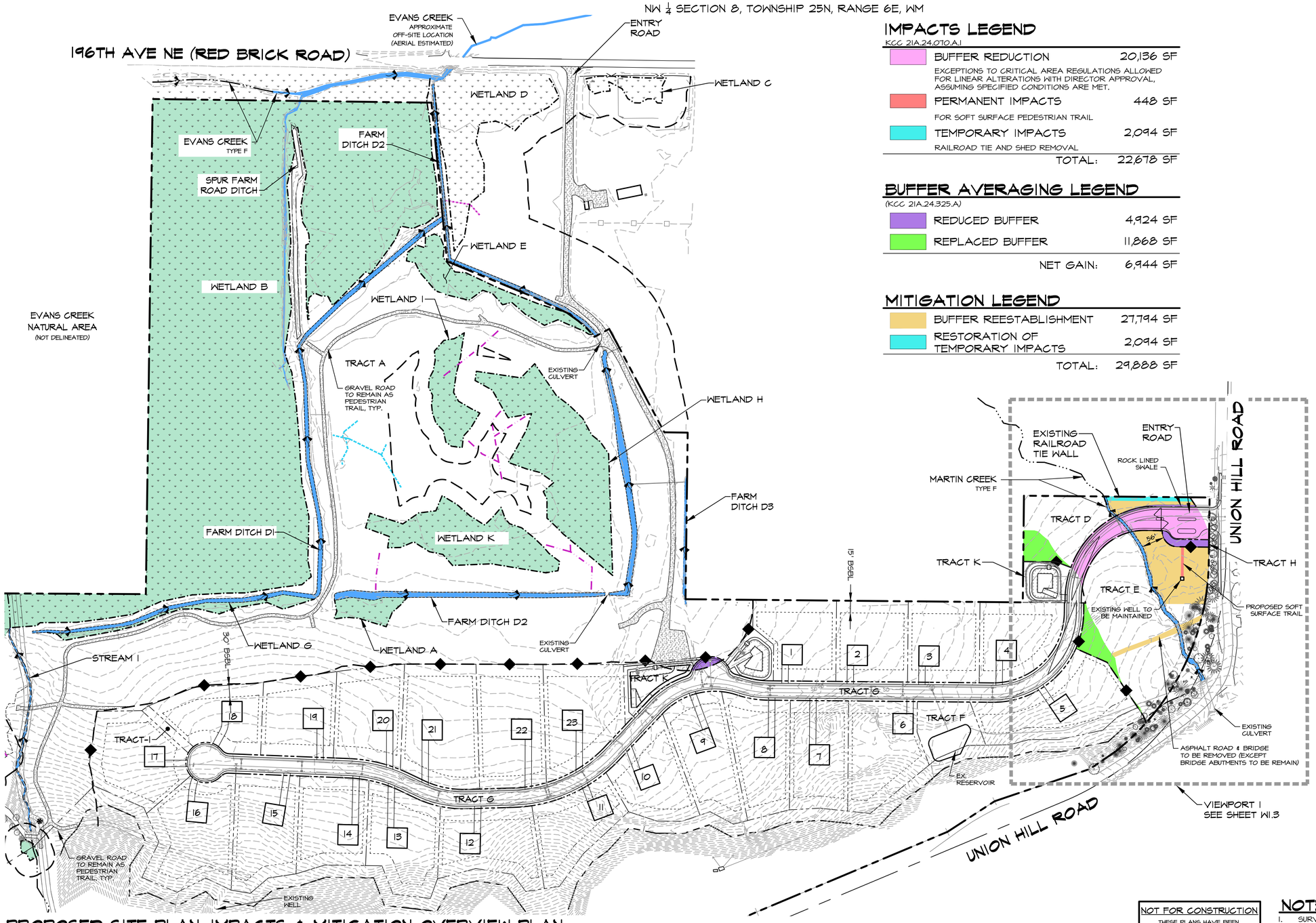
Date	2-27-2018
Scale	AS NOTED
Designed	AO
Drawn	MW
Checked	AO
Approved	BS

