



**CRITICAL AREAS REPORT & PROPOSED MITIGATION PLAN  
PROPOSED REASONABLE USE EXCEPTION FOR SFR  
CITY OF MUKILTEO PARCEL #00527504701200**

**PREPARED FOR:**

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## TABLE OF CONTENTS

INTRODUCTION AND BRIEF SITE DESCRIPTION	1
STATEMENT OF QUALIFICATIONS TO CONDUCT THIS CRITICAL AREAS EVALUATION	1
METHODOLOGIES OF CRITICAL AREAS EVALUATION	2
RESULTS AND FINDINGS OF CRITICAL AREAS EVALUATION	3
EXISTING ECOLOGICAL FUNCTIONS AND VALUES ASSESSMENT	6
PROPOSED PROJECT DESCRIPTION	7
PROPOSED BUFFER WIDTH AVERAGING	8
DISCUSSION REGARDING COMPLIANCE WITH CITY'S REASONABLE USE EXCEPTION CRITERIA	9
PROPOSED COMPENSATORY MITIGATION EFFORTS	14
DISCUSSION REGARDING PROPOSED PERMANENT SPLIT-RAIL FENCE AND NGPA SIGNS	15
MITIGATION PLANTING NOTES AND GUIDELINES	16
MITIGATION PLAN OBJECTIVES, MONITORING, MAINTENANCE, AND CONTINGENCY	17
ESTIMATED MITIGATION PLAN COST AND DISCUSSION REGARDING SURETY DEVICES	18
PROJECT'S IMPACT DETERMINATION RELATED TO CRITICAL AREAS	19
LIMITATIONS AND USE OF THIS REPORT	20
REFERENCES AND LITERATURE REVIEWED	21

### ATTACHMENTS:

1. WETLAND DETERMINATION DATA FORMS (2 DATA POINTS ON-SITE)
2. WETLAND RATING FORMS-WESTERN WASHINGTON (2 RATING FORMS WITH REQUIRED FIGURES)
3. CRITICAL AREAS OVERVIEW MAP MAP SHEET CA1.00

## INTRODUCTION AND BRIEF SITE DESCRIPTION

The subject property is located in the incorporated City of Mukilteo and the Snohomish County tax parcel number for the property follows: 00527504701200. Per a land survey of the property completed by *West Alliance, LLC*, the site encompasses 19,171 square feet. The property is currently owned by Gagandeep Oberoi and Tejinder Arora. The property is currently undeveloped and does not currently contain a single-family residence or any other associated structures.

The property owner retained *Wetlands & Wildlife, Inc.* to evaluate the site features and proposed single-family residential development for compliance with the Mukilteo Municipal Code (MMC), Chapter 17.52 (Critical Areas Regulations). *Wetlands & Wildlife, Inc.* performed detailed Critical Areas evaluations on the property on October 22, 2021, pursuant to the MMC and professional ecological industry standards. *Wetlands & Wildlife, Inc.* delineated one wetland (Wetland A) and one stream (Stream A) during the site visit. Furthermore, we identified one off-site wetland (Off-site Wetland B) and have accounted for this wetland based on the previously-delineated boundary as provided by the City of Mukilteo's planning staff via the "Wetland and Stream Determination Report for Mukilteo Water and Wastewater District Lift Station #10", prepared by *Wetland Resources, Inc.* and dated 11/14/2016. The delineated wetland and stream boundaries are depicted on the attached Critical Areas Overview Map (Map Sheet CA1.00). Please review the attached Map Sheet CA1.00 and see the RESULTS AND FINDINGS OF CRITICAL AREAS EVALUATION section of this report for further information regarding our findings.

## STATEMENT OF QUALIFICATIONS TO CONDUCT THIS CRITICAL AREAS EVALUATION

Per requirements outlined in the Mukilteo Municipal Code (MMC), Chapter 17.52 (Critical Areas Regulations), a qualified professional is required to perform Critical Areas evaluations and write accompanying reports for submittal. Therefore, the following provides a brief overview of my experience and credentials to conduct the required detailed evaluations on the subject property. I am the Founder, Owner, and Principal Wetland and Wildlife Ecologist of *Wetlands & Wildlife, Inc.* I attended the University of Montana where I graduated cum laude with a degree in Wildlife Biology. As of 2022, I have 21 years of direct experience as a professional Biologist / Ecologist in western Washington and 25 years of overall experience completing natural resource assessments among many different ecosystems across the western United States. I have worked as a professional Biologist / Ecologist for federal, state, and county environmental agencies, as well as several private environmental consulting firms with specialties in wetlands, streams, rivers, lakes, and wildlife habitat. In my 25 years of experience, I have specialized in review of proposed land use and building development permit applications as they pertain to Critical Areas (wetlands, rivers, streams, lakes, and habitats of protected fish and wildlife species). Much of that experience came as a Senior Reviewing Ecologist for King County DDES and a Regulatory Biologist for Snohomish County PDS.

I am listed on several Preferred / Qualified Consultant Rosters throughout western Washington. I am highly experienced with the required U.S. Army Corps of Engineers and Washington State wetland delineation methods. In addition to the wetland delineation certification, I am trained by the Washington Department of Ecology and have 17 years of experience in the use of the required Wetland Rating Form for western

Washington (since its inception). I am trained by the Washington Department of Ecology to determine Ordinary High Water Mark (OHWM) locations for rivers, streams, and lakes. In addition to my expertise related to wetlands and streams, I have many years of experience conducting surveys of special-status wildlife species in the western U.S. I received certifications from the Washington Department of Fish and Wildlife for terrestrial wildlife habitat assessments and wildlife surveys of special-status wildlife species.

I have conducted over 2,200 biological / ecological assessments in different capacities on properties with many habitat types and zoning designations, from small, urban properties (0.25 acres) to large, rural properties (up to 2,000 acres in size). I have been selected by several local city jurisdictions to provide on-call 3rd-party environmental reviews of proposed development projects for compliance with local Critical Areas Ordinances and the FEMA Floodplain Habitat Assessment and Mitigation document.

### **METHODOLOGIES OF CRITICAL AREAS EVALUATION**

*Wetlands & Wildlife, Inc.* used methodologies described in Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State to determine the location of any regulated Ordinary High Water Marks (OHWMs) on the subject property.

The routine methodologies described in the Washington State Wetlands Identification and Delineation Manual were used to make a determination regarding the presence of any regulated wetlands, as required by the City of Mukilteo. In addition, *Wetlands & Wildlife, Inc.* evaluated the site using the U.S. Army Corps of Engineers Wetland Delineation Manual produced in 1987 and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region produced in May 2010 (hereinafter referred to as “the Corps Regional Supplement”). The Corps Regional Supplement is designed for concurrent use with the 1987 Corps Wetland Delineation Manual and all subsequent versions. The 2010 Regional Supplement provides technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act. Where differences in the two documents occur, this Regional Supplement takes precedence over the Corps Manual for applications in the Western Mountains, Valleys, and Coast Region.

According to the federal and state methodologies described above, identification of wetlands is based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soils, and presence or evidence of persistent hydrology. Except where noted in the manuals, the three-factor approach discussed above requires positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to make a determination that an area is a regulated wetland. Using the aforementioned manuals, the site characteristics for making a wetland determination include the following:

- 1.) Examination of the site for hydrophytic vegetation (species present/percent cover);
- 2.) Examination for the presence of hydric soils in areas where hydrophytic vegetation is present; and
- 3.) Examination to determine if adequate hydrology exists for sufficient durations during the early part of the growing season in the same locations as the previous two steps.

Per industry standards, *Wetlands & Wildlife, Inc.* examined the entire subject property. Per industry standards and requirements, *Wetlands & Wildlife, Inc.* also assessed adjacent properties within 300 feet of the proposed project limits, to the maximum extent possible without entering adjacent private properties. While a detailed assessment of Critical Areas on adjacent private properties was not possible due to lack of legal site access, *Wetlands & Wildlife, Inc.* conducted a review of all available information to assess the presence of off-site Critical Areas within 300 feet of the subject site. This review is necessary to determine if any regulated Critical Areas exist off-site which would cause associated protective buffers to extend onto the property and affect the development proposal.

In addition to on-site field reviews, *Wetlands & Wildlife, Inc.* examined aerial photographs and topographical data (elevation contours) on Snohomish County's PDS Map Portal map system and the City of Mukilteo's Critical Areas GIS maps. Soil survey maps produced by the Natural Resources Conservation Service (NRCS), National Wetlands Inventory (NWI) maps produced by the U.S. Fish and Wildlife Service (USFWS), Priority Habitats and Species (PHS) maps produced by the Washington Department of Fish and Wildlife (WDFW), and fish distribution maps produced by the WDFW (SalmonScape), Pacific States Marine Fisheries Commission (StreamNet) and Washington Department of Natural Resources (DNR; Forest Practices Application Mapping Tool [FPAMT]) were also evaluated as part of this project review.

The boundaries of the on-site wetland and stream were delineated using bright pink delineation flags, and these flags were labeled in sequential order in accordance with ecological industry standards. The delineation flags were then located using a combination of field measurements and data taken using a Trimble Geo 7x Handheld GPS unit which is capable of sub-foot accuracy under certain external conditions. After the delineation flags were located using these methods, *Wetlands & Wildlife, Inc.* imported and drew the flag location data into a computer-aided drawing (CAD) program to depict the wetland and stream boundaries on-site in relation to the property line and existing site features. In addition to the on-site Critical Areas delineation efforts, *Wetlands & Wildlife, Inc.* obtained the "Wetland and Stream Determination Report for Mukilteo Water and Wastewater District Lift Station #10", dated 11/14/2016 by *Wetland Resources, Inc.* from the City of Mukilteo's planning staff. The 2016 report and accompanying map aided in our rating and depiction of Off-site Wetland B, located south of the subject property. Please view the attached Map Sheet CA1.00 for a depiction of these Critical Areas on-site and within the project vicinity.

## **RESULTS AND FINDINGS OF CRITICAL AREAS EVALUATION**

Based on our site evaluations, one wetland and one stream are located on-site and one wetland is located off-site, in the locations shown on the attached Map Sheet CA1.00. Our detailed evaluations did not reveal any other regulated wetlands or streams located on or near the subject site that would affect the proposed project described in this report

### **Cowardin Classifications:**

According to the Cowardin System, as described in Classification of Wetlands and Deepwater Habitats of the United States, the subject wetlands and stream are classified as follows:

Wetland A: Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded / Saturated (PFO1E)

Off-site Wetland B: Palustrine, Scrub-Shrub, Broad-leaved Deciduous, Saturated (PSS1B)  
Stream A: Riverine, Unknown Perennial (assumed), Unconsolidated Bottom, Cobble-Gravel (R5UB1)

**Mukilteo Municipal Code Classifications:**

Per Mukilteo Municipal Code, Chapter 17.52B (Wetland Regulations) and 17.52C (Fish and Wildlife Habitat Conservation Areas), the subject wetlands and stream are classified as follows:

**Wetland A** is located as depicted on Map Sheet CA1.00. Per ecological industry standards and City of Mukilteo requirements, Wetland A was rated using the Wetland Rating Form for Western Washington (2014 version). The wetland is located on a slope where water flows through the wetland in one direction without being impounded and therefore meets the outlined criteria for a “Slope” wetland. Therefore, the hydrogeomorphic (HGM) class used to rate the wetland was a “Slope” wetland on the Wetland Rating Form in accordance with standards and guidelines from Ecology. Using the Wetland Rating Form, the subject wetland scored a total of 14 points (5 points for Water Quality Functions, 5 points for Hydrologic Functions, and 4 points for Habitat Functions) and is therefore considered a **Category IV wetland**. The rating form is attached to this report for viewing. This classification / category is the same as the determination outlined in the “Wetland and Stream Determination Report for Mukilteo Water and Wastewater District Lift Station #10”, prepared by *Wetland Resources, Inc.* and dated 11/14/2016. Per Table 1 shown in MMC 17.52B.100.D, all Category IV wetlands require a standard protective buffer width of 40 feet to be applied parallel to the wetland boundary. **Therefore, the standard buffer width required for Wetland A equals 40 feet.** Please view the attached Map Sheet CA1.00 for a depiction of Wetland A and the standard buffer width. Please also see the discussion below regarding overlapping buffer widths and see the discussion below regarding proposed buffer width averaging.

