

**Wetland Delineation Report  
And  
Buffer Mitigation Plan  
for the  
Soundview Drive Properties  
Bainbridge Island, Washington**

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Western Washington Wetland Rating Form

## SIGNATURE PAGE

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.

A handwritten signature in dark ink, appearing to read "Joanne Bartlett", written over a horizontal line.

Joanne Bartlett, PWS  
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A handwritten signature in dark ink, appearing to read "Laura Westervelt", written over a horizontal line.

Laura Westervelt  
Biologist

## INTRODUCTION

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Ecological Land Services, Inc. (ELS) was contracted by Rural American Properties to conduct a wetland boundary delineation, delineation report, and buffer mitigation plan for the Soundview Drive properties, which include parcel numbers 4146-004-002-0007 (Lot 2), 4146-004-003-0006 (Lot 3), and 4146-004-004-0004 (Lot 4). These lots are located within a portion of Section 11, Township 24 North, Range 2 East of the Willamette Meridian, in Bainbridge Island, Washington (Figure 1). This report summarizes findings of the wetland delineation according to the *City of Bainbridge Island Municipal Code (BIMC), Chapter 16.20.160* (2007) for delineation methodology, wetland categorization, and required buffer widths.

## METHODOLOGY

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The wetland delineation followed the Routine Determination Method according to the U.S. Army Corps of Engineers, *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region, Version 2.0* (U.S. Army Engineer Research and Development Center 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as “Waters of the United States” by the U.S. Army Corps of Engineers (USACE), as “Waters of the State” by the Washington Department of Ecology (Ecology), and locally by Bainbridge Island.

To verify the wetland boundary on these lots, ELS biologists collected data on vegetation, hydrology, and soils. The delineation site visit was conducted on September 13, 2016 during which, one wetland was delineated along the east side of the lots. The boundary of the wetland was delineated using consecutively numbered fluorescent flagging labeled “WETLAND BOUNDARY.” Wetland boundaries were determined through breaks in topography, changes in vegetation, and evidence of surface hydrology. The wetland boundary on these lots represents a continuation of the delineation conducted by ELS on the lots immediately to the north. The flags on the adjacent lots are numbered from 1 to 9 and the flags on these lots are delineated from 10 to 15. Vegetation, hydrology, and soil data was collected at two test plots to verify the wetland boundary delineation on these lots and four test plots were completed for the delineation on the adjacent lots (Appendix A). The wetland boundaries were mapped using a Trimble handheld Global Positioning System (GPS) unit to show the extent of the wetland on the site map (Figure 2).

## SITE DESCRIPTION

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The lots are located on the east side of Soundview Drive NE (Photoplate 1) in the Fort Ward Estates area of Bainbridge Island (Figure 1). They are rectangular-shaped lots oriented west to east (Figure 2). The lots are level on the west side and slope gradually into a shallow depression on the east half. The lots are undeveloped. The three lots are composed mainly of disturbed upland vegetation (Photoplates 2, 3, and 4) with areas of dense shrub and short deciduous trees occurring in places. The adjacent lots to the south, east and west are residentially developed, including the lots across Soundview Drive and the lots to the north are currently undeveloped.

The wetland was identified and delineated along the east edge of the three lots (Figures 2 and 3). Wetland A is situated in a depressional trough bordered by residential development on the southeast and south sides (Photoplates 1 and 2). It is a depressional system dominated by a combination of forested, scrub/shrub, and emergent vegetation communities (Photoplates 3 and 4). The wetland has a seasonally flooded hydroperiod with northerly water flow into a culvert at the north end that conveys water into wetlands north of Belfair Avenue. The culvert was not installed at the proper elevation and is angled up to the north so water only leaves the wetland during periods of high precipitation events.

## VEGETATION

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### Wetland Vegetation

The portion of Wetland A sampled onsite was composed of scrub/shrub and emergent communities. The shrub community was dominated by Nootka rose (*Rosa nutkana*, FAC), hawthorn (*Crataegus monogyna*, FAC), and cascara (*Frangula purshiana*, FAC) saplings. Slough sedge (*Carex obnupta*, OBL), soft rush (*Juncus effusus*, FACW), and large-leaf avens (*Geum macrophyllum*, FACW) dominated the herbaceous layer with low cover of trailing blackberry (*Rubus ursinus*, FACU) also present.

### Upland Vegetation

The upland areas onsite are composed of dense shrub communities with small deciduous trees. The vegetation in the upland was dominated by Nootka rose, English hawthorn, rose spirea (*Spiraea douglasii*, FACW) with lower percentages of domestic apple trees (*Malus domestica*, FACU) and holly (*Ilex aquifolium*, FACU). The herbaceous layer was dominated by bentgrass (*Agrostis capillaris*, FAC) with lower percentages of trailing blackberry, soft rush, large-leaf avens, and Dewey sedge (*Carex deweyana*, FAC) also present.

The dominant vegetation found onsite is recorded on the attached wetland determination data forms (Appendix A). The indicator status, following the common and scientific names, indicates how likely a species is to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) – Almost always occur in wetlands.
- **FACW** (facultative wetland) – Usually occur in wetlands, but may occur in non-wetlands.
- **FAC** (facultative) – Occur in wetlands and non-wetlands.
- **FACU** (facultative upland) – Usually occur in non-wetlands, but may occur in wetlands.

- **UPL** (obligate upland) – Almost never occur in wetlands.
- **NI** (no indicator) – Status not yet determined.

## **SOILS**

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As referenced on the U.S.D.A. Natural Resources Conservation Service (NRCS 2015) website, Cathcart silt loam, 2 to 8 percent slopes (7) is mapped across the lots (Figure 4). Cathcart soils are not classified as hydric (NRCS 2014) and do not have inclusions of hydric soil map units. Areas mapped as hydric soils do not necessarily mean that an area is or is not a wetland—hydrology, hydrophytic vegetation, and hydric soils must all be present to classify an area as a wetland.

### **Wetland Soils**

The evaluated wetland soil was composed of silt loam to clay with black to gray (10YR 2/1 to 2.5Y 4/1) soil matrix colors. Redoximorphic features were present that have a bright red color (10YR 4/6) covering 20 percent of the soil matrix. The soil profiles meet the criteria for hydric soil indicators F3 because of the depleted matrix chromas and presence of redoximorphic features.

### **Upland Soils**

The evaluated upland soil consisted of gravelly silt loam to silt loam with light brown to greyish-brown (10YR 3/2 to 2.5Y 4/1) soil matrix colors. Many of the upland soil profiles appear to meet the criteria for hydric soils because depleted matrix chromas were recorded. However, the soil profiles were determined to be non-hydric because the profiles closely match the description for Cathcart silt loam, which typically has low matrix chromas with redoximorphic features in areas of non-wetland. In addition, Cathcart soils are not classified as hydric. These areas are determined to be upland due to the lack of hydrophytic vegetation and/or wetland hydrology.

## **HYDROLOGY**

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Hydrology was not observed in Wetland A during the site visit but there were indicators of surface water during the growing season except at Test Plot 6 where the subsurface soil layer was glistening with water indicating that the soil remains damp. The source of hydrology to Wetland A is mainly direct precipitation and surface water runoff from adjacent developed lots. It appears that Wetland A fills with rain water and runoff during the winter and spring to a depth that allows flow of water north through the culvert at the north end (under Belfair Avenue). The culvert appears to be angled slightly with the higher end at the north, which prevents water flow until the wetland is flooded sometimes beyond its boundaries. The culvert conveys water into a wetland north of Belfair Avenue. The wetland north of Belfair Avenue is part of a series of wetlands that extend northerly to the north end of Fort Ward Estates. The wetlands discharge into a stream that flows northerly to Blakely Harbor. Water was not present in the upland areas and there was no evidence of wetland hydrology.

## **NATIONAL WETLAND INVENTORY**

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The National Wetlands Inventory (NWI) does not map wetlands on or within 250 feet of the property (Figure 5). The findings of the ELS delineation do not agree with the NWI mapping because wetland is present along the east edges of the lots. The NWI maps should be used with discretion because they are used to gather general wetland information about a regional area and therefore are limited in accuracy for smaller areas because of their large scale.

## **BAINBRIDGE ISLAND CRITICAL AREAS**

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The Bainbridge Island Critical Areas map (BI 2015) maps wetland along the east boundary of the three lots (Figure 6), which represents Wetland A. The ELS biologists agree with the general mapping of wetland (Figure 2).

## **CONCLUSIONS**

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### **WETLAND CATEGORIZATION**

The wetland is situated in a depression having emergent, scrub/shrub, and forested vegetation classes and a seasonally flooded hydroperiod. The wetland was rated according to *Washington State Wetlands Rating System for Western Washington-2014 Update* (Rating System) (Hruby 2014). Wetland A received 17 points on the rating form and is considered a Category III, Depressional system rated based on functions (Appendix B). The wetland scores 5 points for habitat, which puts it in the moderate range for habitat functions.

### **CRITICAL AREA REGULATIONS**

The *BIMC Chapter 16.20.160* specifies buffers based on wetland category, scores for habitat functions on the rating form, and the intensity of the proposed land use in accordance with the 2004 wetland rating system. The *BIMC* has not been revised to meet the 2014 rating system scores so does not reflect the new point totals for determining the buffer widths based on habitat scores. However, Ecology has developed guidance for converting 2004 wetland rating system habitat scores to the 2014 wetland rating system habitat scores. Water quality buffers are required for all wetlands and habitat buffer widths are required for wetlands scoring moderate to high habitat functions on the rating form. Wetland A is a Category III wetland that received a moderate score for habitat function. Because these lots are less than 1 acre in size, development is considered high intensity land use, which increases the width of the water quality and habitat buffers. *BIMC* requires an 80-foot water quality buffer and a 70-foot habitat buffer because of the moderate habitat score and the high intensity land use proposal. The 150-foot buffer extends across all three lots and Soundview Drive and because buffers do not extend beyond improved roads that serve more than one home, the buffer width for Wetland A extends only to Soundview Drive. Therefore, the total buffer width provided to Wetland A is 110 feet between the wetland boundary and the improved portion of Soundview Drive. A 15-foot building and impervious surface setback is also specified from the edge of the critical area buffers.