Project # 1147B

Sheet # W1.1

Z:\DRAWING\1100-1199\TAL1147B\Plans\TAL-1147B WP 2019-06 (entry ROW change).dwg
Plotted June 21, 2019

NW ¼ SECTION 8, TOWNSHIP 25N, RANGE 6E, WM



IMPACTS LEGEND

KCC 21A.24.070.A.1

	BUFFER REDUCTION EXCEPTIONS TO CRITICAL AREA REGULATIONS ALLOWED FOR LINEAR ALTERATIONS WITH DIRECTOR APPROVAL, ASSUMING SPECIFIED CONDITIONS ARE MET.	20,136 SF
	PERMANENT IMPACTS FOR SOFT SURFACE PEDESTRIAN TRAIL	448 SF
	TEMPORARY IMPACTS RAILROAD TIE AND SHED REMOVAL	2,094 SF
	TOTAL:	22,678 SF

BUFFER AVERAGING LEGEND

(KCC 21A.24.325.A)

REDUCED BUFFER	4,924 SF
REPLACED BUFFER	11,868 SF
NET GAIN:	6,944 SF

MITIGATION LEGEND

BUFFER REESTABLISHMENT	27,794 SF
RESTORATION OF TEMPORARY IMPACTS	2,094 SF
TOTAL:	29,888 SF

PROPOSED SITE PLAN, IMPACTS & MITIGATION OVERVIEW PLAN

GRAPHIC SCALE (IN FEET)
0 60 120 240
SCALE: 1"=120'

NORTH

NOTE: NO WORK IS PROPOSED SOUTH OF STREAM 1

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- STREAM ORDINARY HIGH WATER MARK (OHWM)
- APPROXIMATE OFF SITE STREAM CENTERLINE
- CRITICAL AREAS BUFFER / SPLIT RAIL FENCE
- CRITICAL AREAS PROTECTION SIGN
- SWALE CENTERLINE
- FIELD DRAIN CENTERLINE
- EXISTING 2-FT CONTOUR
- SURVEYED EXISTING TREES

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CRITICAL AREAS MITIGATION PLAN
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SUNSHY MANOR
KING COUNTY, WA

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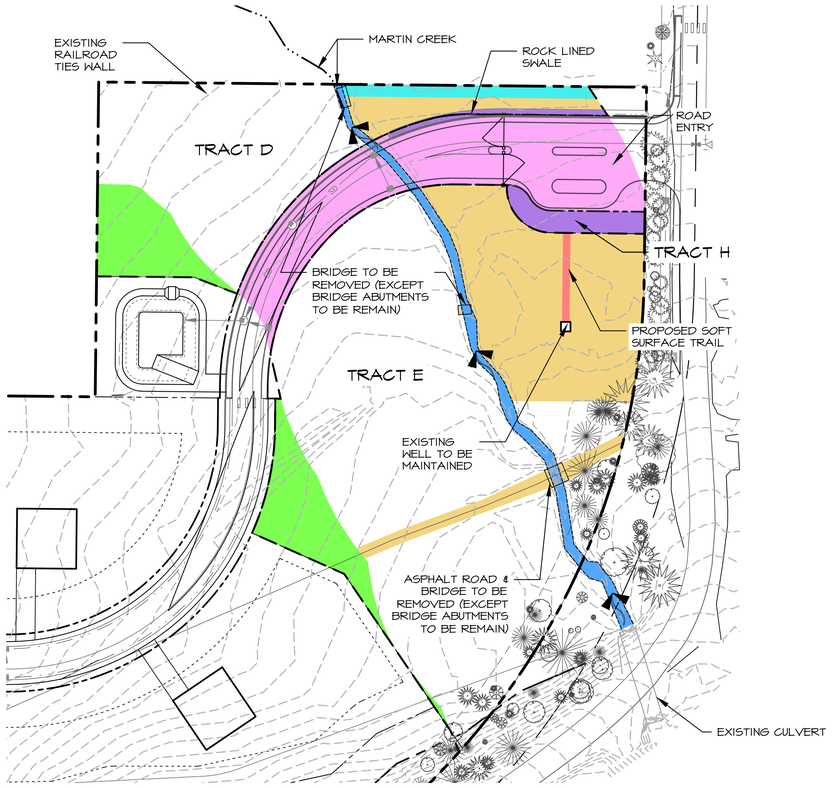
SITE PLAN REVISIONS	11-14-2018	MW
SOUTHERN PROPERTY	2-20-2019	MW
CITY COMMENTS	6-21-2019	MW/EH