**Off-site Wetland B** is located as depicted on Map Sheet CA1.00. Per ecological industry standards and City of Mukilteo requirements, Off-site Wetland B was rated using the Wetland Rating Form for Western Washington (2014 version). The wetland is located on a slope where water flows through the wetland in one direction without being impounded and therefore meets the outlined criteria for a “Slope” wetland. Therefore, the hydrogeomorphic (HGM) class used to rate the wetland was a “Slope” wetland on the Wetland Rating Form in accordance with standards and guidelines from Ecology. Using the Wetland Rating Form, the subject wetland scored a total of 14 points (5 points for Water Quality Functions, 5 points for Hydrologic Functions, and 4 points for Habitat Functions) and is therefore considered a **Category IV wetland**. The rating form is attached to this report for viewing. This classification / category is the same as the determination outlined in the “Wetland and Stream Determination Report for Mukilteo Water and Wastewater District Lift Station #10”, prepared by *Wetland Resources, Inc.* and dated 11/14/2016. Per Table 1 shown in MMC 17.52B.100.D, all Category IV wetlands require a standard protective buffer width of 40 feet to be applied parallel to the wetland boundary. **Therefore, the standard buffer width required for Off-site Wetland B equals 40 feet.** Please view the attached Map Sheet CA1.00 for a depiction of Off-site Wetland B and the standard buffer width. Please also see the discussion below regarding proposed buffer width averaging.

**Stream A** is located among the northern portion of the property, within Wetland A, as depicted on Map Sheet CA1.00. Stream A transports hydrology generally from east to west and flows off-site approximately as depicted on Map Sheet CA1.00. The on-site Stream A is not mapped by WDFW or Washington DNR



mapping resources. The City of Mukilteo Critical Areas GIS maps depict the stream as a Type 4(L) stream, matching on-site evaluations by *Wetlands & Wildlife, Inc.* This classification / category is the same as the determination outlined in the "Wetland and Stream Determination Report for Mukilteo Water and Wastewater District Lift Station #10", prepared by *Wetland Resources, Inc.* and dated 11/14/2016. Per Table 2 in MMC 17.52C.090.A.1, Type 4(L) streams typically receive 50-foot protective buffers. **Therefore, the standard buffer width required for Stream A equals 50 feet, measured from the OHWM's of the stream.** Please see the attached Map Sheet CA1.00 for a depiction of Stream A and the standard buffer width. Please also see the discussion below regarding overlapping buffer widths and see the discussion below regarding proposed buffer width averaging.

#### **Discussion Regarding Overlapping Critical Areas Buffers:**

As mentioned above, the property contains multiple Critical Areas which are regulated pursuant to the City of Mukilteo Critical Areas Regulations. When two or more Critical Area buffers overlap, the more restrictive buffer typically applies. On this particular project site, the resulting buffer lines from overlapping buffer widths is shown on Map Sheet CA1.00.

#### **On-site Vegetation and Soils Data:**

*Wetlands & Wildlife, Inc.* collected detailed vegetation and soils data at two (2) different locations on the subject property to gain representative data regarding on-site vegetative and soil characteristics. Please view the Wetland Determination Data Forms (produced by the Army Corps of Engineers) which describe the actual vegetation and soil characteristics at each data point location. The data forms are attached to this report, and are labeled as DP1 and DP2. Please also view the location of these data points (labeled as DP1 and DP2) shown on the attached Map Sheet CA1.00.

#### **Natural Resource Conservation Service Soils Description:**

The Natural Resources Conservation Service (NRCS) mapped the subject property as being underlain by Alderwood-Everett gravelly sandy loams (25 to 70 percent slopes) and Everett very gravelly sandy loam (0 to 8 percent slopes).

The NRCS maps Alderwood-Everett gravelly sandy loam (25 to 70 percent slopes) as being mapped among the eastern portion of the property. The Alderwood soil series is typically formed in till plains with parent material of basal till. This soil series is moderately well drained and the frequency of flooding and ponding is none. The available water capacity is low and typical depth to the water table is 18 to 36 inches. The typical soil profile is gravelly ashy sandy loam 0 to 7 inches below the surface, very gravelly ashy sandy loam 7 to 35 inches below the surface and gravelly sandy loam 35 to 60 inches soil depth. The Everett soil series is typically formed in terraces and plains with parent material of glacial outwash. This soil series is somewhat excessively drained and the frequency of flooding and ponding is none. The available water capacity is very low and typical depth to the water table is more than 80 inches. The typical soil profile for the Everett soil series is gravelly ashy sandy loam 0 to 6 inches below the surface, very gravelly ashy sandy loam 6 to 18 inches below the surface and extremely gravelly sand from 18 to 60 inches soil depth. Minor components include McKenna (5 percent), Norma (undrained, 5 percent) and Terric medisaprists (undrained, 5 percent) soil series.

Everett very gravelly sandy loam (0 to 8 percent slopes) is mapped among the eastern portion of the subject property. Everett very gravelly sandy loam (0 to 8 percent slopes) is typically formed on kames, moraines and eskers with a parent material of sandy and gravelly glacial outwash. The depth to restrictive feature is typically more than 80 inches below the soil surface. This soil type is somewhat excessively drained and the frequency of flooding and ponding is none. Available water capacity is low. The typical soil profile is slightly decomposed plant material from 0 to 1 inch below the surface, very gravelly sandy loam from 1 to 24 inches below the surface, very gravelly loamy sand from 24 to 35 inches below the surface, and extremely cobbly coarse sand 35 to 60 inches below the surface. Minor components include Alderwood soil series (10 percent) and Indianola soil series (10 percent).

## **EXISTING ECOLOGICAL FUNCTIONS AND VALUES ASSESSMENT**

The methodologies for this ecological functions and values assessment are based on professional opinions developed through past field analyses and interpretations. This assessment pertains specifically to the on-site wetland off-site wetland, stream, and buffer characteristics but is typical for assessments of similar systems throughout the Puget Sound region of western Washington.

The three main functions provided by wetlands include water quality, stormwater / hydrologic control, and wildlife habitat. These functions become increasingly important in an urbanizing environment. The on-site wetland is comprised of forest with established shrub and emergent understory. Established vegetation serves to intercept rain fall before it strikes the soil, thereby preventing erosion and improving water quality. In addition, a dense herbaceous layer provides greater resistance to surface water flow, thereby allowing more time for pollutants to settle out. The vegetation and adsorbent soils serve to trap sediment and pollutants and provide increased water quality functions to aid in a reduction of sediment which results in cleaner water leaving the site. Furthermore, the low-gradient topography and vegetated characteristics of the subject wetlands decreases the water velocity of the associated down-gradient systems, thereby decreasing peak flood stages during heavy rainfall and increasing water retention during dry periods. Water retained within the wetlands slowly infiltrates into the ground, thus recharging groundwater and helping to moderate groundwater levels and reduce down-gradient flows.

The aforementioned wetlands contain hiding cover, thermal cover, water, and forage opportunities in close proximity. On-site Wetland A contains multiple vegetation classes (forest and shrub), whereas Off-site Wetland B only contains shrub vegetation. Both wetlands only contain "saturated only" hydrologic regimes and have low levels of habitat interspersions. Special habitat features are present only in Wetland A (e.g., standing snags, large downed wood, overhanging plants) and provide some amount of terrestrial wildlife habitat function. Though the wetlands rate low in overall habitat functions, their contiguous acreage with nearby buffer areas increases the ecological functions associated with wildlife habitat. As areas become further populated with humans and many habitat areas become fragmented, the protected habitat provided by wetlands and associated buffers become increasingly important.

Though the on-site stream does not provide habitat for anadromous or resident salmonids, the stream on the subject property provides important ecological functions to the surrounding environment such as hydrological transport, transport of solids (suspended and dissolved), and important wildlife habitat



features, among other functions. Areas adjacent to streams are increasingly important to manage appropriately as these areas aid in water quality and hydrologic control, resulting in cleaner water entering the stream's channel. The established vegetation among this riparian corridor provides very important ecological functions. The overhanging vegetation among the riparian corridor provides valuable shade which cools the water temperature among the stream, and the overhanging vegetation present among the riparian corridor also aids in the recruitment of future large woody debris and organic matter to the stream channels.

In addition to the functions mentioned above, Critical Areas and associated buffer areas often provide aesthetic value, recreational opportunities, and educational opportunities.

### **PROPOSED PROJECT DESCRIPTION**

As depicted on Map Sheet CA1.00, the applicant is proposing to construct a single-family residence with attached garage and to install a vehicular access driveway which extends to the proposed residence from the current terminus of Webster Street. The proposed structure footprint depicted on the attached Map Sheet CA1.00 equals approximately 2,930 square feet, including the proposed house footprint (including overhangs), proposed garage, proposed stairs, and overhangs / eaves. The footprint and design of the future proposed single-family residence have not yet been finalized, since the property owner is seeking approval of the proposed Reasonable Use Exception prior to finalizing the proposed house footprint and design. The applicant is proposing to clear and maintain a small area around the proposed house for future maintenance reasons, but the proposed maintenance area only extends 5 feet from the north and south sides of the house and 7.75 feet from the east side of the house in order to reduce impacts on the property. Per City of Mukilteo requirements, the applicant will install a permanent split-rail fence around the proposed development areas as depicted on Map Sheet CA1.00. The proposed driveway extension from Webster Street to the proposed garage equals 979 total square feet, but only 440 square feet of that proposed driveway is on-site and 539 square feet of that driveway is located within the right-of-way (ROW) associated with Webster Street. The entire proposed development footprint on the property between the proposed split-rail fence depicted on Map Sheet CA1.00 equals 5,173 square feet, an allowed size for this property per MMC 17.52.025.C.2 as outlined in further detail later in this report.

Due to the encumbrances on the property created by regulated wetlands and streams as detailed in this report, there is no opportunity to avoid impacts to the standard wetland and / or stream buffers when constructing the proposed project. As previously outlined in this report, the subject property contains one on-site wetland, one on-site stream, and one nearby off-site wetland exists off-site to the south. The standard protective buffers from the on-site and off-site Critical Areas encumber the property such that the proposed development is not feasible given the extent of the Critical Areas and standard buffers. As depicted on the attached Map Sheet CA1.00, all proposed development has been specifically designed to avoid impacts to the Critical Areas themselves, and to minimize impacts among the standard buffers to the maximum extent feasible. However, due to the location and extent of the on-site wetland, stream, off-site wetland and all associated protective buffers, there is no opportunity to avoid impacts to the standard overriding buffers associated with the wetlands and stream when constructing the proposed single-family residence and driveway.

Although a majority of the proposed house with attached garage, driveway, and small maintenance area around the proposed development area have been specifically designed to be located outside of the protective buffers associated with the surrounding Critical Areas, portions of the proposed development will be located within the outer limits of the standard overriding buffer areas associated with the nearby Critical Areas. Therefore, the property owner is proposing to utilize the buffer averaging and reasonable use code sections in the City of Mukilteo's Municipal Code Sections 17.52B.100.G.2 and 17.52.025 in order to modify the standard Critical Area buffers in order to accommodate the proposed project.

The property owner is proposing 1,982 square feet of buffer averaging (reduction) and 1,982 square feet of buffer averaging (addition) to accommodate the proposed residence with attached garage and the proposed driveway on the subject property. Although the amount of buffer area on the property will not be reduced through this buffer averaging proposal, the applicant is proposing compensatory mitigation among 1,982 square feet of on-site wetland area (wetland enhancement). The applicant is also proposing compensatory mitigation among an additional 418 square feet of on-site wetland area (additional wetland enhancement) in order to mitigate for the 418 square feet of buffer impacts associated with the proposed driveway located in the right-of-way (ROW). Therefore, the applicant is proposing compensatory mitigation among a total of 2,400 square feet of wetland area. Please see the attached Map Sheet CA1.00 and see the report sections below for more details.

### **PROPOSED BUFFER WIDTH AVERAGING**

As depicted on Map Sheet CA1.00 and as previously described in this report, the applicant is proposing to construct a single-family residence with attached garage and to install a vehicular access driveway which extends to the proposed residence from the current terminus of Webster Street. The proposed structure footprint and driveway will be located within a small portion of the standard overriding buffer areas associated with the nearby Critical Areas. Therefore, the property owner is proposing to utilize the buffer averaging code section in MMC section 17.52B.100.G.2. As stated in MMC section 17.52B.100.G.2, "Averaging to allow reasonable use of a parcel may be permitted when all of the following are met:

- a. There are no feasible alternatives to the site design that could be accomplished without buffer averaging.
- b. The averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a report from a qualified wetland professional.
- c. The total buffer area after being averaged is equal to the area required without the averaging.
- d. The buffer at its narrowest point is never less than fifty percent of the required buffer width.
- e. Mitigation sufficient to compensate for the impacts as determined by a qualified specialist is provided for all buffer averaging proposals."