Buffer reductions are permitted by the *BIMC Section 16.20.050* through the buffer averaging process wherein the buffer is reduced in one location and increased in another by the same square footage to create a buffer that averages the required buffer width. The *BIMC* also permits

reductions of the habitat buffers for wetlands if it can be documented that the reduction will provide a buffer that provides adequate protection for the wetland. A habitat management plan and buffer mitigation is required as part of this reduction process. Buffer reductions for water quality buffers are permitted only through the formal variance or Reasonable Economic Use Exception process.

### **REASONABLE USE EXCEPTION**

The project proposes building one single family home on each lot. All three lots are entirely encompassed by the current wetland buffers, right-of-ways, and front yard setbacks. The required water quality and habitat buffers extend beyond the west lot boundaries so no habitat buffer occurs on these lots. Administrative options for buffer reduction do not apply to water quality buffer widths but would also not allow for enough buildable area to accommodate the proposed homes if administrative reductions were permitted. Therefore, in order to accommodate homes on each lot, the water quality buffer will need to be reduced by the Reasonable Use Exception process. Buffer mitigation is required to compensate for the buffer reduction per the *BIMC*.

### **SITE DEVELOPMENT PROPOSAL**

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The project proposes construction of a single family home on each lot as close to Soundview Drive as possible (Figure 3). The entirety of each lot is encompassed by wetland buffers, the right-of-way of Soundview Drive, and front/side yard setbacks. So any construction on the lots will be impacting the water quality buffer. The wetland was rated as a Category III unit with a moderate habitat score (5 points) and so requires a buffer of 150 feet. The homes will be situated within the 150-foot wetland buffer where the vegetation is dominated by grasses and non-native invasives, which primarily include Himalayan blackberry (Photoplate 1). Combined, the homes will represent a total of 11,291 square feet of impact to the wetland buffer. While the typical requirement for buffer mitigation is a ratio of 1:1, the project on these lots cannot meet this requirement because the reduced buffer only totals 9,760 square feet. There is also little opportunity on the lots to improve buffer conditions because it is so densely vegetated with Nootka rose and hawthorn trees. Therefore, the mitigation focuses on creating a physical barrier at the buffer edge by planting lower growing conifer trees (shore pine) and installing a split-rail fence along the buffer boundary. The houses on these lots, encompassed by wetland buffer, will result in permanent impacts to the buffer function but will have minimal impact on the wetland. The proposed home sites will result in removal of non-native shrubs and grass from 11,291 square feet of the wetland buffer. The minimum buffer width occurs on Lot 3 where it is 6.5 feet from the wetland boundary and a maximum of 100 feet on Lot 2, which only contains the buffer from Wetland A.

### **MITIGATION SEQUENCING**

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The 150-foot wetland buffer covers each of the three lots and extends beyond Soundview Drive. The proposed homes with driveways will occupy 11,291 square feet (all three lots combined) of the buffer. The houses are also constrained by the setbacks required from the property lines, which include a 15-foot side yard setback to the north and south. Additionally, there is a 25-foot front yard setback from the Soundview Drive right-of-way, which significantly reduces the area

available for home construction on these lots. As part of the mitigation process, projects proposed within a wetland buffer are required to address the mitigation sequencing process to assess whether the project can avoid, minimize, rectify, or reduce impacts before identifying compensation or mitigation measures.

**Avoiding Impacts:** The undeveloped lots are vegetated by somewhat disturbed upland plant communities along the west half and the east half is encompassed by dense upland and wetland shrub communities. The proposed house locations are composed of grasses and non-native shrubs and are strewn with debris from the adjacent residences. The project proposes no work in the wetland itself and so avoids impacts to the wetland environment. The project cannot avoid impacts to the buffer because this property is completely composed of buffers and setbacks.

**Minimizing Impacts:** The project is minimizing the impacts by proposing the houses as close to Soundview Drive as allowable by the setbacks in a portion of the buffer that has low function. In addition, reduction of the front yard setback is proposed to minimize the impacts to the wetland and buffer. All of the houses have been positioned so that they are as far from the wetland as possible. The home on Lot 2 is positioned so that it is in the same orientation as the homes on Lots 3 and 4. The location and orientation of the house is in keeping with the Fort Ward Design Guidelines and they are intended to be small affordable housing units so they use the same design and orientation to keep construction costs low. Orienting the house perpendicular to Soundview Drive was examined as an alternative to the proposed position parallel to the roadway but it would require a longer driveway and would require construction on sloping terrain, which would involve additional engineering. It would also extend the house into the existing native vegetation south of the wetland so would require removal of said vegetation. The location of the house allows construction to occur in an area where invasive blackberry thickets dominate and on terrain that is mostly level with the road, which allows construction costs to be kept relatively low. Therefore, the house on Lot 2 cannot feasibly be re-oriented in such a way as to further minimize the impacts to the water quality wetland buffer.

**Rectifying the Impacts:** The project represents a permanent impact to the buffer so cannot rectify the impacts to the affected habitats.

**Reducing or Eliminating the Impacts:** The project cannot reduce or eliminate the impacts by preservation and maintenance.

**Compensating for the Impacts:** The project cannot avoid, rectify, or reduce the impact to the wetland buffer but has minimized the impact to the extent possible by proposing the houses as far from the wetland boundary as possible. Because it cannot avoid all of the impacts to the wetland buffer, mitigation in the form of buffer enhancement is proposed. The enhancement plan will involve removal of invasives and non-natives including Scot's broom and Himalayan blackberry, from where they occur in the buffer. Following removal of the invasives, native conifer trees will be installed along the buffer edge (Figure 10).

## **BUFFER MITIGATION PLAN**

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The wetland buffer is densely vegetated with Nootka rose and English hawthorn trees that provide a very protective buffer for the depressional wetland. The mitigation plan proposes to focus on providing additional diversity by increase the cover by conifer trees. Invasive plant removal will be conducted where feasible and necessary in the dense shrub buffer during implementation of the plan. The conifer trees will be planted along the edge of the buffer where trees are lacking and a split-rail cedar fence or a comparable substitute will be installed along the buffer edge.

The existing buffer vegetation is very dense and impenetrable from the future building sites on each lot. The installation of shore pines at the edge of the buffer is intended to provide another level of protection for the wetland from the future homes. The placement of the fence is intended to provide a clear demarcation of the critical area and buffer to prevent continual access by future residents. There will be a slight functional lift for the wetland buffer provided by the trees so there will be no loss of wetland buffer function. In addition, construction on each lot is proposed within the grassy, blackberry dominated land that comprises the building sites so no significant native vegetation will be removed that would result in additional impacts to the wetland or buffer.

### ***Buffer Functional Lift***

The existing buffer is densely vegetated by native trees and shrubs that are for the most part deciduous. There are few if any conifer tree species in the buffer because of the dense nature of the deciduous shrubs. The buffer has high functions because of the dense shrubs but lacks diversity because there are only a few plant species including Nootka rose, hardhack, and hawthorn. Although the buffer function is fairly high at this time, the function will be increased by planting conifer trees at the buffer edge will provide additional screening of noise and light generated on the future homes. The trees will be especially beneficial in the winter months after the deciduous shrubs and small trees lose their leaves. Therefore, the installation of conifer trees will increase the function of the buffer as well as the diversity of the plants within the buffer.

### ***Specifications for Site Preparation***

The tasks listed below will achieve the wetland buffer mitigation goals and objectives. These tasks are listed in the order they are anticipated to occur; however, some tasks may occur concurrently or may precede other tasks due to site and procedural constraints.

### ***Buffer Enhancement Area***

1. Stake or flag the proposed planting areas to precisely identify where invasives will be removed and native plants installed.
2. Remove existing invasive vegetation from the wetland buffer prior to installation of the native plants.
3. Install plantings according to the schedule and specifications proposed herein.

## ***Goals, Objectives, and Performance Standards***

**Project Goal:** Improve wetland buffer functions to compensate for buffer reduction.

### **Objective 1: Control invasive species.**

*Performance Standard 1(a):* During Years 1 through 7, invasive species will be removed and suppressed in the mitigation areas as often as necessary to meet a performance standard of no greater than 10 percent cover by invasive species. Percent cover will be recorded annually and included in monitoring reports.

### **Objective 2: Improve native plant cover within the native shrub buffer community.**

*Performance Standard 2(a):* The project will maintain 100 percent survival of installed plants during the entire 7-year monitoring period. Plant species number will be recorded annually and compared with as-built conditions for inclusion with the monitoring reports.

### **Objective 3: Increase conifer cover by planting shore pines along the edge of the wetland buffer.**

*Performance Standard 3(a):* Shore pines grow relatively slowly so the cover is expected to increase slowly over the seven year monitoring period. The trees shall be monitored for increasing heights over the monitoring period as follows: Year 1-up to 1.5 feet tall, Year 2-up to 2.5 feet tall, Year 3-up to 3.5 feet tall, Year 5-up to 5 feet tall, Year 7-at least 6 feet ta. Tree height will be recorded annually and compared with as-built conditions to determine overall success of the plantings.

## ***Specifications for Planting***

The plants specified for installation are intended to diversify the existing plant community and improve wetland buffer function. The specified trees grow relatively slowly, and if maintained, will form a natural hedge of conifers that will provide additional noise and light screening from the future homes. Their installation is intended to improve upon the ground-level buffer function by increasing the density of conifer trees alongside the existing native shrub community. The proposed location of the plants is presented in the mitigation planting plan (Figure 9).

## ***Plant Materials***

### ***Potted Stock***

1. 2-gallon potted plants will be purchased from a native plant nursery.
2. Potted stock will have a minimum size of 1.5 to 3 feet tall.
3. Potted stock will be kept in a shaded area prior to being planted.
4. The potted stock will have well-developed roots and sturdy stems with an appropriate root- to-shoot ratio.
5. No damaged or desiccated roots or diseased plants will be accepted.
6. Unplanted stock will be properly stored at the end of each planting day to prevent desiccation.
7. The project biologist will be responsible for inspecting potted stock prior to and during planting and culling unacceptable plant materials.