Date 2-27-2018
Scale AS SHOWN
Designed AO
Drawn MW
Checked AO
Approved BS

Project #1147B

Sheet # W1.2



CONCEPTUAL PLANT LIST

TREES

SCIENTIFIC NAME	COMMON NAME
ACER MACROPHYLLUM	BIGLEAF MAPLE
BETULA PAPYRIFERA	PAPER BIRCH
CORNUS NUTTALLII	PACIFIC DOGWOOD
FRANGULA PURSHIANA	CASCARA
PRUNUS EMARGINATA	BITTERCHERRY
PSEUDOTSUGA MENZIESII	DOUGLAS FIR
PSEUDOTUSGA MENZIESII	DOUGLAS FIR
THUJA PICATA	WESTERN RED CEDAR

SMALL TREES/LARGE SHRUBS

SCIENTIFIC NAME	COMMON NAME
ACER CIRCINATUM	VINE MAPLE
AMELANCHIER ALNIFOLIA	SERVICEBERRY
CORYLUS CORNUTA	WESTERN HAZELNUT
OEMLERIA CERASIFORMIS	INDIAN PLUM
RIBES SANGUINEUM	RED CURRANT
SALIX STICHENSIS	SITKA WILLOW
SAMBUCUS RACEMOSA	RED ELDERBERRY

MASSING SHRUBS

SCIENTIFIC NAME	COMMON NAME
CORNUS ALBA (SERICEA)	RED-OSIER DOGWOOD
ROSA NUTKANA	NOOTKA ROSE
RUBUS PARVIFLORUS	THIMBLEBERRY
RUBUS SPECTABILIS	SALMONBERRY
SYMPHORICARPOS ALBUS	COMMON SNOWBERRY

GROUNDCOVER

SCIENTIFIC NAME	COMMON NAME
GAULTHERIA SHALLON	SALAL
POLYSTICHUM MUNITUM	SWORD FERN

VIEWPORT 1: IMPACT & MITIGATION

GRAPHIC SCALE (IN FEET)
0 30 60 120
SCALE: 1"=60'

NORTH

NOTE: NO WORK IS PROPOSED SOUTH OF STREAM 1

PLAN LEGEND

- PROPERTY LINE
- EXISTING WETLAND
- STREAM ORDINARY HIGH WATER MARK (OHWM)
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- CRITICAL AREAS PROTECTION SIGN
- SWALE CENTERLINE
- FIELD DRAIN CENTERLINE
- EXISTING 2-FT CONTOUR
- SURVEYED EXISTING TREES

MITIGATION LEGEND

- BUFFER REDUCTION
- REPLACED BUFFER
- REDUCED BUFFER
- PERMANENT IMPACTS
- BUFFER REESTABLISHMENT
- RESTORATION OF TEMPORARY IMPACTS

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CRITICAL AREAS MITIGATION PLAN
IMPACTS & MITIGATION VIEWPORT & CONCEPTUAL PLANTING LIST
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KING COUNTY, WA

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Scale AS SHOWN
Designed AO
Drawn MW
Checked AO
Approved BS

Project #1147B

Sheet # W1.3