Due to the encumbrances on the property created by regulated Critical Areas and buffers, there is no opportunity to avoid impacts to the standard wetland and / or stream buffers when constructing the proposed project. Therefore, buffer averaging is necessary to accomplish the proposed project. The proposed buffer averaging plan described in this report and depicted on Map Sheet CA1.00 will not result in degradation of the wetland's functions and values. In fact, the proposed buffer averaging plan will result in improved ecological functions, because the area proposed for buffer averaging (addition) contains mature

forested vegetation dominated by native species, whereas the proposed buffer averaging (reduction) area contains less mature vegetation which does not provide as high of a level of ecological functions. The southeastern portion of the property (where the applicant is proposing buffer averaging addition area) provides the highest level of ecological function compared to all other buffer areas on-site, and the applicant is proposing to add that area to the standard buffer for permanent protection as buffer. The total buffer area on the subject property will remain equal in area (square footage) when compared to the existing buffer area without averaging. The proposed buffer averaging (reduction) area on the property equals 1,982 square feet, and the proposed buffer averaging (addition) area on the property also equals 1,982 square feet. Therefore, the ratio of buffer averaging is 1:1 as required per code and the amount of buffer area on the subject property will remain the same through this proposed buffer averaging proposal. As depicted on the attached Map Sheet CA1.00, the buffer at its narrowest point is never less than the 50% of the standard required buffer width. The standard wetland buffers are 40 feet, and the minimum buffers proposed as part of this buffer averaging plan equal 20.25 feet. Therefore, the proposed buffer after averaging will not be less than 50% of the standard buffers anywhere on the property. Even though the proposed buffer averaging proposal itself will result in an increase in ecological functions above the current baseline condition by providing additional mature forested areas to the standard buffer, the applicant is also proposing compensatory mitigation sufficient to compensate for any potential impacts that would occur as a result of buffer averaging in order to meet MMC section 17.52B.100.G.2.e. Please see the report section below titled PROPOSED COMPENSATORY MITIGATION EFFORTS for more information regarding the proposed compensatory mitigation efforts that are proposed for this project.

Based on the Critical Areas assessment conducted by *Wetlands & Wildlife, Inc.*, the applicant's buffer width averaging proposal clearly meets all of the code criteria outlined in MMC section 17.52B.100.G.2. and will not create any adverse environmental impacts. Per the requirements outlined in the MMC, the buffer averaging (addition) area of 1,982 square feet will be preserved as regulated buffer in perpetuity.

## **DISCUSSION REGARDING COMPLIANCE WITH CITY'S REASONABLE USE EXCEPTION CRITERIA**

Due to the extent, location, and classification of the regulated wetland and associated protective buffer areas on the subject site, no opportunity exists to avoid impacts to the standard Critical Area buffers when proposing a single-family residential development. Therefore, per discussions with City of Mukilteo Planning Department staff, the applicant is required to obtain approval of a proposed Reasonable Use Exception from the City of Mukilteo prior to obtaining any required development permit(s). The on-site wetland, on-site stream, off-site wetland, and associated protective buffers encumber the subject site in such a way that would otherwise preclude implementation of the proposed project described above on the subject parcel. Although a large portion of the parcel contains Critical Area or buffers, the applicant has specifically designed the project proposal to avoid impacts to the actual wetland and stream areas on the property. However, there is no opportunity to avoid impacts to the standard Critical Areas buffers when implementing the proposed project. Therefore, the applicant has specifically designed the project to effectively minimize buffer impacts on the property while still proposing a project that accommodates a single-family residence with an attached garage and a driveway to the proposed garage for vehicular access.

Section 17.52.025.A of the MMC states that *"The standards and requirements of these critical area*

*regulations are not intended and shall not be construed or applied in a manner to deny all reasonable use of private property. If the applicant demonstrates to the satisfaction of the planning director or his or her designee that strict application of these standards would deny all reasonable use of a property, development may be permitted subject to appropriate conditions.”*

This Critical Areas Report and Proposed Mitigation Plan is intended to be submitted to the City of Mukilteo as part of the application requirements for the purpose of obtaining a Reasonable Use Exception. Please see the discussion below which explains how the proposed project on the subject site meets all criteria described in MMC Section 17.52.025.B.

Per MMC section 17.52.025.B (Reasonable Use Provisions), “The applicant must demonstrate to the planning director or his or her designee all of the following:

1. That no reasonable use with less impact on the critical area and/or the buffer is feasible and reasonable;
2. There is no feasible and reasonable on-site alternative to the proposed activity or use that would allow reasonable use with less adverse impacts to the critical area and/or buffer. Feasible on-site alternatives shall include, but are not limited to: reduction in density or building size, phasing of project implementation, change in timing of activities, and revision of road or parcel layout or related site planning considerations;
3. There are no practical alternatives available to the applicant for development of the property. An alternative is practical if the property or site is available and the project is capable of being done after taking into consideration existing technology, infrastructure, and logistics in light of the overall project purpose;
4. The proposed activity or use will be mitigated to the maximum practical extent and result in the minimum feasible alteration or impairment of functional characteristics of the site, including contours, vegetation and habitat, groundwater, surface water, and hydrologic conditions, and consideration has been given to best available science;
5. There will be no material damage to nearby public or private property and no material threat to the health or safety of people on or off the property;
6. The proposed activity or use complies with all local, state, and federal laws and the applicant has applied for or obtained all required state and federal approvals; and
7. The inability to derive reasonable use is not the result of actions by the applicant in segregating or dividing the property and creating the undevelopable condition after March 23, 1992.”

**Therefore, please see the discussion below which explains how the proposed project on the subject property meets all criteria described in MMC section 17.52.025 (Reasonable Use Provisions).**

1. **“That no reasonable use with less impact on the critical area and/or the buffer is feasible and reasonable”**

No other reasonable economic uses other than single-family residential allowed under the MMC would result in less impact to the on-site Critical Area and buffer. As previously stated in this report, the applicant is proposing a single-family residence with an attached garage and a driveway for vehicular access on the subject property, all of which are allowed uses for the zoning classification

of this property. The proposed project has been very specifically designed to have the proposed development located as far away from the on-site and off-site Critical Areas as possible. The proposed residence and small 5-foot clearing area around the structure are equidistant between the on-site Wetland A and off-site Wetland B. The proposed residence is located among the western portion of the property because that is where the driveway access will come from, and in order to provide the mature forested area as buffer averaging area in the SE portion of the property. Due to the encumbrances on the property related to Critical Areas, there is no other alternative location on the property where the proposed development could be located to minimize the buffer impacts. The proposed project will not adversely impact the ecological functions wetland, stream, and associated Critical Area buffer areas on the site. The project has been specifically designed to avoid impacts to the wetland and stream, and to minimize buffer impacts. The proposed project will result in only 1,982 square feet of impact among the on-site standard buffers from the multiple Critical Areas and 418 square feet of off-site buffer impacts among the right-of-way. In addition, the applicant is proposing to provide buffer averaging such that the amount of buffer on the property will not be reduced, and the applicant is also proposing compensatory mitigation efforts via 2,400 square feet of vegetative enhancement of the on-site wetland (which exceeds the City's requirement since only the standard buffer will be impacted). The proposed mitigation efforts will provide a significant increase in ecological functions compared to the existing site conditions if implemented as outlined later in this report.

2. **“There is no feasible and reasonable on-site alternative to the proposed activity or use that would allow reasonable use with less adverse impacts to the critical area and/or buffer. Feasible on-site alternatives shall include, but are not limited to: reduction in density or building size, phasing of project implementation, change in timing of activities, and revision of road or parcel layout or related site planning considerations”**

The proposed project has been very specifically designed to have the proposed development located as far away from the on-site and off-site Critical Areas as possible. The proposed residence and small 5-foot yard / clearing area around the structure are equidistant between the on-site Wetland A and off-site Wetland B. The proposed residence is located among the western portion of the property because that is where the driveway access will come from, and in order to provide the mature forested area as buffer averaging area in the SE portion of the property. Due to the encumbrances on the property related to Critical Areas, there is no other alternative location on the property where the proposed development could be located to minimize the buffer impacts. The proposed project will result in only 1,982 square feet of impact among the on-site standard buffers from the multiple Critical Areas and 418 square feet of off-site buffer impacts among the right-of-way. In addition, the applicant is proposing to provide buffer averaging such that the amount of buffer on the property will not be reduced, and the applicant is also proposing compensatory mitigation efforts via 2,400 square feet of vegetative enhancement of the on-site wetland (which exceeds the City's requirement since only the standard buffer will be impacted). The proposed mitigation efforts will provide a significant increase in ecological functions compared to the existing site conditions if implemented as outlined later in this report.

3. **“There are no practical alternatives available to the applicant for development of the property. An alternative is practical if the property or site is available and the project is**



**capable of being done after taking into consideration existing technology, infrastructure, and logistics in light of the overall project purpose”**

There are no practical alternatives available to the applicant for development of the property. As previously stated in this report, the applicant is proposing a single-family residence with an attached garage and a driveway for vehicular access on the subject property, all of which are allowed uses for the zoning classification of this property. The future single-family residence and associated development on the property will be constructed using the current building standards and requirements.

4. **“The proposed activity or use will be mitigated to the maximum practical extent and result in the minimum feasible alteration or impairment of functional characteristics of the site, including contours, vegetation and habitat, groundwater, surface water, and hydrologic conditions, and consideration has been given to best available science”**

The project will be constructed in accordance with best available science related to minimizing and mitigating Critical Area impacts. In fact, as proposed, the applicant is proposing to provide mitigation among the wetland itself even though only buffer impacts are required to accommodate the proposal (exceeding City code requirements). The proposed project will not adversely impact any of the ecological functions provided by the wetland, stream, and associated Critical Area buffer areas on the site. The project has been specifically designed to avoid impacts to the wetland and stream, and to minimize buffer impacts. The proposed project will result in only 1,982 square feet of impact among the on-site standard buffers from the multiple Critical Areas and 418 square feet of off-site buffer impacts among the right-of-way. In addition, the applicant is proposing to provide buffer averaging such that the amount of buffer on the property will not be reduced, and the applicant is also proposing compensatory mitigation efforts via 2,400 square feet of vegetative enhancement of the on-site wetland (which exceeds the City's requirement since only the standard buffer will be impacted). The proposed mitigation efforts will provide a significant increase in ecological functions compared to the existing site conditions if implemented as outlined later in this report. The site-specific analyses completed by *Wetlands & Wildlife, Inc.* implemented best available science used for similar projects in the Puget Sound region of western Washington. Therefore, the proposed project and associated compensatory mitigation proposal has been designed in accordance with best available science and professional ecological industry standards.

5. **“There will be no material damage to nearby public or private property and no material threat to the health or safety of people on or off the property”**

There will be no material damage to nearby public or private property and the proposed single-family residential development on the property will not pose a material threat to the health or safety of people on or off the property.

6. **“The proposed activity or use complies with all local, state, and federal laws and the applicant has applied for or obtained all required state and federal approvals”**

The future single-family residence and associated development on the property will be constructed using the current building standards and requirements, and will be constructed in accordance with all City of Mukilteo code requirements. The proposed project described in this report will comply with all local, state, and federal laws. Per the process outlined by the City of Mukilteo Planning



Department staff, the applicant is applying for a Reasonable Use Exception prior to any other proposed permits. After the Reasonable Use Exception is approved by the City, the applicant will obtain all required permits from all applicable agencies. No work associated with the proposed project described in this report will commence until all required permits / approvals have been obtained by all applicable local, state, and federal agencies.

**7. "The inability to derive reasonable use is not the result of actions by the applicant in segregating or dividing the property and creating the undevelopable condition after March 23, 1992"**

The inability to derive reasonable use is not the result of actions by the applicant. The inability to derive reasonable use on this property is due to the location and extent of the on-site wetland, on-site stream, nearby off-site wetland, and their associated buffers which further encumber the property.

This paragraph also explains how the proposed project on the subject site meets all criteria described in MMC Section 17.52.025.C (Allowed Reductions for Single-Family Residential Reasonable Use Lots). The applicant is providing a setback area of 5 feet between the proposed structure and the proposed split-rail fence which will be constructed along the final proposed buffer line. The proposed 5-foot setback area will allow future maintenance of the proposed structure without disturbing buffer for maintenance, and is also more beneficial to the ecological functions of the buffer than providing a larger setback which would encroach further into the remaining buffer area. The MMC section 17.52.025.C.2 states in part that "Development on reasonable use lots shall leave at least seventy percent of the lot undisturbed to protect the critical areas." Per a survey of the property completed by *West Alliance, LLC*, the site encompasses 19,171 square feet. The proposed development footprint on the property between the proposed split-rail fence depicted on Map Sheet CA1.00 equals 5,173 square feet. Therefore, the proposed development footprint equals approximately 26.7% of the property. Therefore, using the proposal depicted on Map Sheet CA1.00, 73.6% of the property would be undisturbed and remain as protected Critical Area or buffer, thereby exceeding the 70% threshold required in MMC section 17.52.025.C.2. The MMC section 17.52.025.C.3.b states that Critical Area buffers may be reduced as follows: "Twenty-five percent to fifty percent where the applicant demonstrates to the city that the development cannot meet the city's code requirements without encroaching onto a critical area or its buffer" through an administrative process, and that "In order for the property owner to receive this administrative reduction, the applicant must provide a report relying on best available science and prepared by a qualified specialist to the city that demonstrates the reduction is warranted." The proposed project has been specifically designed to not reduce the standard buffer by 50%. The standard protective buffers from the on-site wetland and off-site wetland equal 40 feet and the minimum width of the proposed buffers equal 20.25 feet (and much larger than that in most locations). Therefore, the proposed project qualifies for an administrative review process per our specific design and project planning. The MMC section 17.52.025.C.4 states in part that "In order for the property owner to receive a reduction in the required critical area buffer, administratively or through a variance, the remaining buffer shall be enhanced to reduce significant adverse impacts to the critical area". Based on our detailed assessments of the project site, the portions of the property that are dominated by non-native, invasive vegetation (the wetland area) will be enhanced through our mitigation efforts described below. The remaining buffer area located outside between the proposed split-rail fence and the Critical Areas will be dominated by native vegetation and / or will not create any significant adverse ecological impacts to the

Critical Areas. It is my professional opinion that no additional compensatory mitigation measures are required beyond the proposed compensatory mitigation measures. The mitigation proposal described below already exceeds professional ecological industry standards since the property owner is proposing to provide wetland mitigation plantings even though the only project-related impacts will occur among the standard buffer, and the property owner is proposing mitigation plantings AND buffer averaging.

