

Critical Areas Report

for

Green Mountain PRD Phase 2 City of Camas, Washington

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TABLE OF CONTENTS

INTRODUCTION	. 1
METHODOLOGY	. 1
SITE DESCRIPTION	. 2
SOILS	. 2
Soil Type Distribution Onsite	. 4
VEGETATION	. 5
HYDROLOGY	. 6
NATIONAL & LOCAL WETLANDS INVENTORY	. 6
CRITICAL AREAS DISCUSSION	. 7
Wetland Categorization Exempt Wetlands Wetland Buffer Requirements Vested Wetlands Functionally Isolated Buffers Fish and Wildlife Habitat Conservation Areas Streams Oregon White Oak Ponds	8 9 10 10 11
REFERENCES	
TABLES	
Table 1. Summary of NRCS Soil Survey Data	. 9 10

Figures

Figure 1 Vicinity Map

Figure 2 Critical Areas Map

Figure 2 Critical Areas Map (oversized)

Figure 3 Soil Survey Map

Figure 4 National Wetlands Inventory
Figure 5 Clark County Critical Areas Map
Figure 6 WDFW Priority Habitat and Species

Figure 7 DNR Stream Type Map

Photoplates 1-5

Appendices:

Appendix A

Wetland Determination Data Forms

Appendix B

Wetland Rating Forms for Western Washington (2014 Rating System)

Wetland Rating Figure 1 150' Offset – South Wetland Rating Figure 2 1 KM Offset – South 150' Offset – North Wetland Rating Figure 4 1 KM Offset – North

Wetland Rating Figure 5 303(d) Listed Waters and TMDLs for WRIA

Appendix C

Wetland Rating Forms for Western Washington (2004 Rating System)

Appendix D

Figure D-1 Wetland G Historic Aerials

INTRODUCTION

This critical areas report has been prepared by Ecological Land Services, Inc. (ELS) on behalf of CLB Washington Options Solutions, LLC for Phase 2 of the Green Mountain Planned Residential Development into single-family residential lots with park, trails, and open space (PRD, City File No. SUB14-02). This approximately 85-acre site is located at 2817 NE Ingle Road in the City of Camas, Clark County, Washington. Parcels involved with this report include portions of Clark County Parcel Numbers 173178000, 986037307, 172555000, and 172557000. The study area falls within portions of Sections 17, 20, and 21, Township 2 North, Range 3 East of the Willamette Meridian (Figure 1). This report summarizes the findings of critical areas onsite in accordance with the City of Camas Municipal Code (CMC) Wetlands Chapter 16.53, Fish and Wildlife Habitat Conservation Areas Chapter 16.61, and Sensitive Areas and Open Space Chapter 18.31.

METHODOLOGY

ELS methodology follows the U.S. Army Corps of Engineers Routine Determination Method described in the 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 Corps of Engineers 2010). For regulatory purposes under the Clean Water Act (Section 404), the Environmental Protection Agency (EPA) defines wetlands as "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" (EPA 2014). Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (Corps), as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by the City of Camas.

ELS biologists conducted site visits on February 29, 2016 and March 1, 2016 to collect vegetation, soils, and hydrology data, and to make determinations about the presence or absence of critical areas onsite. We identified and delineated seven wetlands onsite, identified in this report as Wetlands B, D, G, J, L, M, and O (Figure 2). The letters A, C, E, F, H, I, K, and N were omitted from the numbering scheme. ELS biologists flagged wetland boundaries with consecutively numbered pin flagging or tape flagging labeled "WETLAND BOUNDARY". Vegetation, hydrology, and soil data were collected from thirteen test plots to determine presence or absence of positive wetland indicators (Appendix A). Topographical changes were also utilized to assist wetland boundary delineation. Wetland boundary lines and test plot locations were recorded by ELS using a hand-held Trimble GPS unit capable of sub-meter accuracy.

SITE DESCRIPTION

The majority of the study area is located north of NE Goodwin Road, south of NE 48th Circle (on the southwest slope of Green Mountain), and east of NE Ingles Road (Figures 1 and 2). The former Green Mountain Golf Course, which closed in February 2016, encompasses a large portion of the PRD. The northwestern corner of the PRD is an undeveloped mixed deciduous-coniferous forest. Topography slopes generally to the south and southwest, with the lowest topographical location being in the southernmost corner of the site. Maintained drainage ditches and 4 man-made ponds are located throughout the former golf course (3 ponds have been filled during Phase 1 of construction). Surrounding land use includes residential and forest coverage to the north and east, and mixed residential and agricultural uses to the south and west. Approximately 65 Oregon white oak trees were inventoried within the PRD Phase 2 boundaries, outside of the Phase 1 development. Most of the Oregon white oak trees within Phase 2 are located within the riparian corridor.