### ***Planting Specifications***

Removal of invasive plants can begin at any time following issuance of the permits by the city and planting will take place during the winter months when the plants are dormant. Plants will be installed as roughly indicated on the attached planting plan (Figure 8) or in small groupings to mimic the natural environment and to enhance species survival. Table 1 provides a list of plants proposed for installation within the buffer based on the square footage of the planting areas. Plantings will be spaced to allow for removal of invasive plants and each planting may be protected by weed mat or similar product to prevent the re-growth of invasive plants.

**Table 1. Plant specifications for buffer mitigation area.**

<b>Species Name</b>	<b>Spacing (feet from center)</b>	<b>Minimum Size</b>	<b>Quantity</b>
Shore pine ( <i>Pinus contorta contorta</i> )	10	2-gallon, potted	26
<b>Total Plantings</b>			<b>26</b>

### ***Planting Methods***

1. Plant the specified trees in the winter 2016-2017 (or subsequent winter) or after construction activities are completed, as listed in Table 1. Planting after construction is completed is recommended to avoid impacting the plants during construction. Space the trees roughly 10 feet apart along the edge of the buffer and just inside the split-rail fence. Plant the trees with a tree shovel or comparable tool.
2. Place the trees in the planting holes so that their roots are able to extend down entirely and do not bend upward or circle inside the hole.
3. Position the root crowns so that they are at, or slightly above, the level of the surrounding soil.
4. Firmly compact the soil around the planted species to eliminate air spaces.
5. Install anti-herbivory devices, such as seedling protection tubes or mesh protection netting, around the stems of planted species when appropriate, and secure them with stakes.
6. Irrigate all newly installed plants as site and weather conditions warrant.

## **MAINTENANCE**

Maintenance of the planting areas will occur for seven years and will involve removing invasive plant species, irrigating planted species, and reinstalling failed plantings, as necessary. The maintenance may include the following activities:

1. Remove and control non-native and/or invasive vegetation from within the wetland buffer a minimum of two times during the growing season for the first five years.
2. Irrigate planted species as necessary during the dry season, approximately July 1 through October 15. ELS biologists recommend that watering occur at least every two weeks during the dry season for the first three years. The most successful method of watering plants is using a temporary above-ground irrigation system set to a timer to ensure the plants are regularly watered.

3. Replace dead or failed plants as described for the original installation to meet the minimum annual survival rate and percent cover performance standards.

## **MONITORING PLAN**

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The buffer mitigation areas will be monitored annually for a 7-year period following plant installation. Monitoring reports will be submitted to the City of Bainbridge Island by December 31 of each monitored year. The goal of monitoring is to determine if the previously stated performance standards are being met. The buffer mitigation area will be monitored once during the growing season, preferably during the same two-week period each year to better compare the data. During the first annual monitoring and maintenance event, representative monitoring photo stations will be selected to provide yearly photos of the planted area. The entirety of the planted area will be monitored each year and no individual monitoring units will be established.

### ***Vegetation***

Vegetative monitoring will document the development of the natural evergreen hedge along the edge of the buffer. The following information will be collected in the planted area:

- Height and survival of installed trees.
- Species composition of herbs, shrubs, and trees, including non-native, invasive species.
- Photo documentation of vegetative changes over time.

### ***Fauna***

General observations will be recorded and photographs will be taken of wildlife during site visits to the site for monitoring. Observations of insects and other invertebrates, amphibians, reptiles, fish, birds, and mammals will be recorded and documented in the annual monitoring reports. Use of the on-site buffer areas by any priority species also will be noted.

### ***Monitoring Report Contents***

The annual monitoring reports will contain at least the following:

- Location map and representational drawing.
- Historic description of project, including dates of plant installation, current year of monitoring, and restatement of goals, objectives, and performance standards.
- Description of monitoring methods.
- Documentation of plant cover and overall development of plant communities.
- Assessment of non-native, invasive plant species and recommendations for management.
- Observations of wildlife, including, amphibians, invertebrates, reptiles, birds, and mammals
- Photographs from permanent photo points.
- Summary of maintenance and contingency measures proposed for the next season and completed for the past season.

## **CONTINGENCY PLAN**

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If the performance standards are not met by the seventh year following project completion, or at an earlier time if specified above, a contingency plan will be developed and implemented. All contingency actions will be undertaken only after consulting and gaining approval from the City of Bainbridge Island. The applicant will be required to complete a contingency plan that describes (1) the causes of failure, (2) proposed corrective actions, (3) a schedule for completing corrective actions, and (4) whether additional maintenance and monitoring are necessary. Yearly plant replacement will be conducted if the survival rate falls below 100 percent during the monitoring year.

## **SITE PROTECTION**

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The enhanced buffer area will be owned, maintained, and managed by the landowners, unless such responsibilities are assigned to another entity. The owners will be responsible for maintenance and monitoring of the planting areas for the prescribed 7-year period.

## **LIMITATIONS**

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The conclusions listed above are based on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our conclusions; however, this should be considered a preliminary jurisdictional determination and should be used at your own risk until it has been reviewed and approved in writing by the appropriate regulatory agencies.

## REFERENCES

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- City of Bainbridge Island. 2007. *Bainbridge Island Municipal Code, Title 16.20 Critical Areas*, 2007 Bainbridge Island, Washington.
- City of Bainbridge Island. 2012. Bainbridge Island Geographical Information System. Online document <http://apps.bainbridgewa.gov:8080/PublicGIS/>. Website accessed September 2016.
- Cowardin, L.M., C. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-78/31. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1. U.S. Army Corps of Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Hruby, T. August 2014. *Washington State Wetland Rating System for Western Washington, 2014 Update*. Washington State Department of Ecology Publication #14-06-029. Olympia, Washington. Effective January 1, 2015.
- U.S. Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Fish & Wildlife Service. 2014. National Wetlands Inventory. Online document <http://www.fws.gov/wetlands/Data/Mapper.html> . Website accessed September 2016.
- U.S.D.A. Natural Resource Conservation Service (NRCS). 2015. WA635 Kitsap County Area. Online document <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> . Website accessed September 2016.
- U.S.D.A. Natural Resource Conservation Service (NRCS). 2014. Washington Hydric Soils List. <<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>>.
- Browne Wheeler Engineers Inc. 2016. *Rural American Properties/Duerr Day Drainage Plan Letter*.

## **FIGURES AND PHOTOPLATES**

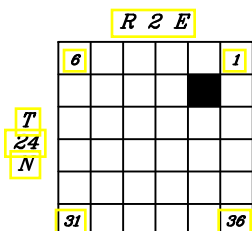
---

WASHINGTON

SITE

47.5829° Latitude  
-122.5215° Longitude

LOCATION MAP



**NOTE:**

USGS topographic quadrangle map reproduced using  
MAPTECH Inc., Terrain Navigator Pro software.

**PROJECT  
VICINITY MAP**

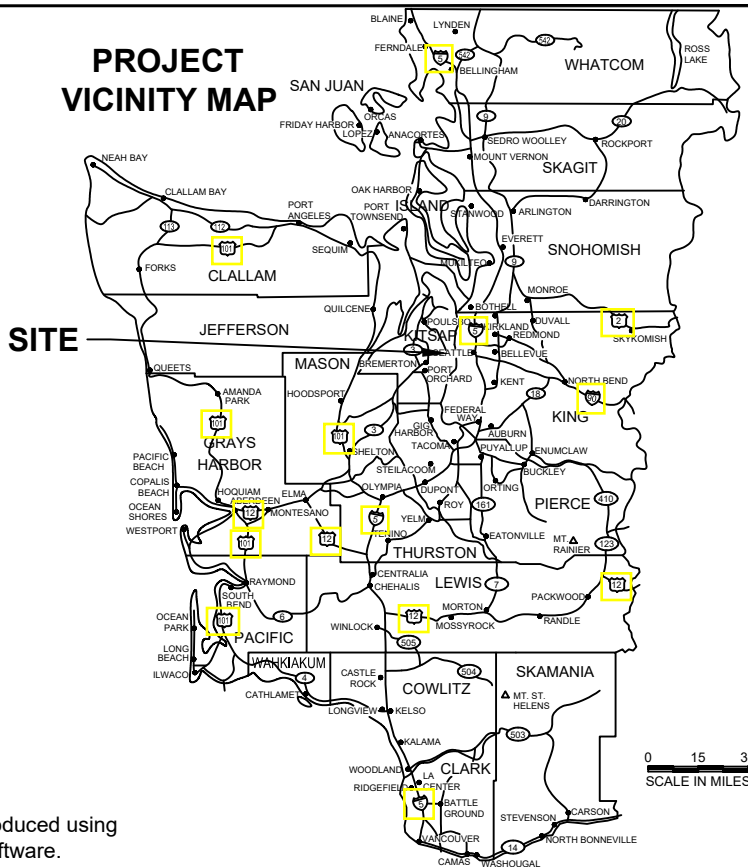


Figure 1

VICINITY MAP

Soundview Boulevard Properties

Rural American Properties

City of Bainbridge Island, Kitsap County, WA

Section 11, Township 24N, Range 2E, W.M.