### PROPOSED COMPENSATORY MITIGATION EFFORTS

Prior to any earthwork within or near Critical Areas or associated buffers, temporary erosion and sediment control (TESC) measures (silt fence or similar best management practices) will be installed around the proposed project limits to minimize potential erosion from reaching the adjacent on-site wetland or buffer areas. In addition to the proposed mitigation efforts described in this report section, the applicant is proposing to install a permanent split-rail fence around the proposed development areas as depicted on Map Sheet CA1.00.

Although the amount of buffer area on the property will not be reduced through this buffer averaging proposal, the applicant is proposing compensatory mitigation among 1,982 square feet of on-site wetland area (wetland enhancement). The applicant is also proposing compensatory mitigation among an additional 418 square feet of on-site wetland area (additional wetland enhancement) in order to mitigate for the 418 square feet of buffer impacts associated with the proposed driveway located in the right-of-way (ROW). Therefore, the applicant is proposing compensatory mitigation among a total of 2,400 square feet of wetland area, resulting in a 1:1 ratio of proposed mitigation area compared to the total proposed buffer averaging areas AND proposed driveway impacts among the ROW.

As compensatory mitigation for the proposed buffer averaging and driveway impacts in the ROW, the applicant is proposing to provide mitigation via vegetative enhancement among on-site buffer areas that are currently dominated by non-native, invasive vegetation. Although no wetland or stream impacts are proposed for this project, the property owner is proposing to provide compensatory mitigation among portions of the wetland itself that are currently dominated by non-native, invasive vegetation. Therefore, this mitigation proposal to enhance wetland area when only buffer impacts are proposed exceeds the standards and requirements outlined in the City of Mukilteo's Code. As shown on Map Sheet CA1.00, the proposed wetland enhancement area is located among the northern portion of the property, adjacent to the southern OHWM of the on-site stream.

The proposed wetland enhancement area is currently dominated by non-native, invasive vegetation (primarily Himalayan blackberry). **The proposed mitigation plan includes removal of all non-native, invasive vegetation among 2,400 square feet of wetland enhancement area AND subsequent planting of native trees and shrubs as outlined in detail below.** Any existing native vegetation among the proposed wetland enhancement area will remain undisturbed during these enhancement efforts. Based on these current vegetative conditions and the detailed ecological functions and values assessment conducted by *Wetlands & Wildlife, Inc.* as part of this project, the proposed mitigation plan will not result in any net loss of ecological functions on the subject property. In fact, the proposed wetland enhancement plan will provide substantial on-site ecological improvement compared to the existing baseline conditions,

primarily due to the removal of non-native, invasive vegetation and planting of native trees and shrubs among the on-site wetland area.

As depicted on Map Sheet CA1.00 and as discussed above, the proposed wetland enhancement area equals 2,400 square feet. Per professional ecological industry standards, this mitigation proposal includes calculating required plant quantities by planting 60% of the mitigation area with native trees and planting 40% of the mitigation area with native shrubs. The trees are proposed to be planted on 10-foot centers and the shrubs are proposed to be planted on 6-foot centers to allow for future maintenance activities between the vegetative plantings. **Using these calculations, the applicant is proposing to plant 14 trees and 27 shrubs among the proposed wetland enhancement area.** Please see the table below for the proposed plant schedule on the project site:

<b><i>Proposed Compensatory Mitigation Plantings (Wetland Enhancement); approx. 2,400 SF</i></b>				
<b><u>Common Name</u></b>	<b><u>Latin Name</u></b>	<b><u>Size</u></b>	<b><u>Spacing</u></b>	<b><u>Quantity</u></b>
1. Western red cedar	<i>Thuja plicata</i>	2-gallon	10' o.c. min.	7
2. Sitka spruce	<i>Picea sitchensis</i>	2-gallon	10' o.c. min.	7
3. Black twinberry	<i>Lonicera involucrata</i>	1-gallon	6' o.c. min.	7
4. Red-osier dogwood	<i>Cornus alba</i>	1-gallon	6' o.c. min.	7
5. Salmonberry	<i>Rubus spectabilis</i>	1-gallon	6' o.c. min.	7
6. Nootka rose	<i>Rosa nutkana</i>	1-gallon	6' o.c. min.	6

It is the professional opinion of *Wetlands & Wildlife, Inc.* that the mitigation measures described in this section meet (and in fact exceed) the City of Mukilteo code requirements related to Critical Areas protection.

### **DISCUSSION REGARDING PROPOSED PERMANENT SPLIT-RAIL FENCE AND NGPA SIGNS**

Per requirements from the City of Mukilteo Planning Department staff, a permanent split-rail fence is required to be installed around the perimeter of the proposed development areas, between the proposed development and the Critical Areas. Therefore, a permanent split-rail fence will be installed in the location shown on Map Sheet CA1.00, in accordance with ecological industry standards, in order to create a visual barrier between the permanent protected Native Growth Protection Areas (NGPAs) and the proposed development areas allowed to be maintained. The split-rail fence will be designed and constructed to allow wildlife passage over, under, and / or through the permanent fence after construction.

In addition to the proposed permanent split-rail fence, the applicant is proposing to attach permanent signage to the posts of the split-rail fence. Per MMC 17B.52.035, "a temporary sign shall be placed at the boundary of all native growth protection areas during periods of construction, clearing, grading, or excavation on adjacent property. The sign shall describe the limitations of on-site disturbance and development within the native growth protection area. A permanent sign shall be placed at the boundary of all native growth protection areas describing the limitation on development. NGPA signs shall be spaced

fifty feet on center along the periphery of the critical area.” As shown on Map Sheet CA1.00, the applicant is proposing to attach seven (7) permanent NGPA signs to the vertical posts on the proposed split-rail fence. The permanent NGPA signs shall be constructed of aluminum or similar durable material and shall be secured to a vertical post of the proposed split-rail fence approximately in the locations shown on the attached Map Sheet CA1.00.

### **MITIGATION PLANTING NOTES AND GUIDELINES**

Mitigation projects of this sort are typically more complex to install than can be described in plans. Careful monitoring by a qualified professional ecologist for all portions of this planting project is strongly recommended. Timing and sequencing is important to the success of this type of project.

Mitigation plants should be installed between the dates of October 15<sup>th</sup> and March 15<sup>th</sup> if possible. If needed, obtain prior approval from the City of Mukilteo to plant outside of these dates. Order plants from a reputable nursery. Care and handling of plant materials is extremely important to the overall success of the project. All plant materials recommended in this plan should be available from local and regional sources, depending on seasonal demand. Some limited species substitution may be allowed, only with the agreement of the consulting professional ecologist and / or the City of Mukilteo.

The plants shall be arranged with the appropriate numbers, sizes, species, and distribution to achieve the required vegetation coverage. The actual placement of individual plants shall mimic natural, asymmetric vegetation patterns found on similar undisturbed sites in the area.

Colored surveyor’s ribbon, or other approved marking device, shall be attached to each planted tree and shrub to assist in locating the plants while removing the competing non-native vegetation and to assist in monitoring the plantings during the 5-year monitoring period.

Wood chips or other suitable material shall be used for mulching in the planting areas. Mulch is to be placed in a two-foot diameter area around the base of each planted tree or shrub at a depth of three to four inches. However, a four-inch diameter ring around the base of each plant shall be kept free of mulch. Arborist’s woodchips are the preferred mulch material.

Irrigation / Watering: Water shall be provided during the dry season (May 1 through October 1) for the first two years (minimum) after installation to ensure plant survival and establishment. Water should be applied at a rate of one inch of water twice per week.

Upon complete installation of the required mitigation plantings, an inspection by a qualified professional ecologist shall be made to determine plan compliance. A compliance report (As-Built Report) shall be supplied to the City of Mukilteo within 30 days after the completion of planting, unless otherwise approved by the City. See below for more information.

## **MITIGATION PLAN OBJECTIVES, MONITORING, MAINTENANCE, AND CONTINGENCY**

### **Goals and Objectives of the Proposed Mitigation Plan:**

The primary goal of the mitigation portion of the project is to effectively mitigate for the proposed single-family residential development on the property which constitutes reasonable use of the property. This primary goal will be achieved by providing buffer averaging (addition) areas which are equivalent in square footage to the proposed buffer averaging (reduction) areas. The proposed buffer averaging (addition) areas also provide a higher level of ecological functions than the proposed buffer averaging (reduction) areas. In addition to the buffer averaging plan, the applicant is proposing to enhance 2,400 square feet of on-site wetland area by removing non-native, invasive vegetation and then planting 14 native trees and 27 native shrubs among the proposed wetland enhancement area. If the proposed mitigation plan is implemented as outlined in this report, the ecological functions of the Critical Areas and buffers on the property will be significantly increased and the property owner will also obtain reasonable use of the property to construct a single-family residence.

### **Mitigation Plan Installation Inspection and As-Built Report:**

After the implementation of the proposed mitigation efforts described in this report, the applicant will contact *Wetlands & Wildlife, Inc.* or another qualified professional of their choosing to conduct a site visit to confirm that all mitigation plan components have been implemented as outlined in this report. After conducting that installation inspection, *Wetlands & Wildlife, Inc.* will prepare a Mitigation Plan As-Built Report and submit that report to the City of Mukilteo for their review. The As-Built Report will provide confirmation that the mitigation plan was implemented as outlined, or detail any minor adjustments required to the mitigation plan during its on-site implementation. Per standards, the As-Built Report will not be considered final until the City has reviewed the report and approved the report, providing agreement with the findings provided in the As-Built Report.

### **Discussion Regarding Mitigation Plan Monitoring:**

The applicant or assigned representatives shall monitor the mitigation planting area for a minimum period of 5 years from the date of the City approving the As-Built Report. The purpose of monitoring this mitigation project is to evaluate the success of the mitigation planting area. The project will be considered successful if monitoring demonstrates that the stated goals are met by the end of five years. Condition monitoring of the plantings will be done by a qualified ecologist or the property owner in the summer annually for the entire five-year monitoring period. A written report describing the monitoring results will be submitted to the City after the plant monitoring inspection of each monitored year. A final inspection will occur five years from the date of plant installation. The contracted ecologist or the property owner will prepare a final report discussing the success of the project or outlining contingency plans if needed. The property owner (and all successive property owners) shall grant access to the site for inspection and maintenance to the contracted Ecologist and to the City during the monitoring / maintenance period or until the project is deemed successful by the Ecologist and the City.

### **Discussion Regarding Mitigation Plan Maintenance Duration and Schedule:**

The applicant or assigned representatives shall perform maintenance of the mitigation area in accordance with ecological industry standards and guidelines. Maintenance may include watering, weeding, removal of

all noxious and invasive weeds, and any other measures needed to ensure performance standards are met throughout the mitigation area.

**Mitigation Success Criteria / Performance Standards:**

The applicant proposes to meet the following industry standards among the mitigation area in an attempt to measure success of the proposed mitigation planting plan and compensate for project impacts among the on-site Critical Areas and buffers:

Performance Standards					
Monitoring Year after installation	Year One	Year Two	Year Three	Year Four	Year Five
Shrub and Sapling Tree Survival**	100%	>90%	>80%	>80%	>75%
Percent Invasive Species	<20%	<20%	<20%	<20%	<10%

\*\*Notes: The performance standards above include beneficial native plants in that naturally pioneer in the planted area. Also note that the percent cover performance standards shown above are related to bare ground areas that are planted with the full tree and shrub cover requirements.