SOILS

The National Resources Conservation Service map depicts six soil units onsite (Table 1): Cove silty clay loam, 0 to 3 percent slopes (CvA), Dollar loam, 0 to 5 percent slopes (DoB), Lauren gravelly loam, 0 to 8 percent slopes (LgB), McBee silt loam, coarse variant, 0 to 3 percent slopes (MIA), and Olympic stony clay loams, 3 to 30 and 30 to 60 percent slopes (OmE and OmF, respectively) (NRCA 2014; Figure 3).

Cove silty clay loam (CvA) is characterized as a very poorly drained soil with a very low capacity for the most limiting layer to transmit water, and an average depth to water table ranging from 0 to 12 inches below ground surface (BGS). This soil is generally formed on flood plains and a typical profile includes silty clay loam from 0 to 4 inches, clay from 4 to 36 inches, and gravelly silty clay loam from 36 to 60 inches BGS. Cove silty clay loam is in Hydrologic Group D¹. Soils in Group D have high run-off potential when thoroughly wet and subsurface water movement ranges from restricted to very restricted. Cove silty clay loam is included on the National Hydric Soils List (NRCS 2015).

Dollar loam (DoB) is characterized as a moderately well drained soil with a very low to moderately low capacity of the most limiting layer to transmit water, and an average depth to water table of 18 to 30 inches BGS. This soil is generally found on terraces and is formed from alluvium. A typical profile includes loam from 0 to 60 inches BGS. Dollar

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¹ Hydrologic Group D: soils with high runoff potential when thoroughly wet and water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures. In some areas they also have shrink-swell potential. All soils with a depth to a water-permeable layer that is less than 20 inches and all soils with a water table within 24 inches from the surface are in this group, although some have dual classifications if they can be adequately drained.

loam is in Hydrologic Group C². Soils in Group C have a moderately high runoff potential when thoroughly wet; subsurface transmission is somewhat restricted. Dollar loam is not on the National Hydric Soils List (NRCS 2015).

Lauren gravelly loam (LgB) is characterized as a somewhat excessively drained soil with a moderately high to high capacity of the most limiting layer to transmit water, and an average depth to water table of more than 80 inches BGS. This soil is generally found on terraces and is formed from alluvium with volcanic ash. A typical profile consists of gravelly medial loam from 0 to 6 inches, very gravelly medial loam from 6 to 33 inches, very gravelly coarse sandy loam from 33 to 44 inches, and very gravelly loamy coarse sand from 44 to 60 inches BGS. Lauren gravelly loam is in Hydrologic Group B³. Soils in Group B have a moderately low runoff potential when thoroughly wet, subsurface transmission is unimpeded. Lauren gravelly loam is not on the National Hydric Soils List (NRCS 2015).

McBee silt loam, coarse variant (MIA), is characterized as a somewhat poorly drained soil with a moderately high to high capacity of the most limiting layer to transmit water, and an average depth to water table of about 0 inches BGS. This soil is generally found in depressions and drainageways, and is formed from alluvium. A typical profile consists of silt loam from 0 to 4 inches, loam from 11 to 19 inches, gravelly fine sandy loam from 19 to 44 inches, and very gravelly loamy sand from 44 to 62 inches BGS. McBee silt loam, coarse variant, is in both Hydrologic Group B and C. McBee silt loam is listed as hydric on the National Hydric Soils List (NRCS 2015).

Olympic stony clay loams (OmE and OmF) are characterized as well drained soils with a moderately high capacity for the most limiting layer to transmit water, and an average depth to water table of more than 80 inches BGS. These soils are generally found on mountain slopes, and are formed from residuum and colluvium from igneous rock. Typical profiles include stony clay loam from 0 to 13 inches, clay loam from 13 to 44 inches, and gravelly clay loam from 44 to 60 inches BGS. Olympic stony clay loams are in Hydrologic Group C, and are not included on the National Hydric Soils List (NRCS 2015).

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² Hydrologic Group C: soils with moderately high runoff potential when thoroughly wet and water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40 percent clay, and less than 50 percent sand. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments.

³ Hydrologic Group B: soils with moderately low runoff potential when thoroughly wet and water transmission through the soil is unimpeded. Group B soils typically have between 10 percent and 20 percent clay and 50 percent to 90 percent sand, and have loamy sand or sandy loam textures. Some soils having loam, silt loam, silt, or sandy clay loam textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments.