DATE: 12/12/16

DWN: JLL

REQ. BY:

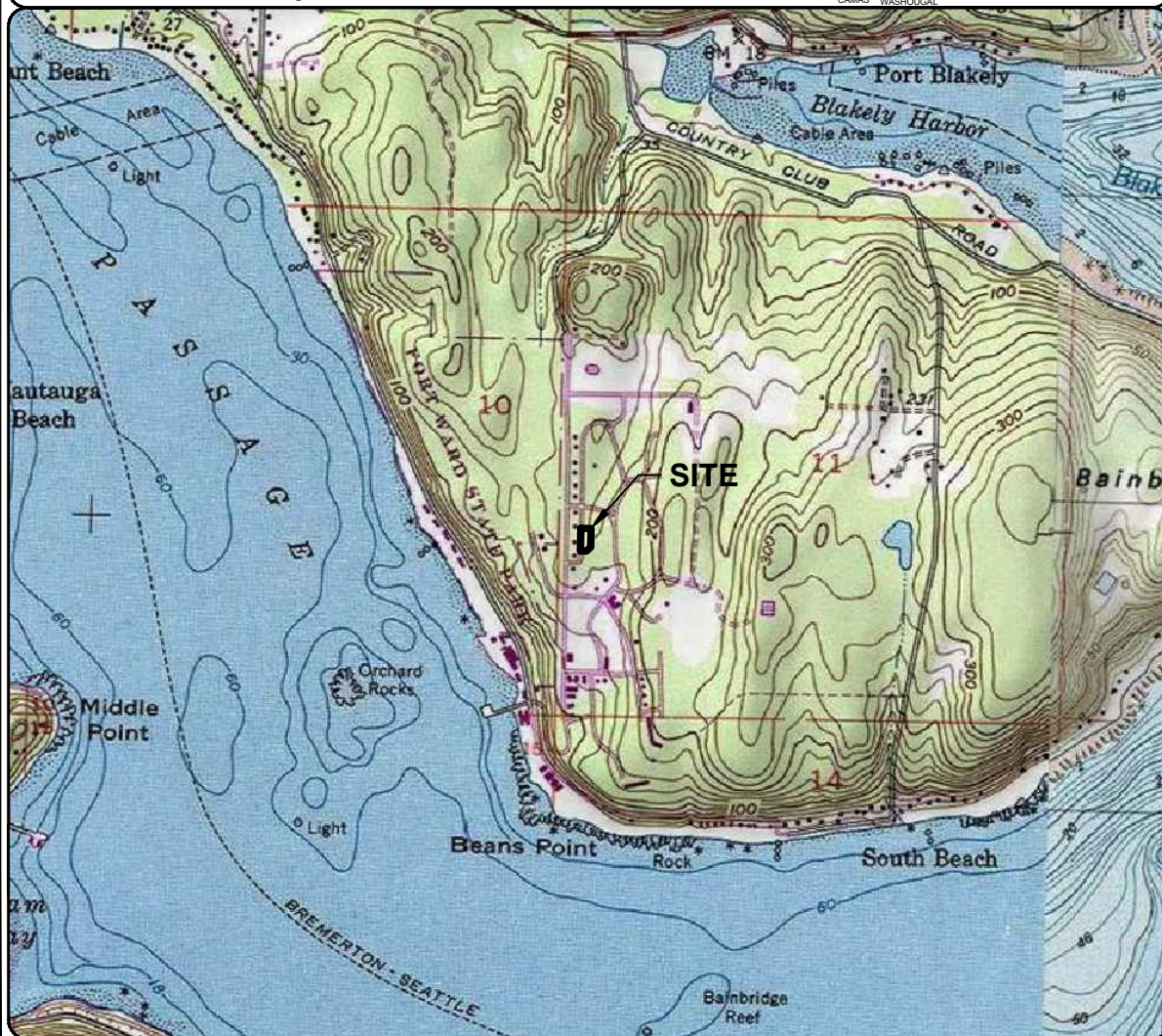
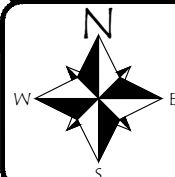
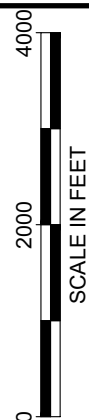
PRJ. MGR: JB

CHK:

PROJECT NO:

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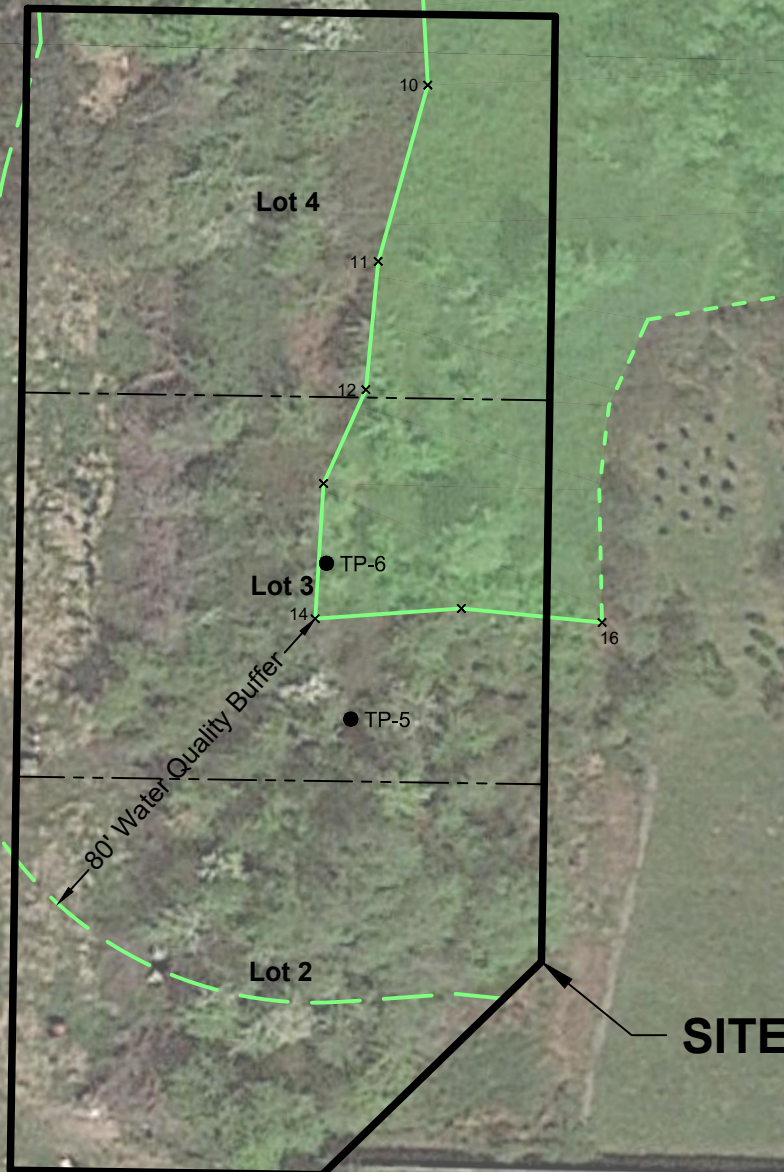


Soundview Drive NE

**LEGEND:**

- Site Boundary
- Wetland Boundary
- - - - Approximate Wetland Boundary
- Wetland Buffer
- TP-1 Test Plot Location
- 01 x Wetland Flag

**Wetland**  
Category III  
Depressional  
Forested  
Scrub/Shrub  
Emergent  
Seasonally Flooded



DATE: 12/12/16  
DWN: JLL  
REQ. BY:  
PRJ. MGR: JB  
CHK:  
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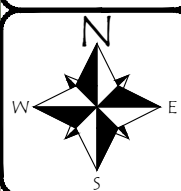
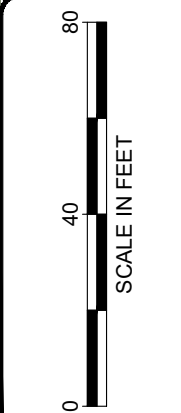


Figure 2  
SITE MAP  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.

**NOTE(S):**

1. Aerial from Google Earth™.
2. Wetland and test plots located using handheld GPS with submeter accuracy.



DATE: 12/12/16  
DWN: JLL  
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Figure 3  
SITE PLAN  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.

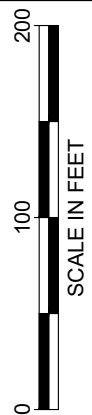


**LEGEND:**

- 7 Cathcart silt loam, 2 to 8 percent slopes. Not hydric.

**NOTE(S):**

- Map provided on-line by NRCS at web address:  
<http://websoilsurvey.nrcs.usda.gov/app/>



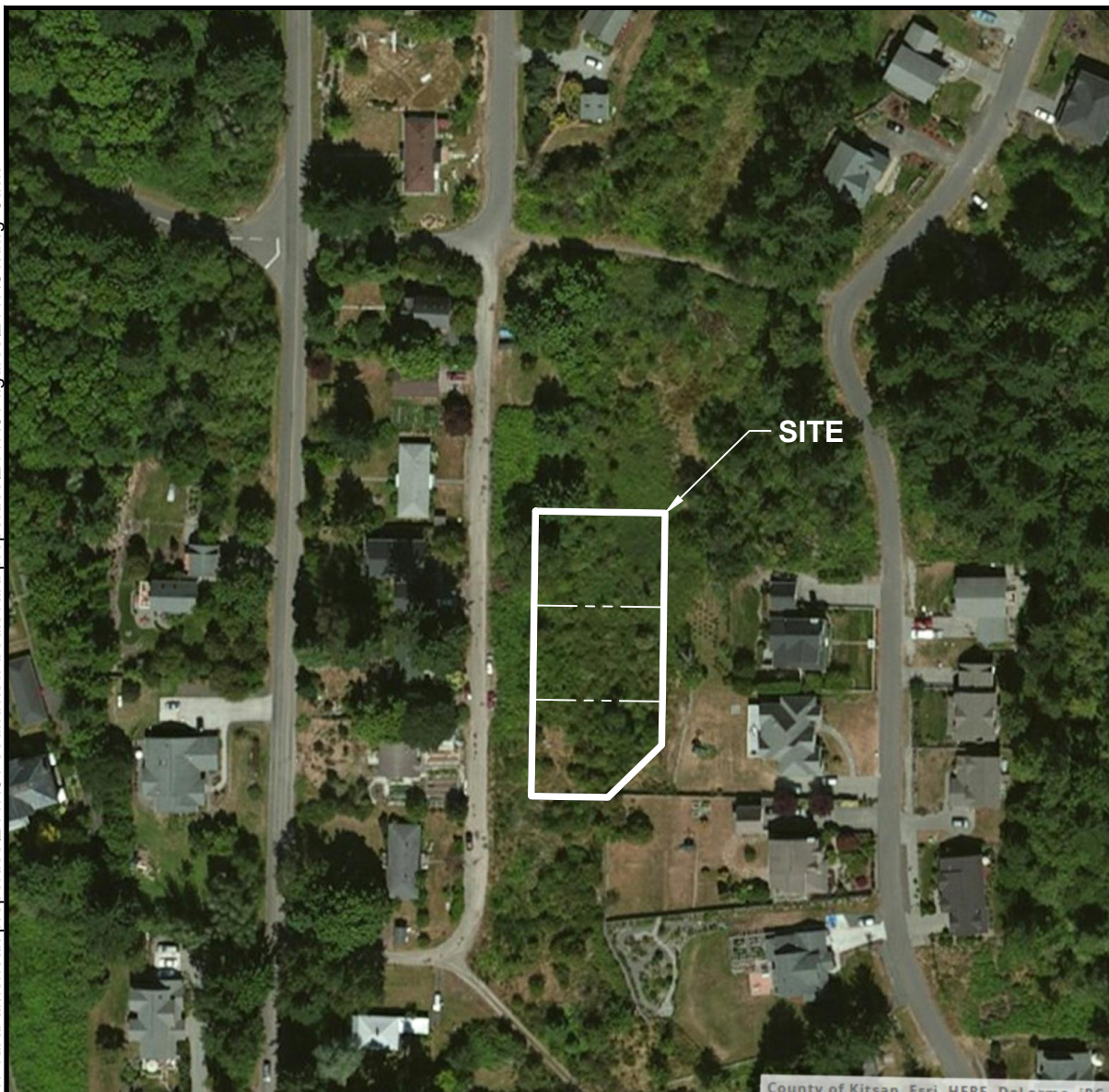
SCALE IN FEET



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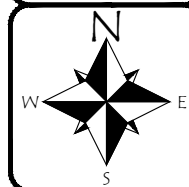
Figure 4  
SOIL SURVEY MAP  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.