**Contingency Plan:**

If it is determined at any time during the monitoring period that the goals of the mitigation plan are not being met, a contingency plan will be devised to improve or alter those elements that are deficient. If measures beyond standard maintenance of the mitigation areas are required, a plan containing these measures shall be submitted to the City of Mukilteo for their review prior to implementation.

**ESTIMATED MITIGATION PLAN COST AND DISCUSSION REGARDING SURETY DEVICES**

The City of Mukilteo also typically requires surety devices to ensure the applicant's requirements with the terms outlined in the mitigation agreement (MMC 17.52B.150.B). Per MMC section 17.52B.150.B.1, a performance surety in the amount of one hundred and fifty percent (150%) of the cost of the mitigation project may be required to ensure the applicant's compliance with the terms of a mitigation agreement. The actual amount of the performance surety will be determined by the City of Mukilteo during review of the mitigation plan. Please note that once the plants have been installed as outlined in the mitigation plan, the performance surety device is typically returned to the applicant.

Per MMC section 17.52B.150.B.2, a maintenance surety device shall be required on all mitigation projects to ensure that the improvement successfully survives the monitoring period of 5 years, or as otherwise required by the City of Mukilteo. The amount of the maintenance surety shall be equal to fifteen percent (15%) of the costs of the mitigation project and the term of the surety shall reflect the term of the monitoring program.

In addition to the surety devices required for the required mitigation project, the City of Mukilteo also requires a cash deposit to be submitted with the surety prior to final acceptance of the project to cover the estimated city's costs to review the yearly monitoring reports and conduct a site inspection to ensure the performance standards are being met as outlined in the approved mitigation plan.



This project shall be considered successful if it meets the performance standards outlined in this plan. The following is only intended to represent an estimated cost of implementing the mitigation plantings outlined in this report (not intended as a bid to complete the work), for the purpose of deriving the required surety devices and cash deposit:

Install 14 2-gallon trees @ approximately \$15.00 each (installed price):	\$210.00
Install 27 1-gallon shrubs @ approximately \$9.50 each (installed price):	<u>\$256.50</u>
<b>TOTAL ESTIMATED COSTS FOR MITIGATION PLANTINGS LISTED ABOVE:</b>	<b>\$466.50</b>

### PROJECT'S IMPACT DETERMINATION RELATED TO CRITICAL AREAS

As previously described in this report, the applicant is proposing to construct a single-family residence with attached garage and to install a vehicular access driveway which extends to the proposed residence from the current terminus of Webster Street. The applicant is proposing to clear and maintain a small area around the proposed house for future maintenance reasons, but the proposed maintenance area only extends 5 feet from the house in order to reduce impacts on the property. The entire proposed development footprint on the property between the proposed split-rail fence depicted on Map Sheet CA1.00 equals 5,173 square feet, an allowed size for this property per MMC 17.52.025.C.2 as outlined in further detail in this report. Although a majority of the proposed house with attached garage, driveway, and small maintenance area around the proposed development area have been specifically designed to be located outside of the protective buffers associated with the surrounding Critical Areas, portions of the proposed development will be located within the outer limits of the standard overriding buffer areas associated with the nearby Critical Areas. Therefore, the property owner is proposing to utilize the buffer averaging and reasonable use code sections in the City of Mukilteo's Municipal Code Sections 17.52B.100.G.2 and 17.52.025 in order to modify the standard Critical Area buffers in order to accommodate the proposed project.

The applicant's buffer width averaging proposal (1,982 square feet) clearly meets all of the code criteria outlined in MMC section 17.52B.100.G.2. and will not create any adverse environmental impacts. Although the amount of buffer area on the property will not be reduced through this buffer averaging proposal, the applicant is proposing compensatory mitigation among a total of 2,400 square feet of wetland area, resulting in a 1:1 ratio of proposed mitigation area compared to the total proposed buffer averaging areas (1,982 square feet) AND proposed driveway impacts among the ROW (418 square feet). The proposed mitigation plan includes removal of all non-native, invasive vegetation among 2,400 square feet of wetland enhancement area AND subsequent planting of 14 native trees and 27 native shrubs on the property.

It is the professional opinion of *Wetlands & Wildlife, Inc.* that the project has been specifically designed to avoid any adverse impacts to the on-site Critical Areas and to minimize impacts among the associated buffer areas in accordance with ecological industry standards and City of Mukilteo requirements. Although the applicant is proposing to impact standard buffer areas in order to accomplish this project as described in this report, no net loss of ecological functions is expected to occur as a result of this project when coupled with the proposed compensatory mitigation efforts. As detailed earlier in this report, the applicant's compensatory mitigation proposal includes planting 14 native trees and 27 native

shrubs among the on-site wetland area to significantly enhance ecological functions among the on-site Critical Areas (see Map Sheet CA1.00). Prior to the proposed enhancement plantings, all non-native, invasive vegetation will be removed within the proposed wetland enhancement area on-site to facilitate growth of planted vegetation.

Temporary erosion and sediment control BMP's and compensatory mitigation measures described in this report are specifically designed to minimize impacts and effectively offset any potential adverse ecological impacts. Based on the detailed site evaluation in conjunction with the applicant's proposal, it is the professional opinion of *Wetlands & Wildlife, Inc.* that no net loss of ecological functions will occur to the on-site or nearby off-site Critical Areas, nor the associated protective buffer areas, as a result of this proposed Reasonable Use Exception and buffer averaging plan. It is also the professional opinion of *Wetlands & Wildlife, Inc.* that no permanent adverse environmental impacts will persist among the on-site Critical Areas or buffer areas if the proposed mitigation plan occurs in substantial compliance with this report. Therefore, no additional compensatory mitigation is proposed or required to accommodate the proposal described in this report.

### **LIMITATIONS AND USE OF THIS REPORT**

This Critical Areas Report & Proposed Mitigation Plan is supplied to Mr. Gagandeep Oberoi as a means of determining whether any wetlands, streams, and/or wildlife habitat conservation areas regulated by the City of Mukilteo Critical Areas Regulations exist on the site or within close proximity of the site which would affect the permit requirements of the proposed development on the site.

The work for this report has conformed to the standard of care employed by professional ecologists in the Puget Sound region. No other representation or warranty is made concerning the work or this report. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions. If such conditions arise, the information contained in this report may change based upon those conditions.

The laws applicable to Critical Areas are subject to varying interpretations. While *Wetlands & Wildlife, Inc.* upheld professional industry standards when completing this evaluation, the information included in this report does not guarantee approval by any federal, state, and/or local permitting agencies. Therefore, the work associated with this proposal shall not commence until permits have been obtained from all applicable agencies.

If any questions arise regarding this review, please contact me directly at (425) 337-6450.

*Wetlands & Wildlife, Inc.*



Scott Spooner  
Owner / Principal Wetland & Wildlife Ecologist

## REFERENCES AND LITERATURE REVIEWED

Anderson, Paul S., Susan Meyer, Dr. Patricia Olson, and Erik Stockdale. Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State. October 2016 Final Review. Washington State Department of Ecology, Shorelands & Environmental Assistance Program. Ecology Publication No. 16-06-029.

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Hruby, T. 2014. Washington State wetland rating system for western Washington, 2014 Update. Washington State Department of Ecology Publication # 04-06-029.

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SalmonScape. Interactive Mapping website administered by the Washington Department of Fish and Wildlife. <http://wdfw.wa.gov/mapping/salmonscape/index.html>.

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U.S. Army Corps of Engineers (2010). "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)," [ERDC/EL TR-10-3](#), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

U.S. Army Corps of Engineers (2020). National Wetland Plant List, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH <http://wetland-plants.usace.army.mil/>.

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

Project/Site: Parcel # 00527504701200 City/County: Incorporated City of Mukilteo Sampling Date: 10/22/2021  
 Applicant/Owner: Gagandeep Oberoi (Property Owner) State: WA Sampling Point: DP1  
 Investigator(s): Scott Spooner (Wetlands & Wildlife, Inc.) Section, Township, Range: S04, T28N, R04E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 5  
 Subregion (LRR): LRR-A Lat: 47.941290° Long: -122.306729° Datum: WGS84  
 Soil Map Unit Name: Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes NWI classification: PFO1E

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Alnus rubra</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Rubus spectabilis</u>	<u>55</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>55</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% Prevalence Index is ≤3.0 <sup>1</sup> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>10 feet</u> )				
1. <u>Athyrium cyclosorum</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Geum macrophyllum</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Lysichiton americanus</u>	<u>8</u>	<u>NO</u>	<u>OBL</u>	
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4. <u>Stachys chamissonis</u>	<u>5</u>	<u>NO</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>53</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Woody Vine Stratum</b> (Plot size: <u>10 feet</u> )				
1. <u>Rubus armeniacus</u>	<u>5</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum _____				
Remarks:				

# SOIL

Sampling Point: **DP1**

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-6	10YR 3/2	95	10YR 3/6	5	C	PL	Moist during investigation
6-12	10YR 3/2	80	10YR 3/6	20	C	PL/M	Moist during investigation

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

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

- |  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)                                  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)                              |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> ) |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                          |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3)                              |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Redox Dark Surface (F6)                |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)                        |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          | <input type="checkbox"/> Redox Depressions (F8)                            |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

<sup>3</sup>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:

# HYDROLOGY

**Wetland Hydrology Indicators:**

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

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

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? Yes ☐ No ☒ Depth (inches): -  
(includes capillary fringe)

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

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

Remarks:

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

Project/Site: Parcel # 00527504701200 City/County: Incorporated City of Mukilteo Sampling Date: 10/22/2021  
 Applicant/Owner: Gagandeep Oberoi (Property Owner) State: WA Sampling Point: DP2  
 Investigator(s): Scott Spooner (Wetlands & Wildlife, Inc.) Section, Township, Range: S4, T28N, R4E  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 6  
 Subregion (LRR): LRR-A Lat: 47.941205° Long: -122.306657° Datum: WGS84  
 Soil Map Unit Name: Alderwood-Everett gravelly sandy loams, 25 to 70 percent slopes NWI classification: N/A

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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydic Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>38</u> (A/B)
1. <u>Acer macrophyllum</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 feet</u> )				
1. <u>Rubus spectabilis</u>	<u>40</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Corylus cornuta</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	
3. <u>Prunus laurocerasus</u>	<u>20</u>	<u>YES</u>	<u>NOL (UPL)</u>	
4. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants <sup>1</sup> ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
<u>85</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>10 feet</u> )				
1. <u>Polystichum munitum</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
2. <u>Geum macrophyllum</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>30</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Woody Vine Stratum</b> (Plot size: <u>10 feet</u> )				
1. <u>Rubus armeniacus</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	
2. <u>Rubus ursinus</u>	<u>10</u>	<u>YES</u>	<u>FACU</u>	
_____	<u>20</u>	_____	_____	
<u>20</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				



## SOIL

Sampling Point: **DP2****Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-5	2.5Y 4/2	95	2.5Y 4/3	5		SILO	Slightly moist during investigation
5-12	2.5Y 4/4	90	10YR 4/6	10		SILO	Slightly moist during investigation

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>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:

## HYDROLOGY

**Wetland Hydrology Indicators:**Primary Indicators (minimum of one required; check all that apply)

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

Secondary Indicators (2 or more required)

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

**Field Observations:**Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): - \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): - \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): - \_\_\_\_\_  
(includes capillary fringe)**Wetland Hydrology Present?** Yes \_\_\_\_\_ No ☒

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

Remarks:

Wetland name or number Wetland A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A (Oberoi Property) Date of site visit: 10/22/2021

Rated by Scott Spooner (Wetlands & Wildlife, Inc.) Trained by Ecology? ☒ Yes ☐ No Date of training 10/05 & 4/15

HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

**NOTE: Form is not complete without the figures requested** (*figures can be combined*).

Source of base aerial photo/map Google Earth

**OVERALL WETLAND CATEGORY** IV (based on functions ☒ or special characteristics ☐)

### 1. Category of wetland based on FUNCTIONS

           Category I – Total score = 23 - 27

           Category II – Total score = 20 - 22

           Category III – Total score = 16 - 19

☒            Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	(L)	H	M	(L)	H	M	(L)	
Landscape Potential	H	M	(L)	H	M	(L)	H	M	(L)	
Value	(H)	M	L	(H)	M	L	H	(M)	L	
Score Based on Ratings	5			5			4			14

**Score for each  
function based  
on three  
ratings**  
(*order of ratings  
is not  
important*)

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I      II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I      II
Interdunal	I   II   III   IV
None of the above	<input checked="" type="checkbox"/>

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	6

**SLOPE WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>		
Slope is 1% or less	points = 3	0
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1		2

**Rating of Site Potential** If score is: 12 = H 6-11 = M ✓0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
	Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources _____	Yes = 1 No = 0	0
Total for S 2		0

**Rating of Landscape Potential** If score is: 1-2 = M ✓0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		
	Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>		
	Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>		
	Yes = 2 No = 0	2
Total for S 3		3

**Rating of Value** If score is: ✓2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number Wetland A

### SLOPE WETLANDS

#### Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually  $> \frac{1}{8}$  in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover  $> 90\%$  of the area of the wetland points = 1

All other conditions points = 0

0

**Rating of Site Potential** If score is: 1 = M ☒ 0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0

0

**Rating of Landscape Potential** If score is: 1 = M ☒ 0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2

Surface flooding problems are in a sub-basin farther down-gradient points = 1

No flooding problems anywhere downstream points = 0

2

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0

0

Total for S 6

Add the points in the boxes above

2

**Rating of Value** If score is: ☒ 2-4 = H 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

**These questions apply to wetlands of all HGM classes.****HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |   |                                  |   |
|---|----------------------------------|---|
| <input type="checkbox"/> Aquatic bed  | 4 structures or more: points = 4 | 1 |
| <input type="checkbox"/> Emergent   | 3 structures: points = 2         |   |
| <input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1         |   |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover)     | 1 structure: points = 0          |   |

*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

**H 1.2. Hydroperiods**

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 ac to count (*see text for descriptions of hydroperiods*).