Soil Type Distribution Onsite

NRCS maps depict hydric soils CvA and MIA in the southern and central portions of the site where topography forms natural concavities and, consequently, a number of the wetland areas were observed (Figure 3). Non-hydric soils DoB, and OmF are the dominant soil types and are depicted within the northern and central portions of the site. Some wetlands were delineated within non-hydric soils, and likely exist in these areas due to human activities and topography, leading to surface ponding.

Evaluated wetland soils consisted of silty clay loams, clay loams, and silty sand with very dark grayish brown (10YR 3/2), very dark gray (10YR 3/1), and depleted gray (10YR 4/1 and 5/1) hues (Appendix A). Redoximorphic concentrations observed in wetland areas consisted of yellowish browns (10YR 4/6, 5/6, and 5/8), grayish brown (10YR 5/2), yellowish red (5YR 4/6, 5/6 and 5/8), reddish gray (10YR 5/2), and strong browns (7.5YR 4/4, 4/6, and 5/6). The soil profiles meet the criteria for hydric soil indicators A11 (depleted below dark surface), F3 (depleted matrix), and F6 (redox dark surface).

Evaluated upland soils included silty clay loams, gravelly clay loams, and silt loams with brown (10YR 3/3), lighter grayish brown (10YR 5/2, 4/3 and 4/2), and dark yellowish brown (10YR 4/4 and 4/6) hues (Appendix A). Redoximorphic concentrations were observed in select upland test plots; however, they were too faint, deep, or not thick enough in the soil profile to meet hydric soil indicators.

Table 1. Summary of NRCS Soil Survey Data

Soil Series	Unit Symbol	Percent Slope	Hydrologic Soil Group	Drainage Class	Hydric Soil
Cove silty clay loam	CvA	0 to 3	D	Very poorly drained	Yes
Dollar loam	DoB	0 to 5	С	Moderately well drained	No
Lauren gravelly loam	LgB	0 to 8	В	Somewhat excessively drained	No
McBee silt loam	MIA	0 to 3	B/D	Somewhat poorly drained	Yes
Olympic stony clay loam	OmE	3 to 30	С	Well drained	No
Olympic stony clay loam	OmF	30 to 60	С	Well drained	No

ELS biologists' soil observations generally matched NRCS mapped soil series; however, the majority of the wetlands onsite were delineated in areas where non-hydric soils were mapped, and conversely uplands were located in areas where hydric soils were mapped.

NRCS soil series data and mapping practices are based on general, regional soil characteristics and may not accurately display variations in the local soil conditions. The presence or absence of hydric soil does not conclude an area as wetland or upland. Along with hydric soils, hydrology and wetland vegetation must also be present to

determine an area as jurisdictional wetland. Due to localized, micro-variations in topography and hydrology, wetlands may be found in areas where hydric soils have not been mapped by the soil survey.

VEGETATION

Plant species are recorded on the attached wetland delineation data sheets (Appendix A). The indicator categories following the common and scientific names indicate the likelihood of a species to be found in wetlands. Listed from most-likely to least-likely to be found in wetlands, the indicator categories are:

- **OBL** (obligate wetland) Almost always occur in wetlands.
- FACW (facultative wetland) Usually occur in wetlands, but may occur in nonwetlands.
- 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.

The wetlands onsite have diverse strata from emergent, to scrub-shrub, to forested. Dominant wetland vegetation included Oregon white oak (*Quercus garryana*, FACU), Oregon ash (*Fraxinus latifolia*, FACW), Sitka willow (*Salix sitchensis*, FACW), nootka rose (*Rosa nutkana*, FAC), peafruit rose (*Rosa pisocarpa*, FAC), salmonberry (*Rubus spectabilis*, FAC), spiraea (*Spiraea douglasii*, FACW), and pacific ninebark (*Physocarpus capitatus*, FACW) in the tree and shrub layers. Broadleaf cattail (*Typha latifolia*, OBL), water parsley (*Oenanthe sarmentosa*, OBL), reed canarygrass (*Phalaris arundinacea*, FACW), soft rush (*Juncus effusus*, FACW), slough sedge (*Carex obnupta*, OBL), and sawbeak sedge (*Carex stipata*, OBL) were common in the herbaceous stratum.

The uplands are dominated by a former golf course in the central and southern portion of the study area and mixed coniferous-deciduous forest in the northern, non-developed portions of the study area. The former golf course is planted with non-native grasses and has widely spaced deciduous trees, namely bigleaf maple (*Acer macrophyllum*, FACU), Oregon ash, and Oregon white oak. The mixed coniferous-deciduous forest is dominated by upland trees and shrubs including Douglas-fir (*Pseudotsuga menziesii*, FACU), Oregon white oak, western red-cedar (*Thuja plicata*, FAC), and bigleaf maple.