No mapped wetlands indicated onsite by US Fish & Wildlife Service.

**NOTE(S):**

1. Map provided on-line by US Fish & Wildlife Service at web address:  
<http://www.fws.gov/wetlands/data/index.html>



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Figure 5

**NATIONAL WETLANDS INVENTORY MAP**  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.



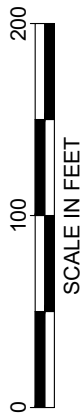
**LEGEND:**



Wetlands

**NOTE(S):**

1. Map provided on-line by the City of Bainbridge Island at web address:  
<http://apps.bainbridgewa.gov:8080/PublicGIS/>



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**Figure 6**  
**BAINBRIDGE ISLAND CRITICAL AREAS MAP**  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.

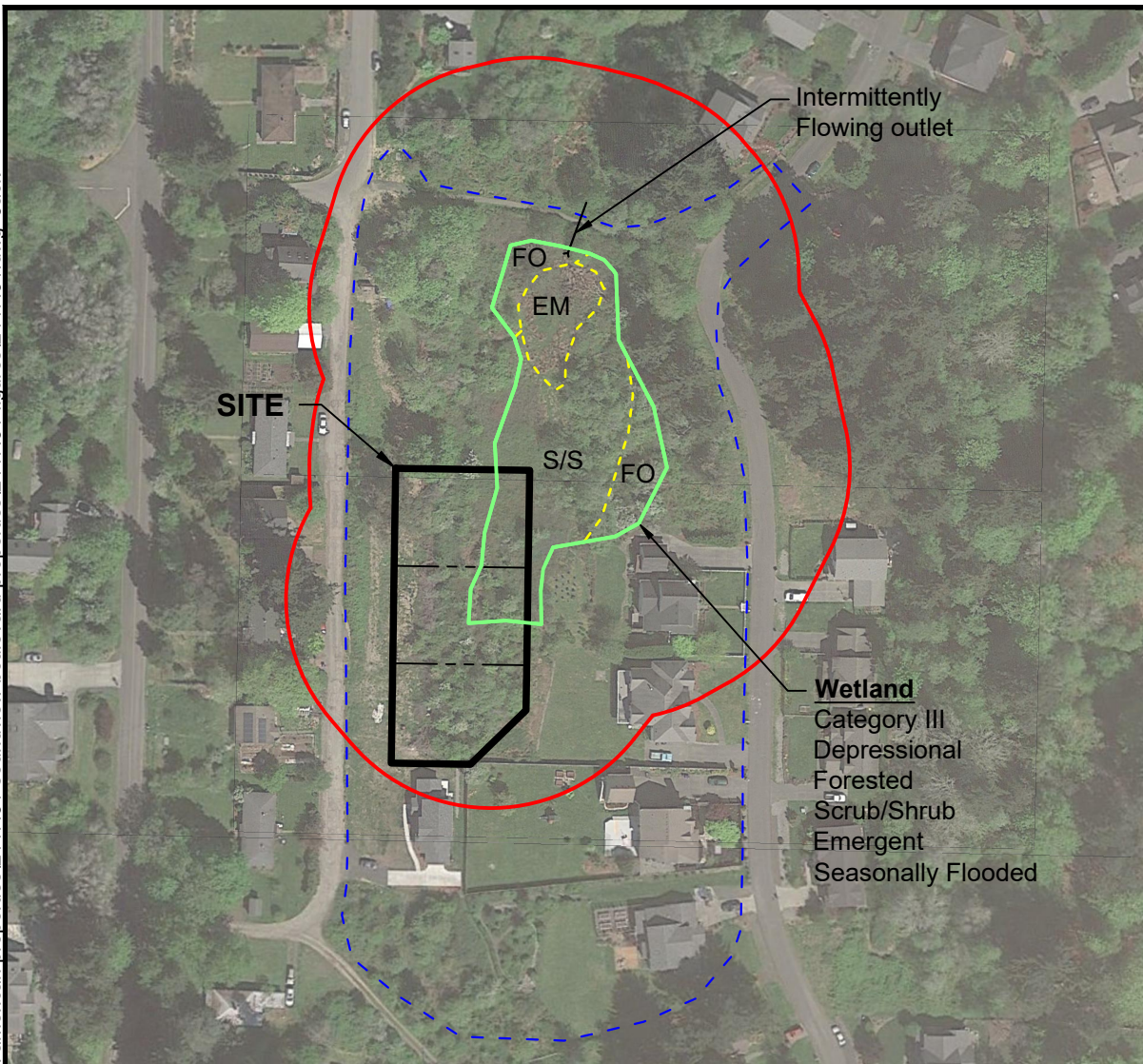
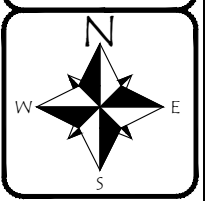


Figure 7  
**WETLAND RATING FORM-150' OFFSET**  
 Soundview Boulevard Properties  
 Rural American Properties  
 City of Bainbridge Island, Kitsap County, WA  
 Section 11, Township 24N, Range 2E, W.M.

DATE: 12/12/16  
 DWN: JLL  
 REQ. BY:  
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Rating Question	Description	Answers specific to Wetland being rated
D 1.1, D 4.1	Location of Outlet	Wetland has an intermittently flowing outlet
D 1.3	Distribution of persistent plants	Persistent, ungrazed plants > 1/2 of the area
D. 1.4	Area of seasonally flooded	Area seasonally ponded > 1/2 of the wetland
D 2.2	Boundary of area w/in 150' of the wetland in land uses that generate pollutants	>10% of the area within 150' in land uses that generate pollutants
D 5.2	Boundary of area w/in 150' of the wetland in land uses that generate excess runoff	> 10% of the area within 150 feet in land uses that generate excess runoff
D 4.3	Contributing Basin- Contribution of wetland to storage in the watershed	Area of the basin is less than 10 times the area of the wetland
D 5.3	Contributing Basin covered in intensive land uses	>25% of the basin is covered in intensive human land uses
H 1.1	Cowardin Plant Classes	Emergent, Scrub/Shrub, Forested
H 1.2	Hydroperiods	Seasonally flooded
H 1.4	Interspersion of habitats	Moderate Interspersion of habitat

**LEGEND:**

- Wetland Unit Boundary
- - - Vegetation Class Division
- - - Contributing Basin
- 150' Wetland Offset
- S/S Scrub/shrub
- FO Forested
- EM Emergent

**NOTE(S):**

1. Aerial photo from Google Earth™.



**LEGEND:**

- Wetland Unit Boundary
- Contributing Basin
- A Accessible Habitat (0.1%)
- U Undisturbed Habitat (12.0% \*Includes Accessible Habitat)
- H High Intensity Land Use (33.9%)
- M/L Moderate/Low Intensity Land Use (54.1%)

- H 2.1 - Accessible habitat < 10% of 1 km Polygon (0.1%).
- H 2.2 - Undisturbed habitat 10-50% and > 3 patches (39.1%).
- H 2.3 - ≤ 50% of polygon is high land use intensity.

**NOTE(S):**

1. Aerial photo from Google Earth™.

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Figure 8  
WETLAND RATING FORM-1 KM OFFSET  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.

0 1200 2400  
SCALE IN FEET

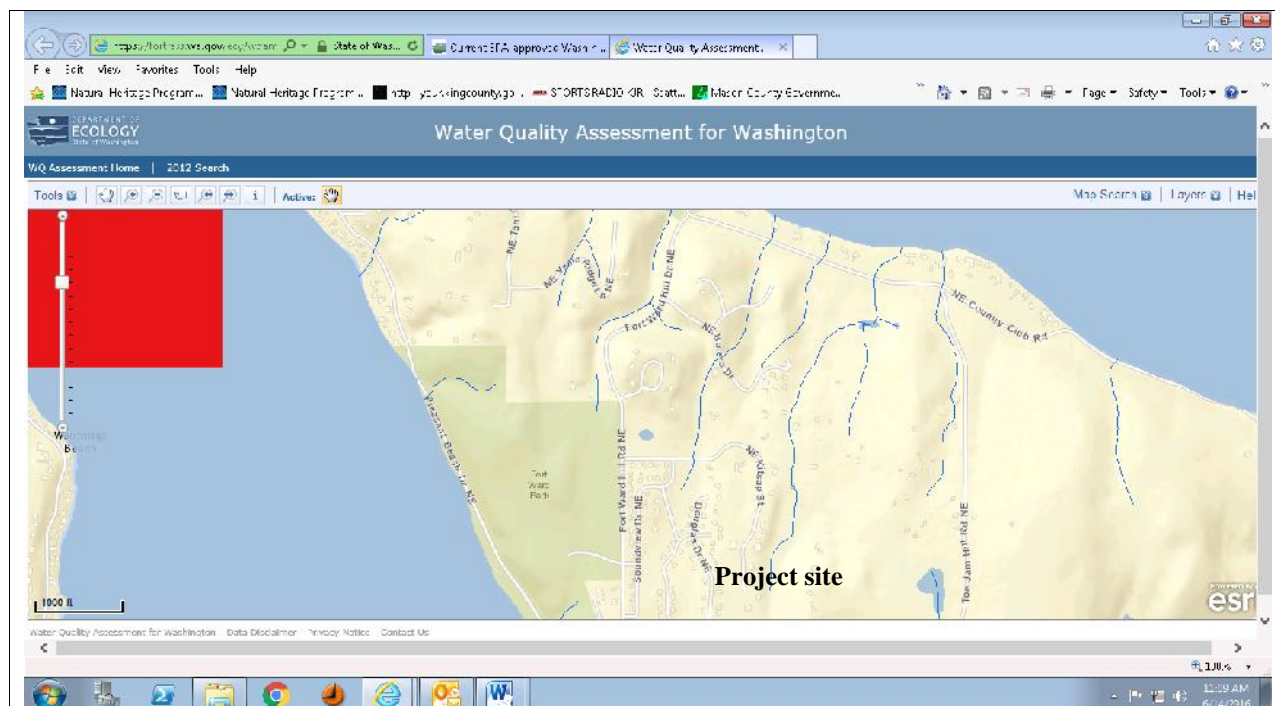


Figure 9a-303(d) Map: There are no 303(d) waters mapped within the basin of the rated wetland.