- |  |                                     |   |
|--|-------------------------------------|---|
| <input type="checkbox"/> Permanently flooded or inundated  | 4 or more types present: points = 3 | 0 |
| <input type="checkbox"/> Seasonally flooded or inundated   | 3 types present: points = 2         |   |
| <input type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1         |   |
| <input checked="" type="checkbox"/> 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**

☐ **Freshwater tidal wetland**

**NOTE: Permanently flowing stream is only 8% (not 10%)**

**2 points**

**2 points**

**H 1.3. Richness of plant species**

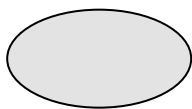
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

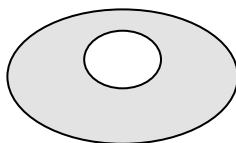
- |                              |            |   |
|------------------------------|------------|---|
| If you counted: > 19 species | points = 2 | 1 |
| 5 - 19 species               | points = 1 |   |
| < 5 species                  | points = 0 |   |

**H 1.4. Interspersion of habitats**

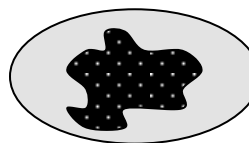
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



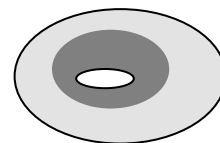
**None** = 0 points



**Low** = 1 point

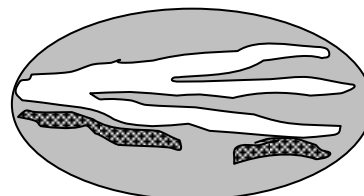
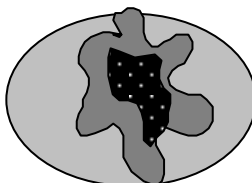
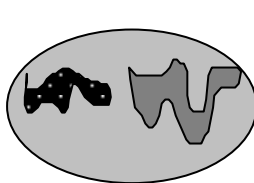


**Moderate** = 2 points



1

All three diagrams in this row are **HIGH** = 3points





Wetland name or number Wetland A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		3
Total for H 1	Add the points in the boxes above	6

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M ☒ 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>2.6</u> = <u>2.6</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>&lt; 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>4.5</u> = <u>4.5</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and &gt; 3 patches points = 1</p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon points = 0</p>		0
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-2

**Rating of Landscape Potential** If score is: 4-6 = H 1-3 = M ☒ < 1 = L

Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i></p> <p>Site meets ANY of the following criteria: points = 2</p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan</p> <p><input checked="" type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		1

**Rating of Value** If score is: 2 = H ☒ 1 = M 0 = L

Record the rating on the first page

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **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*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 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:** Woodland 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 – see web link above*).
- ✓ **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number Off-site Wetland B

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Off-site Wetland B (Oberoi Property) Date of site visit: 10/22/2021  
Rated by Scott Spooner (Wetlands & Wildlife, Inc.) Trained by Ecology? ☒ Yes ☐ No Date of training 10/05 & 4/15  
HGM Class used for rating Slope Wetland has multiple HGM classes? ☐ Y ☒ N

**NOTE: Form is not complete without the figures requested (figures can be combined).**

Source of base aerial photo/map Google Earth

**OVERALL WETLAND CATEGORY** IV (based on functions ☒ or special characteristics ☐)

### 1. Category of wetland based on FUNCTIONS

- ☐ **Category I** – Total score = 23 - 27  
☐ **Category II** – Total score = 20 - 22  
☐ **Category III** – Total score = 16 - 19  
☒ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality			Hydrologic			Habitat			
Circle the appropriate ratings										
Site Potential	H	M	(L)	H	M	(L)	H	M	(L)	
Landscape Potential	H	M	(L)	H	M	(L)	H	M	(L)	
Value	(H)	M	L	(H)	M	L	H	(M)	L	
Score Based on Ratings	5			5			4			TOTAL
	14									

**Score for each  
function based  
on three  
ratings  
(order of ratings  
is not  
important)**

9 = H,H,H  
8 = H,H,M  
7 = H,H,L  
7 = H,M,M  
6 = H,M,L  
6 = M,M,M  
5 = H,L,L  
5 = M,M,L  
4 = M,L,L  
3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

## Maps and figures required to answer questions correctly for Western Washington

### Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

### Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream ( <i>can be added to another figure</i> )	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

### Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	3
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	3
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	1
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	5
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	6

**SLOPE WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>		
Slope is 1% or less	points = 3	0
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	2
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1		2

**Rating of Site Potential** If score is: 12 = H 6-11 = M ✓0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?		
	Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?		
Other sources _____	Yes = 1 No = 0	0
Total for S 2		0

**Rating of Landscape Potential** If score is: 1-2 = M ✓0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?		
	Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>		
	Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>		
	Yes = 2 No = 0	2
Total for S 3		3

**Rating of Value** If score is: ✓2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number Off-site Wetland B

## SLOPE WETLANDS

**Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. *Stems of plants should be thick enough (usually  $> 1/8$  in), or dense enough, to remain erect during surface flows.*

Dense, uncut, **rigid** plants cover > 90% of the area of the wetland

points = 1

All other conditions

points = 0

0

**Rating of Site Potential** If score is: 1 = M ✓ 0 = L

*Record the rating on the first page*

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0

Yes = 1   No = 0

0

**Rating of Landscape Potential** If score is: **1 = M**  **0 = L**

*Record the rating on the first page*

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems:

The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) \_\_\_\_\_ points -

points = 2

2

Surface flooding problems are in a sub-basin farther down-gradient

points = 1

No flooding problems anywhere downstream

points = 0

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

Yes = 2    No = 0

0

Total for S 6

Add the points in the boxes above

2

**Rating of Value** If score is: ☒ 2-4 = H ☐ 1 = M ☐ 0 = L

*Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:



**These questions apply to wetlands of all HGM classes.****HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat**H 1.0. Does the site have the potential to provide habitat?**

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

- |   |                                  |   |
|---|----------------------------------|---|
| <input type="checkbox"/> Aquatic bed  | 4 structures or more: points = 4 | 0 |
| <input type="checkbox"/> Emergent   | 3 structures: points = 2         |   |
| <input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)   | 2 structures: points = 1         |   |
| <input type="checkbox"/> Forested (areas where trees have > 30% cover)  | 1 structure: points = 0          |   |
| <i>If the unit has a Forested class, check if:</i>  |                                  |   |
| <input type="checkbox"/> 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 |                                  |   |

**H 1.2. Hydroperiods**

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 ac to count (*see text for descriptions of hydroperiods*).

- |  |                                     |                 |
|--|-------------------------------------|-----------------|
| <input type="checkbox"/> Permanently flooded or inundated                                    | 4 or more types present: points = 3 | 0               |
| <input type="checkbox"/> Seasonally flooded or inundated                                     | 3 types present: points = 2         |                 |
| <input type="checkbox"/> Occasionally flooded or inundated                                   | 2 types present: points = 1         |                 |
| <input checked="" type="checkbox"/> Saturated only   | 1 type present: points = 0          |                 |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland |                                     |                 |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland           |                                     |                 |
| <input type="checkbox"/> <b>Lake Fringe wetland</b>  |                                     | <b>2 points</b> |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>                                     |                                     | <b>2 points</b> |

**H 1.3. Richness of plant species**

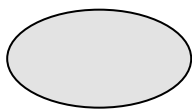
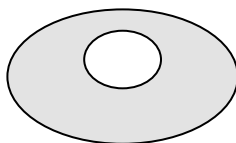
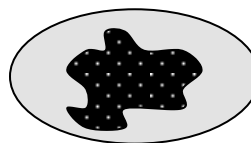
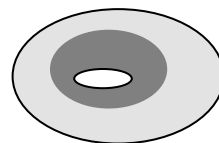
Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

*Different patches of the same species can be combined to meet the size threshold and 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 | 1 |
| 5 - 19 species               | points = 1 |   |
| < 5 species                  | points = 0 |   |

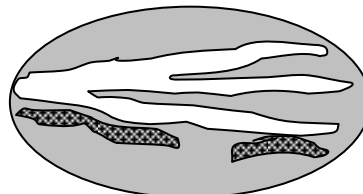
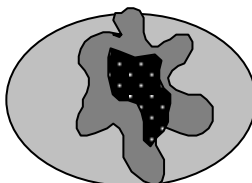
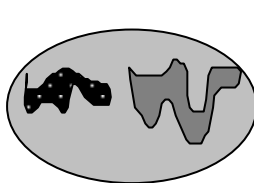
**H 1.4. Interspersion of habitats**

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*

**None** = 0 points**Low** = 1 point**Moderate** = 2 points

0

All three diagrams in this row are **HIGH** = 3points



Wetland name or number Off-site Wetland B

<p><b>H 1.5. Special habitat features:</b></p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (&gt; 30 degree slope) OR signs of recent beaver activity are present (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>	0
<p><b>Total for H 1</b></p>	<p><b>Add the points in the boxes above</b></p> <p>1</p>

**Rating of Site Potential** If score is: 15-18 = H 7-14 = M ☒ 0-6 = L

*Record the rating on the first page*

### H 2.0. Does the landscape have the potential to support the habitat functions of the site?

**H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*).**

*Calculate:* % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 1.4 = 1.4 %

If total accessible habitat is:

> 1/3 (33.3%) of 1 km Polygon

points = 3

20-33% of 1 km Polygon

points = 2

10-19% of 1 km Polygon

points = 1

< 10% of 1 km Polygon

points = 0

0

**H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.**

*Calculate:* % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 4.3 = 4.3 %

Undisturbed habitat > 50% of Polygon

points = 3

Undisturbed habitat 10-50% and in 1-3 patches

points = 2

Undisturbed habitat 10-50% and > 3 patches

points = 1

Undisturbed habitat < 10% of 1 km Polygon

points = 0

0

**H 2.3. Land use intensity in 1 km Polygon: If**

> 50% of 1 km Polygon is high intensity land use

points = (- 2)

≤ 50% of 1 km Polygon is high intensity

points = 0

-2

**Total for H 2**

**Add the points in the boxes above**

-2

**Rating of Landscape Potential** If score is: 4-6 = H 1-3 = M ☒ < 1 = L

*Record the rating on the first page*

### H 3.0. Is the habitat provided by the site valuable to society?

**H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose *only the highest score that applies to the wetland being rated*.**

Site meets ANY of the following criteria:

points = 2

— It has 3 or more priority habitats within 100 m (see next page)

— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)

— It is mapped as a location for an individual WDFW priority species

— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources

— It has been categorized as an important habitat site in a local or regional comprehensive plan, in a

Shoreline Master Plan, or in a watershed plan

☒ Site has 1 or 2 priority habitats (listed on next page) within 100 m

points = 1

Site does not meet any of the criteria above

points = 0

1

**Rating of Value** If score is: 2 = H ☒ 1 = M 0 = L

*Record the rating on the first page*

## WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **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*).
- **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 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 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:** Woodland 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 – see web link above*).
- ✓ **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 – see web link above*).
- **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 – see web link on previous page*).
- **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 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), 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 > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.



## LEGEND



WETLAND



BOUNDARY OF AREA WITHIN 150 FEET OF WETLAND



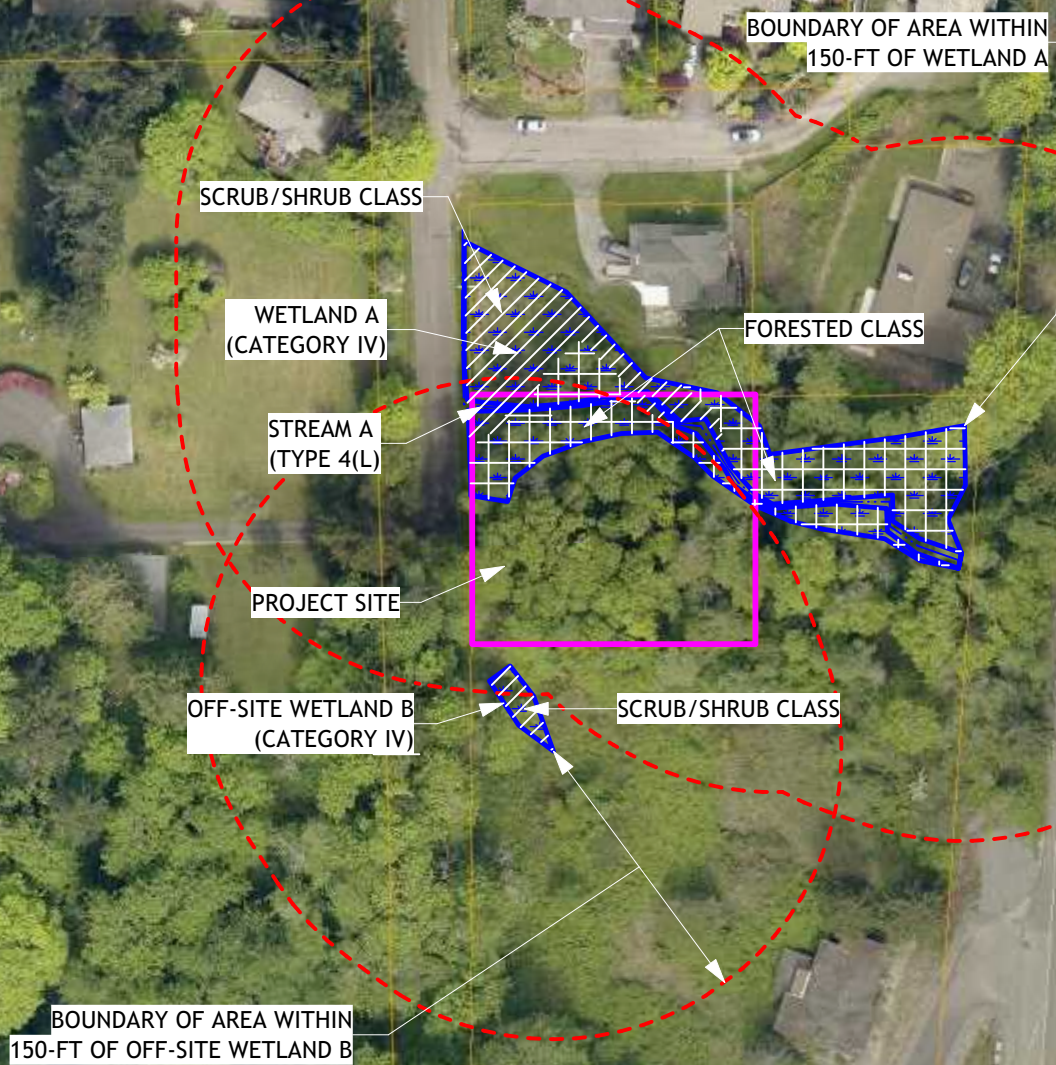
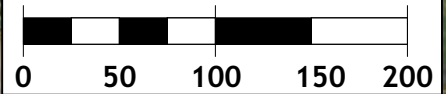
SCRUB-SHRUB CLASS



FORESTED CLASS



NORTH



**WETLANDS & WILDLIFE**  
Environmental Consulting

### PREPARED FOR:

Mr. Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275

### WETLAND RATING FORM--FIGURE 1

COWARDIN CLASSES WITHIN WETLAND  
OBEROI PROPERTY  
TAX PARCEL #00527504701200

W&W Job: N2177

Drawn By:  
Teddi McFall

Date: 7/19/2022

Revision #: N/A

**MAP  
SHEET:  
WR1.00**



## LEGEND



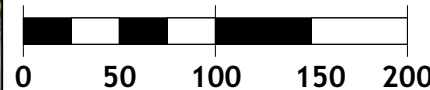
WETLAND



HYDROPERIOD SATURATED ONLY



NORTH



WETLAND A  
(CATEGORY IV)

STREAM A; TYPE 4(L);  
ONLY 8% (NOT 10%)

PROJECT SITE

OFF-SITE WETLAND B  
(CATEGORY IV)

HYDROPERIOD SATURATED ONLY



WETLANDS & WILDLIFE  
Environmental Consulting

### PREPARED FOR:

Mr. Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275

### WETLAND RATING FORM--FIGURE 2

HYDROPERIODS WITHIN WETLANDS  
OBEROI PROPERTY  
TAX PARCEL #00527504701200

W&W Job: N2177

Drawn By:  
Teddi McFall

Date: 7/19/2022

Revision #: N/A

MAP  
SHEET:  
WR2.00



## LEGEND



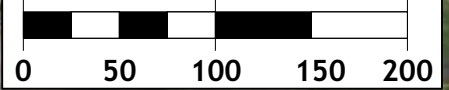
WETLAND



PLANT COVER OF DENSE, WOODY PLANTS



NORTH



WETLAND A  
(CATEGORY IV)

STREAM A  
(TYPE 4(L))

PROJECT SITE

OFF-SITE WETLAND B  
(CATEGORY IV)

PLANT COVER DENSE, WOODY PLANTS



**WETLANDS & WILDLIFE**  
Environmental Consulting

### PREPARED FOR:

Mr. Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275

### WETLAND RATING FORM--FIGURE 3

PLANT COVER WITHIN WETLANDS  
OBEROI PROPERTY  
TAX PARCEL #00527504701200

W&W Job: N2177

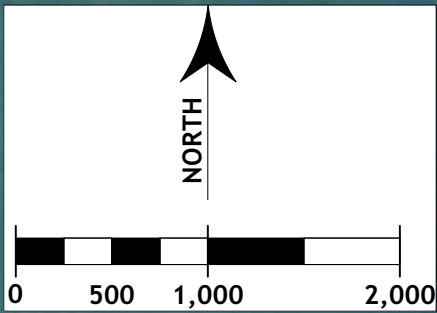
Drawn By:  
Teddi McFall

Date: 7/19/2022

Revision #: N/A

**MAP  
SHEET:  
WR3.00**





THIS DASHED CIRCLE REPRESENTS ~1 KM FROM WETLAND UNIT BOUNDARIES (QUESTION H2 ON RATING FORM)






WETLAND A (CATEGORY IV)

PROJECT SITE

LOW/MODERATE LAND USE INTENSITY (>1 ACRE PER HOUSE)

LOW/MODERATE LAND USE INTENSITY (>1 ACRE PER HOUSE)

# LEGEND

-  WETLAND
-  RELATIVELY UNDISTURBED HABITAT
-  LOW/MODERATE LAND USE INTENSITY
-  RELATIVELY UNDISTURBED ACCESSIBLE HABITAT
-  LOW/MODERATE ACCESSIBLE HABITAT

NOTE: ALL UNHATCHED AREAS ARE CONSIDERED HIGH LAND USE INTENSITY

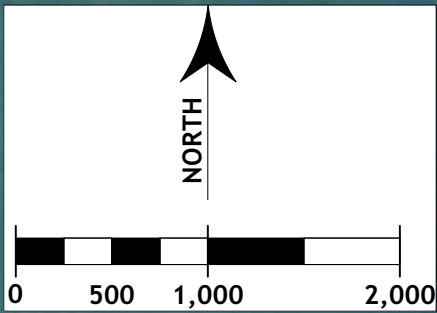
MAP SHEET: WR4.10

W&W Job: N2177  
 Drawn By: Matthew Fineman  
 Date: 7/19/2022  
 Revision #: N/A

**WETLAND RATING FORM--FIGURE 4**  
 HABITAT QUALITY WITHIN 1KM OF WETLAND A  
 OBEROI PROPERTY  
 TAX PARCEL #00527504701200

**PREPARED FOR:**  
 Gagandeep Oberoi  
 (Property Owner)  
 4682 Arbors Circle  
 Mukilteo, WA 98275





THIS DASHED CIRCLE  
REPRESENTS ~1 KM  
FROM WETLAND UNIT  
BOUNDARIES (QUESTION  
H2 ON RATING FORM)

PROJECT SITE

WETLAND B (CATEGORY IV)

LOW/MODERATE LAND  
USE INTENSITY  
(>1 ACRE PER HOUSE)

LOW/MODERATE LAND  
USE INTENSITY  
(>1 ACRE PER HOUSE)

LEGEND



WETLAND



RELATIVELY UNDISTURBED HABITAT



LOW/MODERATE LAND USE INTENSITY



RELATIVELY UNDISTURBED  
ACCESSIBLE HABITAT



LOW/MODERATE  
ACCESSIBLE HABITAT

NOTE: ALL UNHATCHED  
AREAS ARE CONSIDERED  
HIGH LAND USE INTENSITY

MAP

SHEET:

WR4.20

W&W Job: N2177

Drawn By:

Matthew Fineman

Date: 7/19/2022

Revision #: N/A

WETLAND RATING FORM--FIGURE 4

HABITAT QUALITY WITHIN 1KM OF WETLAND B

OBEROI PROPERTY

TAX PARCEL #00527504701200

PREPARED FOR:

Gagandeep Oberoi

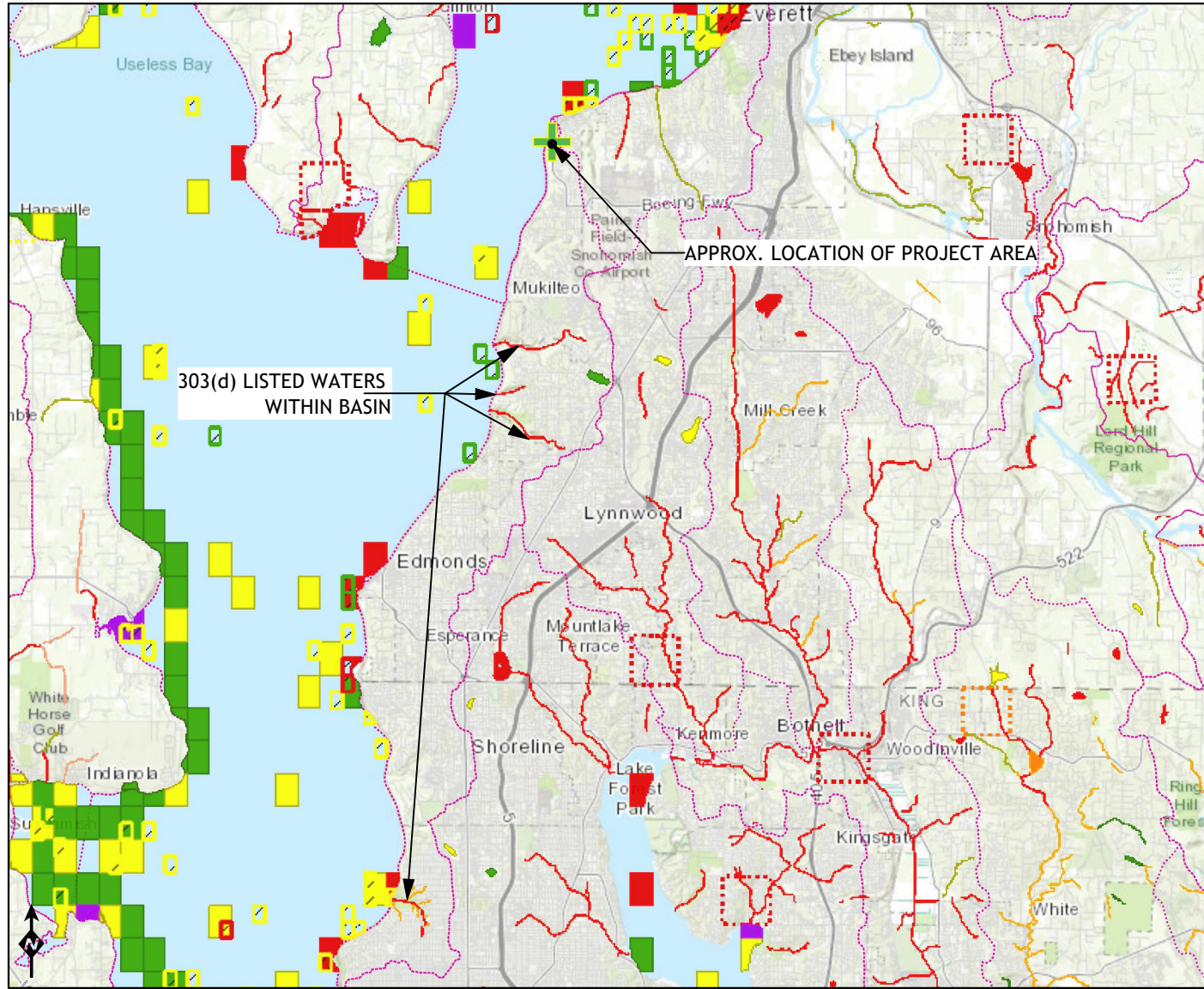
(Property Owner)