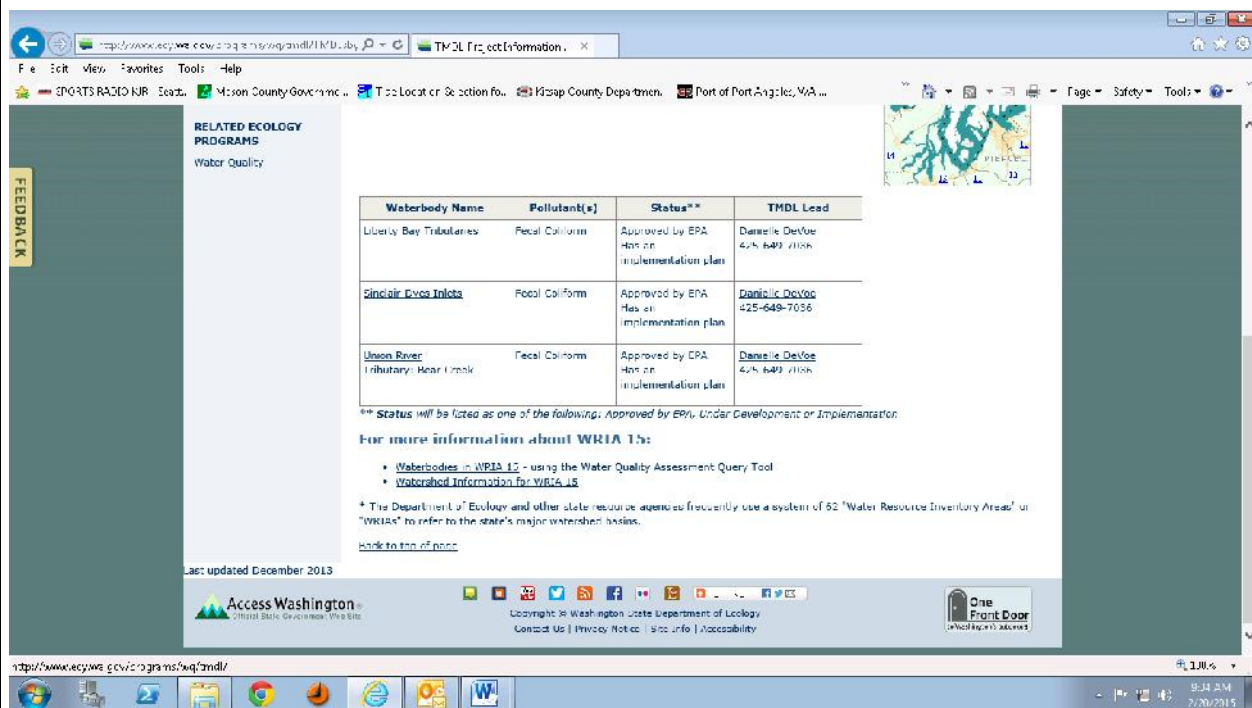


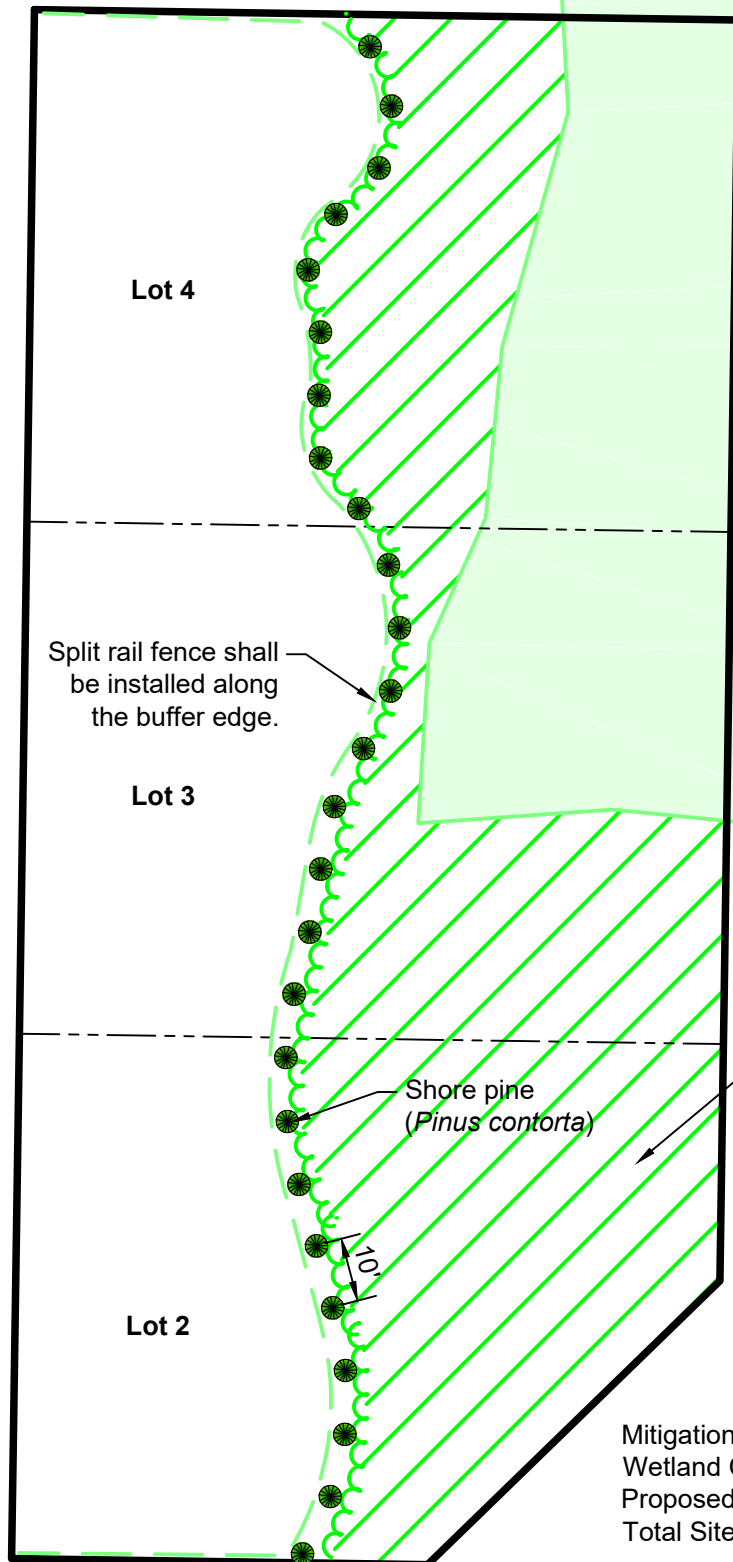
Figure 9b: TMDL List for Kitsap County. There are no TMDLs for the drainage basin of the rated wetland.



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PROJ.#: 2447.01

**Figure 9-Wetland Rating**  
**Figure-303(d)/TMDL**  
Project Name: Soundview  
Boulevard Properties  
Client: Rural American  
Properties  
Kitsap County, Washington



**Wetland**  
Category III  
Depressional  
Forested  
Scrub/Shrub  
Emergent  
Seasonally Flooded

Split rail fence shall be installed along the buffer edge.

Shore pine  
(*Pinus contorta*)

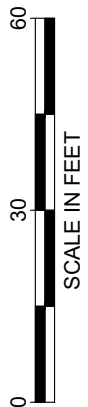
Buffer is well vegetated by Nootka rose, hardhack, and common hawthorn. Any invasive cover will be removed during implementation of the mitigation and during the 5 year monitoring period.

Mitigation Buffer Area = 9,760 sq.ft  
Wetland On Site Area = 4,652 sq.ft  
Proposed Development Area = 11,196 sq.ft  
Total Site Area = 25,608 sq.ft

**LEGEND:**

- Site Boundary
- Wetland Boundary
- - - Approximate Wetland Boundary
- Wetland Buffer

**NOTE:** Plants are not to scale and location are approximate as shown. Actual planting locations will be determined in the field, with consideration to the listed spacing and density to produce the most natural appearance possible.



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CHK:  
PROJECT NO:  
2447.01

**Figure 10**  
**BUFFER MITIGATION PLAN**  
Soundview Boulevard Properties  
Rural American Properties  
City of Bainbridge Island, Kitsap County, WA  
Section 11, Township 24N, Range 2E, W.M.



**Photo 1** was taken from Soundview Drive looking north along the west property line of the three lots. It shows the low growing, non-native vegetation that makes up the front half of the lots.



**Photo 2** was taken from the same location as Photo 1 and looks east toward the fruit trees that vegetate the south end of the lots.



**Photo 3** was taken from the same location as Photos 1 and 2 facing south. It shows the south end of the lots (Lot 2) and the adjacent residential development.



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Photoplate 1  
Project Name: Soundview  
Drive Properties  
Client: Rural American  
Properties  
Kitsap County, Washington



**Photo 4** was taken from the edge of the woody vegetation that begins about halfway to the east property line from Soundview Drive. The tree layer was made up of non-native fruiting trees and hawthorns.