4682 Arbors Circle

Mukilteo, WA 98275



# Water Quality Atlas



## Assessed Water/Sediment

### Water

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

### Sediment

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

## Subbasins (12 digit HUCs)

- HUC boundary

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and

Miles 0 2 4 8



MAP  
SHEET:  
WR5.00

W&W Job: N2177  
Drawn By:  
Teddi McFall  
Date: 7/19/2022  
Revision #: N/A

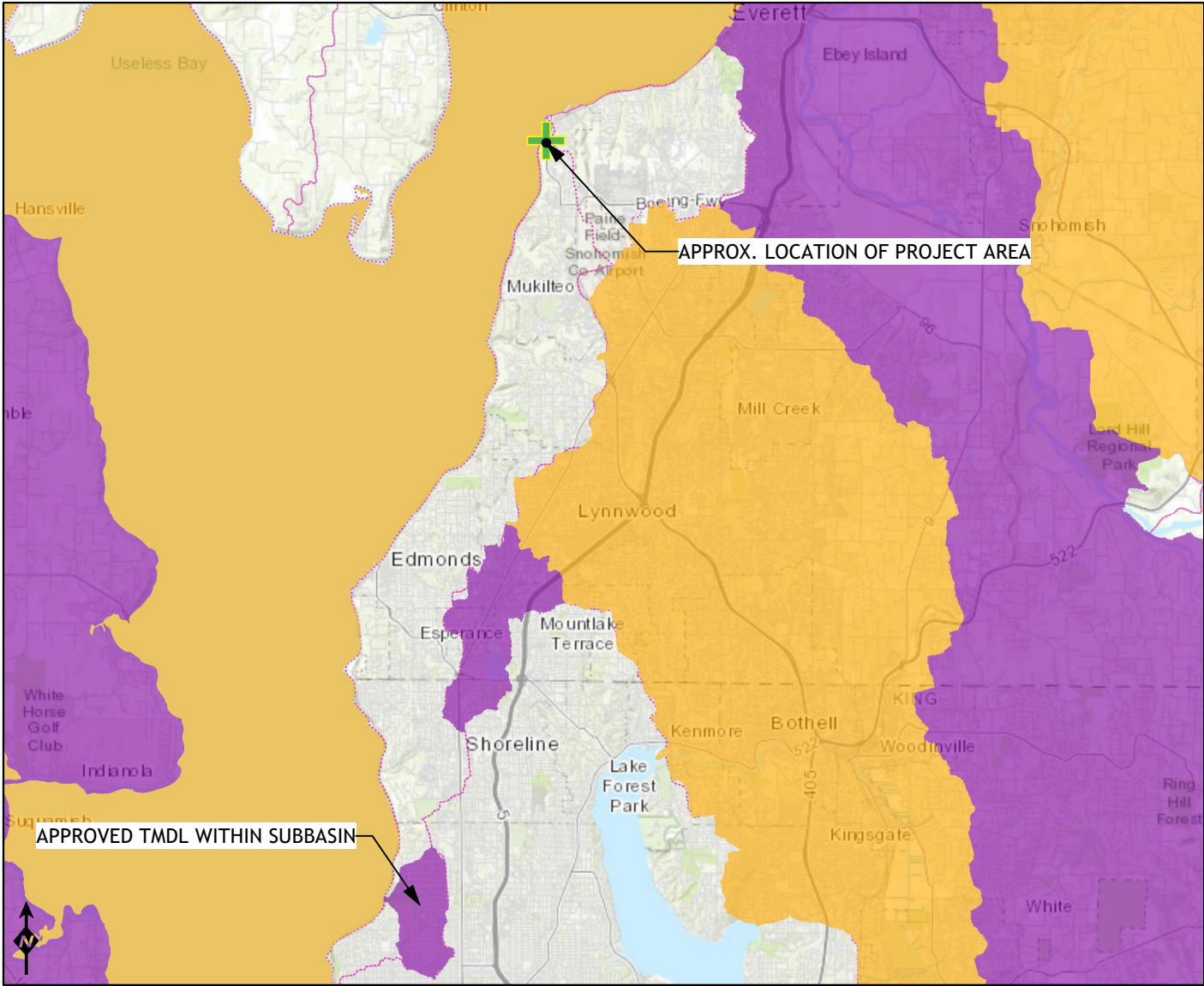
**WETLAND RATING FORM--FIGURE 5**  
SCREEN SHOT OF 303(d) LISTED WATERS  
OBEROI PROPERTY  
TAX PARCEL #00527504701200

**PREPARED FOR:**  
Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275





Water Quality Atlas



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and



WQ Improvement Projects

- Approved
- In Development

Subbasins (12 digit HUCs)

- HUC boundary

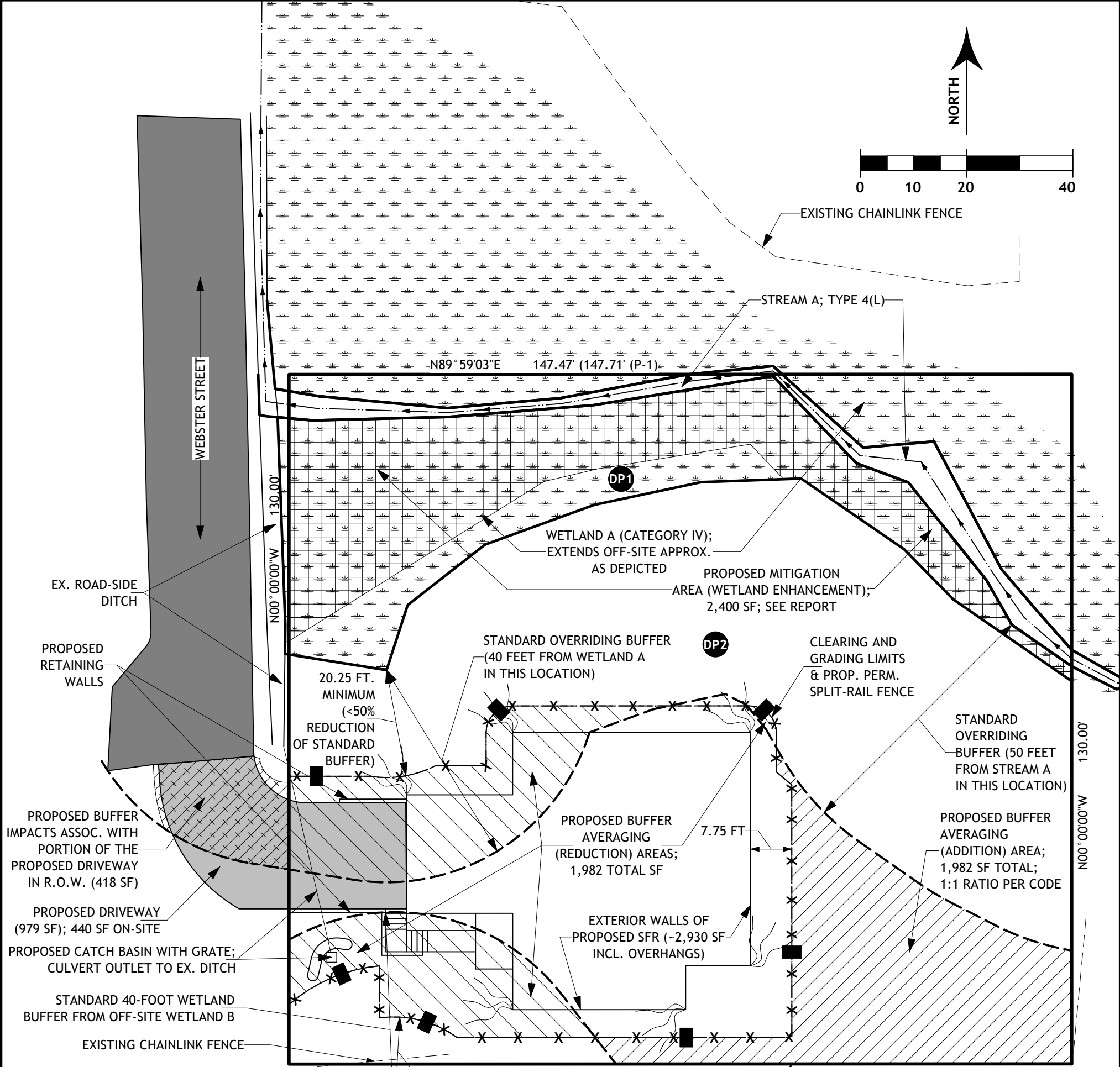
MAP  
SHEET:  
WR6.00

W&W Job: N2177  
Drawn By:  
Teddi McFall  
Date: 7/19/2022  
Revision #: N/A

WETLAND RATING FORM--FIGURE 6  
SCREEN SHOT OF WATER QUALITY IMPROVEMENT  
PROJECTS IN PROJECT VICINITY  
TAX PARCEL #00527504701200

PREPARED FOR:  
Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275





LEGEND

WETLAND

STREAM ORDINARY HIGH

WATER MARKS & FLOW DIRECTION

STANDARD CRITICAL AREA BUFFERS

EXISTING FENCELINE

EXISTING ASPHALT ROAD

PROPOSED DRIVEWAY

PROPOSED BUFFER AVG. (REDUCTION)

PROPOSED BUFFER AVG. (ADDITION)

PROPOSED BUFFER IMPACTS ASSOC. WITH D/W IN R.O.W.

PROPOSED MITIGATION AREA (WETLAND ENHANCEMENT)

PROPOSED CLEARING/GRADING LIMITS

PROPOSED PERM. SPLIT-RAIL FENCE

PROPOSED PERMANENT NGPA SIGN

DATA POINT LOCATIONS (2 TOTAL)

**NOTES:** THE CRITICAL AREAS LOCATIONS SHOWN ON THIS MAP WERE NOT DERIVED FROM A PROFESSIONAL LAND SURVEY. PROPERTY BOUNDARIES AND OTHER EXISTING SITE FEATURES SHOWN ON THIS MAP WERE SURVEYED BY WEST ALLIANCE, LLC (A LICENSED PROFESSIONAL LAND SURVEY COMPANY). THE ON-SITE WETLAND BOUNDARIES AND THE ORDINARY HIGH WATER MARKS (OHWM'S) OF THE ON-SITE STREAM SHOWN ON THIS MAP WERE DELINEATED IN THE FIELD BY WETLANDS & WILDLIFE, INC. USING INDUSTRY STANDARDS AND METHODS AND THEN LOCATED USING A TRIMBLE GEO 7x GPS UNIT FOR PLACEMENT ON THIS MAP. THIS MAP IS INTENDED FOR SUBMITTAL TO THE CITY OF MUKILTEO FOR REVIEW OF THE ASSOCIATED CRITICAL AREAS REPORT & PROPOSED MITIGATION PLAN. NO OTHER USE IS INTENDED AT THIS TIME. THE LOCATION OF OFF-SITE WETLAND B WAS DERIVED FROM A PREVIOUS "SITE DEVELOPMENT CONCEPT PLAN" PREPARED BY PACE ENGINEERS, INC., AND OTHER OFF-SITE CRITICAL AREA LOCATIONS WERE BASED ON VISUAL OBSERVATION ONLY DUE TO A LACK OF LEGAL SITE ACCESS ONTO ADJACENT PRIVATE PROPERTIES. IF ANY QUESTIONS ARISE REGARDING THIS MAP, PLEASE CONTACT WETLANDS & WILDLIFE, INC. DIRECTLY.

PREPARED BY:

Wetlands and Wildlife, Inc.  
19410--179th Court NE  
Woodinville, WA 98077  
Phone: (425) 337-6450  
Email: [scott@wetlands-wildlife.com](mailto:scott@wetlands-wildlife.com)

PREPARED FOR:

Mr. Gagandeep Oberoi  
(Property Owner)  
4682 Arbors Circle  
Mukilteo, WA 98275

CRITICAL AREAS OVERVIEW MAP

OBEROI--PROPOSED SINGLE-FAMILY RESIDENCE

INCORPORATED CITY OF MUKILTEO, WA

TAX PARCEL #00527504701200

W&W Job: N2177

Drawn By:  
Teddi McFall &  
Scott Spooner

Date: 7/19/2022

Revision #: N/A

MAP SHEET:

CA1.00

	SQ. FT
PROPOSED BUFFER AVG. (REDUCTION); HOUSE & DVWY	1,982
PROPOSED BUFFER AVG. (ADDITION); 1:1 RATIO PER CODE	1,982
PROPOSED BUFFER IMPACTS FOR PORTION OF DVWY IN R.O.W.	418
PROPOSED MITIGATION AREA (WETLAND ENHANCEMENT)	2,400