**Photo 5** was taken from the same location as Photo 4 and looks east toward the fruit trees and other woody vegetation that makes up the lots. A dense shrub layer of Nootka rose dominates the understory of the short stature tree community.



**Photo 6** was taken from the same location as Photos 4 and 5 facing south. It shows the outer edge of the small tree/dense shrub vegetation area at the back of the lots. A row of conifer trees will be installed along this edge of the buffer with a fence placed along the reduced buffer line.



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PRJ. MGR JB  
PROJ.#: 2447.01

Photoplate 2  
Project Name: Soundview  
Drive Properties  
Client: Rural American  
Properties  
Kitsap County, Washington



**Photo 7** was taken of Wetland Boundary Flag A-9 looking south. The delineation flags placed on these lots are a continuation of the offsite delineation that was performed on the lots to the north. This portion of the wetland was dominated by very dense thickets of Nootka rose.



**Photo 8** was taken of Wetland Boundary Flag A-10 facing northeast. The boundary was primarily determined by the topographical dip observed within the dense shrubs.



**Photo 9** was taken from the southern portion of the wetland looking southwest where the vegetation had more developed layering. This location had a dense herbaceous layer beneath the short stature trees because the shrub layer was nearly non-existent..



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DATE: 9/19/16  
DWN: LHW  
PRJ. MGR JB  
PROJ.#: 2447.01

Photoplate 3  
Project Name: Soundview  
Drive Properties  
Client: Rural American  
Properties  
Kitsap County, Washington



**Photo 10** was taken of the area where Test Plot 6 was conducted. It was located inside the southern tip of Wetland A where the herbaceous understory was thickly vegetated with slough sedge.



**Photo 11** was taken of the area where Test Plot 5 was conducted. It was located in the upland just outside the southern tip of Wetland A. The area was dominated by hawthorn and apple trees with a sparse shrub layer and a somewhat dense herbaceous layer.



**Photo 12** was taken of Wetland Boundary Flag A-12. This was the last flag hung at the very southern tip of the wetland.



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DATE: 9/19/16  
DWN: LHW  
PRJ. MGR JB  
PROJ.#: 2447.01

Photoplate 4  
Project Name: Soundview  
Drive Properties  
Client: Rural American  
Properties  
Kitsap County, Washington

## **APPENDIX A**

---

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

Project Site: Soundview Drive Properties City/County: Bainbridge/Kitsap Sampling Date: 9-13-16  
 Applicant/Owner: Rural American Properties State: WA Sampling Point: TP 5  
 Investigator(s): J. Bartlett, L. Westervelt, J Leatherman Section, Township, Range: S 11 T 24N R 2EWM  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1-3%  
 Subregion (LRR): MLRA 2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: Not available  
 Soil Map Unit Name: 7 Cathcart silt loam, 2 to 8 percent slopes NWI classification: UPL  
 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 type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: Wetland A is a depressional system composed of a thick shrub layer having some forested and emergent areas. Test Plot 5 was located in the upland south of Wetland Boundary Flag A-14. This area is slightly higher in elevation than the wetland and has increased percent cover by upland plant species. This area was somewhat disturbed by past land use activities, which appear to include use of the area as an orchard.			

## VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 20' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
Sapling/Shrub Stratum (Plot size: 20' diameter)				Prevalence Index worksheet:
1. <u>Crataegus monogyna</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Spiraea douglasii</u>	<u>10</u>	<u>yes</u>	<u>FACW</u>	OBL species _____ x1 = _____
3. <u>Rosa nutkana</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	FACW species _____ x2 = _____
4. <u>Malus domestica</u>	<u>5</u>	<u>no</u>	<u>FACU</u>	FAC species _____ x3 = _____
5. <u>Ilex aquifolium</u>	<u>5</u>	<u>no</u>	<u>FACU</u>	FACU species _____ x4 = _____
50% = <u>25</u> , 20% = <u>10</u>	<u>50</u>	= Total Cover		UPL species _____ x5 = _____
Herb Stratum (Plot size: 5' diameter)				Column Totals: _____ (A) _____ (B)
1. <u>Agrostis capillaris</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index = B/A = _____
2. <u>Rubus ursinus</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Geum macrophyllum</u>	<u>5</u>	<u>no</u>	<u>FACW</u>	
4. <u>Juncus effusus</u>	<u>5</u>	<u>no</u>	<u>FACW</u>	
5. <u>Carex deweyana</u>	<u>3</u>	<u>no</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% = <u>41.5</u> , 20% = <u>16.6</u>	<u>83</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>17</u>				

Remarks: The hydrophytic vegetation criterion is met because there is greater than 50% dominance by FAC and FACW species.

**SOIL**Sampling Point: TP 5**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>	Loc <sup>2</sup>		
0-8	10YR 3/2	100	_____	_____	_____	_____	silt loam	no redoximorphic features
8-16	2.5Y 4/1	80	10YR 4/6	20	C	M	clay	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

<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, RC=Root Channel**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 checked="" 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)                          |

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

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> 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 Soils Present?**Yes ☒ No ☐

Remarks: This soil profile meets the criteria for hydric soil indicator F3 because there is a depleted matrix with redoximorphic features within 10 inches of the soil surface.

**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)                      |
| <input type="checkbox"/> High Water Table (A2)                     | <b>(except MLRA 1, 2, 4A, and 4B)</b>                                   |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Salt Crust (B11)                               |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Aquatic Invertebrates (B13)                    |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                     |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)                  |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Stunted or Stresses Plants (D1) <b>(LRR A)</b> |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <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? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): \_\_\_\_\_**Wetland Hydrology Present?**Yes ☐ No ☒

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

Remarks: Hydrology was not present during the site visit and there was no evidence to indicate wetland hydrology.

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

Project Site: Soundview Drive Properties City/County: Bainbridge/Kitsap Sampling Date: 9-13-16  
 Applicant/Owner: Rural American Properties State: WA Sampling Point: TP 6  
 Investigator(s): J. Bartlett, L. Westervelt, J Leatherman Section, Township, Range: S 11 T 24N R 2EWM  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1-3%  
 Subregion (LRR): MLRA 2 Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: Not Available  
 Soil Map Unit Name: 7 Cathcart silt loam, 2 to 8 percent slopes NWI classification: \_\_\_\_\_  
 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: Wetland A is a depressional system composed of a thick shrub layer having some forested and emergent areas. Test Plot 6 was located in the southern tip of Wetland A near WB Flag A-14.			

## VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 20' diameter)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
Sapling/Shrub Stratum (Plot size: 20' diameter)				Prevalence Index worksheet:
1. <u>Rosa nutkana</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Crataegus monogyna</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	OBL species _____ x1 = _____
3. <u>Frangula purshiana</u>	<u>10</u>	<u>no</u>	<u>FAC</u>	FACW species _____ x2 = _____
4. _____	_____	_____	_____	FAC species _____ x3 = _____
5. _____	_____	_____	_____	FACU species _____ x4 = _____
50% = <u>37.5</u> , 20% = <u>15</u>	<u>75</u>	= Total Cover		UPL species _____ x5 = _____
Herb Stratum (Plot size: 5' diameter)				Column Totals: _____ (A) _____ (B)
1. <u>Carex obnupta</u>	<u>40</u>	<u>yes</u>	<u>OBL</u>	Prevalence Index = B/A = _____
2. <u>Juncus effusus</u>	<u>15</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Geum macrophyllum</u>	<u>5</u>	<u>no</u>	<u>FACW</u>	
4. <u>Rubus ursinus</u>	<u>5</u>	<u>no</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% = <u>32.5</u> , 20% = <u>13</u>	<u>65</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
50% = _____, 20% = _____	_____	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
% Bare Ground in Herb Stratum <u>35</u>				<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants <sup>1</sup>
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Remarks: The hydrophytic vegetation criterion is met because there is greater than 50% dominance by FAC, FACW, and OBL species.

**SOIL**Sampling Point: TP 6**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 2/1	100	_____	_____	_____	_____	silt loam	no redoximorphic features
10-16	2.5Y 4/1	80	10YR 4/6	20	C	M	clay	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

<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, RC=Root Channel**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 checked="" 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)                          |

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

- |   |
|---|
| <input type="checkbox"/> 2 cm Muck (A10)                  |
| <input type="checkbox"/> Red Parent Material (TF2)        |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> 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 Soils Present?**Yes ☒ No ☐

Remarks: This soil profile contains a depleted layer beginning within 10 inches of the surface and therefore the soil profile meets hydric soil indicator F3, Depleted Matrix. This profile also has a black surface layer, which further indicates the presence of hydric soil.

**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)                      |
| <input type="checkbox"/> High Water Table (A2)                     | <b>(except MLRA 1, 2, 4A, and 4B)</b>                                   |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Salt Crust (B11)                               |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Aquatic Invertebrates (B13)                    |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                     |
| <input checked="" type="checkbox"/> Drift Deposits (B3)            | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Presence of Reduced Iron (C4)                  |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Stunted or Stresses Plants (D1) <b>(LRR A)</b> |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks)                     |
| <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? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): glistening**Wetland Hydrology Present?** Yes ☒ No ☐

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

Remarks: Hydrology was not present during the site visit but there was evidence to indicate wetland hydrology including glistening soils and drift deposits.

## **APPENDIX B**

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Wetland name or number A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 9-13-16

Rated by J. Bartlett Trained by Ecology? X Yes    No Date of training 11/14

HGM Class used for rating Depressional Wetland has multiple HGM classes?    Y X N

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

Source of base aerial photo/map Google Earth/COBI Critical Areas Map

**OVERALL WETLAND CATEGORY III** (based on functions X or special characteristics   )

### 1. Category of wetland based on FUNCTIONS

   Category I – Total score = 23 – 27

   Category II – Total score = 20 – 22

X 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	<u>M</u>	L	H	<u>M</u>	L	H	<u>M</u>	L	
Landscape Potential	H	<u>M</u>	L	<u>H</u>	M	L	H	<u>M</u>	L	
Value	H	M	<u>L</u>	H	<u>M</u>	L	H	M	<u>L</u>	
Score Based on Ratings	5			7			5			TOTAL 17

**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	X

Wetland name or number A

## 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	2, 6
Hydroperiods	D 1.4, H 1.2	2, 6
Location of outlet ( <i>can be added to map of hydroperiods</i> )	D 1.1, D 4.1	2, 6
Boundary of area within 150 ft of the wetland ( <i>can be added to another figure</i> )	D 2.2, D 5.2	6
Map of the contributing basin	D 4.3, D 5.3	6
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	7
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	8
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	8

### 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	
Hydroperiods	H 1.2	
Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> trees, shrubs, and herbaceous plants ( <i>can be added to figure above</i> )	S 4.1	
Boundary of 150 ft buffer ( <i>can be added to another figure</i> )	S 2.1, S 5.1	
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	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

## HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

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

1. Are the water levels in the entire unit usually controlled by tides except during floods?

**NO** – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

**NO – Saltwater Tidal Fringe (Estuarine)**

**YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

**NO** – go to 3

**YES** – The wetland class is **Flats**

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

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

- \_\_\_ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;  
\_\_\_ At least 30% of the open water area is deeper than 6.6 ft (2 m).

**NO** – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

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

- \_\_\_ The wetland is on a slope (*slope can be very gradual*),  
\_\_\_ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,  
\_\_\_ The water leaves the wetland **without being impounded**.

**NO** – go to 5

**YES** – The wetland class is **Slope**

**NOTE:** Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

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

- \_\_\_ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,  
\_\_\_ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

**NO** – go to 6

**YES** – The wetland class is **Riverine**

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

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 7

**YES** – The wetland class is **Depressional**

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

NO – go to 8

**YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE:** Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number A

<b>DEPRESSIONAL AND FLATS WETLANDS</b>	
<b>Water Quality Functions</b> - Indicators that the site functions to improve water quality	
<b>D 1.0. Does the site have the potential to improve water quality?</b>	
<b>D 1.1. Characteristics of surface water outflows from the wetland:</b> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	<b>2</b>
<b>D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</b> Yes = 4 No = 0	<b>0</b>
<b>D 1.3. Characteristics and distribution of persistent plants</b> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	<b>3</b>
<b>D 1.4. Characteristics of seasonal ponding or inundation:</b> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is > ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	<b>4</b>
<b>Total for D 1</b>	<b>9</b>

**Rating of Site Potential** If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>	
<b>D 2.1. Does the wetland unit receive stormwater discharges?</b>	Yes = 1 No = 0
<b>D 2.2. Is &gt; 10% of the area within 150 ft of the wetland in land uses that generate pollutants?</b>	Yes = 1 No = 0
<b>D 2.3. Are there septic systems within 250 ft of the wetland?</b>	Yes = 1 No = 0
<b>D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?</b>	Yes = 1 No = 0
<b>Source</b>	Yes = 1 No = 0
<b>Total for D 2</b>	<b>2</b>

**Rating of Landscape Potential** If score is: 3 or 4 = H X 1 or 2 = M 0 = L Record the rating on the first page

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>	
<b>D 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?</b>	Yes = 1 No = 0
<b>D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?</b>	Yes = 1 No = 0
<b>D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?</b>	Yes = 2 No = 0
<b>Total for D 3</b>	<b>0</b>

**Rating of Value** If score is: 2-4 = H 1 = M X 0 = L Record the rating on the first page

Wetland name or number A

### **DEPRESSIONAL AND FLATS WETLANDS**

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

##### **D 4.0. Does the site have the potential to reduce flooding and erosion?**

<b>D 4.1. Characteristics of surface water outflows from the wetland:</b> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	<b>2</b>
<b>D 4.2. Depth of storage during wet periods:</b> <i>Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	<b>3</b>
<b>D 4.3. Contribution of the wetland to storage in the watershed:</b> <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	<b>5</b>
<b>Total for D 4</b>	<b>10</b>

Add the points in the boxes above

**Rating of Site Potential** If score is: 12-16 = H X 6-11 = M 0-5 = L *Record the rating on the first page*

##### **D 5.0. Does the landscape have the potential to support hydrologic functions of the site?**

<b>D 5.1. Does the wetland receive stormwater discharges?</b>	<b>1</b>
<b>D 5.2. Is &gt;10% of the area within 150 ft of the wetland in land uses that generate excess runoff?</b>	<b>1</b>
<b>D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at &gt;1 residence/ac, urban, commercial, agriculture, etc.)?</b>	<b>1</b>
<b>Total for D 5</b>	<b>3</b>

Add the points in the boxes above

**Rating of Landscape Potential** If score is: X 3 = H 1 or 2 = M 0 = L *Record the rating on the first page*

##### **D 6.0. Are the hydrologic functions provided by the site valuable to society?**

<b>D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.</b> The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): <ul style="list-style-type: none"> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2</li> <li>Surface flooding problems are in a sub-basin farther down-gradient. <b>points = 1</b></li> </ul> Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	<b>1</b>
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>	<b>0</b>
<b>Total for D 6</b>	<b>1</b>

Add the points in the boxes above

**Rating of Value** If score is: 2-4 = H X 1 = M 0 = L *Record the rating on the first page*

Wetland name or number A

**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.*

**2**

- |   |                                  |
|---|----------------------------------|
| <input type="checkbox"/> Aquatic bed  | 4 structures or more: points = 4 |
| <input checked="" 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**

**0**

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

**1**

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

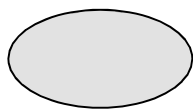
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

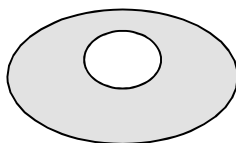
**H 1.4. Interspersion of habitats**

**2**

Decide from the diagrams below whether interspersion 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.*



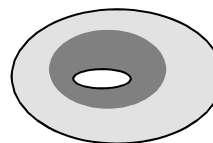
**None = 0 points**



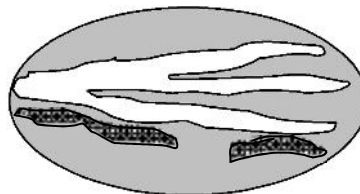
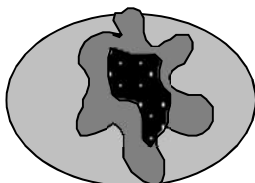
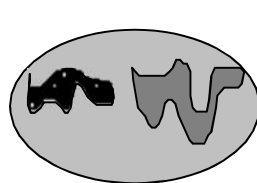
**Low = 1 point**



**Moderate = 2 points**



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



Wetland name or number 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 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 checked="" 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 checked="" 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>	<b>2</b>
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p><b>7</b></p>

**Rating of Site Potential** If score is: 15-18 = H X 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><i>Calculate:</i> % undisturbed habitat <u>0.1</u> + [(% moderate and low intensity land uses)/2] <u>0</u> = <u>0.1</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	<b>0</b>
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p><i>Calculate:</i> % undisturbed habitat <u>12</u> + [(% moderate and low intensity land uses)/2] <u>27</u> = <u>39.1</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	<b>1</b>
<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 <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>	<b>0</b>
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p><b>1</b></p>

**Rating of Landscape Potential** If score is: 4-6 = H X 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

**Rating of Value** If score is: 2 = H 1 = M X 0 = L *Record the rating on the first page*

Wetland name or number A

## 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 A

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<b>SC 1.0. Estuarine wetlands</b> Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt <div style="text-align: right;">Yes – Go to <b>SC 1.1</b>    <b>No = Not an estuarine wetland</b></div>	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <div style="text-align: right;">Yes = <b>Category I</b>    No - Go to <b>SC 1.2</b></div>	Cat. I
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <div style="text-align: right;">Yes = <b>Category I</b>    No = <b>Category II</b></div>	Cat. I  Cat. II
<b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b> SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <div style="text-align: right;">Yes – Go to <b>SC 2.2</b>    <b>No – Go to SC 2.3</b></div> SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <div style="text-align: right;">Yes = <b>Category I</b>    No = <b>Not a WHCV</b></div> SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasetsearch/wnhpwetlands.pdf</a> <div style="text-align: right;">Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b>    <b>No = Not a WHCV</b></div> SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <div style="text-align: right;">Yes = <b>Category I</b>    No = <b>Not a WHCV</b></div>	Cat. I
<b>SC 3.0. Bogs</b> Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <div style="text-align: right;">Yes – Go to <b>SC 3.3</b>    <b>No – Go to SC 3.2</b></div> SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <div style="text-align: right;">Yes – Go to <b>SC 3.3</b>    <b>No = Is not a bog</b></div> SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <div style="text-align: right;">Yes = <b>Is a Category I bog</b>    No – Go to <b>SC 3.4</b></div> <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <div style="text-align: right;">Yes = <b>Is a Category I bog</b>    No = <b>Is not a bog</b></div>	Cat. I

Wetland name or number A

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i><b>If you answer YES you will still need to rate the wetland based on its functions.</b></i></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>— <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>      <u>No</u> = <b>Not a forested wetland for this section</b></p>	<p style="text-align: center;"><b>Cat. I</b></p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>)</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 5.1</b>      <u>No</u> = <b>Not a wetland in a coastal lagoon</b></p> <p><b>SC 5.1.</b> Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;">Yes = <b>Category I</b>      No = <b>Category II</b></p>	<p style="text-align: center;"><b>Cat. I</b></p> <p style="text-align: center;"><b>Cat. II</b></p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i><b>If you answer yes you will still need to rate the wetland based on its habitat functions.</b></i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;">Yes – Go to <b>SC 6.1</b>      <u>No</u> = <b>not an interdunal wetland for rating</b></p> <p><b>SC 6.1.</b> Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?</p> <p style="text-align: right;">Yes = <b>Category I</b>      No – Go to <b>SC 6.2</b></p> <p><b>SC 6.2.</b> Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?</p> <p style="text-align: right;">Yes = <b>Category II</b>      No – Go to <b>SC 6.3</b></p> <p><b>SC 6.3.</b> Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?</p> <p style="text-align: right;">Yes = <b>Category III</b>      No = <b>Category IV</b></p>	<p style="text-align: center;"><b>Cat I</b></p> <p style="text-align: center;"><b>Cat. II</b></p> <p style="text-align: center;"><b>Cat. III</b></p> <p style="text-align: center;"><b>Cat. IV</b></p>
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

Wetland name or number A

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