Riparian corridors are dominated by upland trees and shrubs including black cottonwood (*Populus trichocharpa*, FAC), beaked hazelnut (*Corylus cornuta*, FACU), red huckleberry (*Vaccinium parvifolium*, FACU), vine maple (*Acer circinatum*, FAC), snowberry (*Symphoricarpos albus*, FACU), and salal (*Gaultheria shallon*, FACU).

Dominant upland herbaceous plants along the edges of the former golf course and riparian corridors included sword fern (*Polystichum munitum*, FACU), reed canarygrass, bluegrass spp. (*Poa s*pp., FAC), red fescue (*Festuca rubra*, FAC), tall fescue (*Schedonorus arundinaceus* FAC), bull thistle (*Cirsium vulgare*, FACU), fringecup (*Tellima grandiflora*, FACU), trailing blackberry (*Rubus ursinus*, FACU), and Himalayan blackberry (*Rubus armeniacus*, FAC).

HYDROLOGY

Site topography is elevated to the north centrally, near the summit of Green Mountain, directing drainage patterns to the northwest, west, and south. Wetlands B, D, G, J, K, L, and M receive hydrology from seasonally high groundwater tables, precipitation, and surface runoff from surrounding uplands. Hydrology within Wetland B mainly infiltrates, as no surface outlet was observed during the time of the site visit. Wetland D receives additional hydrology from a man-made ditch, located east of the wetland, and has a ditch outlet in which water drains during times of high precipitation. During times of regular rainfall, water infiltrates within Wetland D. Wetland G has a series of existing ditches throughout, conveying hydrology out of the wetland to the west. Hydrology within Wetland J mainly infiltrates, however no surface ponding was observed during the time of the site visit. Hydrology within Wetland L is conveyed to the north to the Type Np stream, Stream A. Wetland M hydrology is conveyed offsite within a manmade ditch. Wetland O receives the majority of its hydrology from water seeping from an onsite man-made pond, and outlets to a mapped Type Ns stream directly to the southwest.

Wetland hydrology indicators included shallow water table (within 12 inches of the soil surface), soil saturation (within 12 inches of the soil surface), surface inundation, geomorphic position, passing the FAC-neutral test, and oxidized rhizospheres among living roots. Indicators of wetland hydrology present during the site visit are recorded on the attached wetland determination data forms (Appendix A).

NATIONAL & LOCAL WETLANDS INVENTORY

National Wetland Inventory (NWI) does not map the presence of any wetlands onsite. One palustrine, emergent, temporary flooded (PEMA) wetland is mapped approximately 1,000 feet to the south of the southern edge of the study area (USFWS 2013; Figure 4). Clark County's local wetland inventory (LWI) maps wetlands in approximately the same location as the ELS-delineated Wetland B (eastern portion) and Wetland D. LWI also maps wetlands which correspond with two of the onsite man-made ponds (Figure 5). ELS findings are somewhat similar to the general landscape position of local inventory wetlands mapped onsite, although we identified additional wetlands within the study area.

Wetland maps such as NWI and LWI maps should be used with discretion as they are typically used to gather wetland information about a region and, because of the large scale necessary for regional mapping, are limited in accuracy for localized analyses.

CRITICAL AREAS DISCUSSION

Wetland Categorization

The wetland ratings are according to the *Washington State Wetlands Rating System for Western Washington, Revised* (Rating System) (Hruby 2014; Figure 2; Appendix B). Wetlands B, D, G, and O ratings are according to the *Washington State Wetlands Rating System for Western Washington, Revised* (Hruby 2004; Appendix C). A discussion pertaining to the reasoning behind utilizing the 2004 Rating System for Wetlands B, D, G, and O is contained within the section titled "*Vested Wetlands*." See Table 2 for a summary of wetlands onsite.

Wetland B

Wetland B is a 4.48-acre onsite, Category III, forested and scrub-shrub, slope wetland, which lies in the central western portion of the study area, and extends outside of the study area to the west. Wetland B scored moderate for habitat functions (21 points), low for hydrologic functions (5 points), and low improving water quality (14 points).

Wetland D

Wetland D is a 0.99-acre Category III, forested, scrub-shrub, and emergent, depressional wetland, which lies in the central portion of the study area. Wetland D scored low for habitat functions (18 points), hydrologic functions (8 points), and improving water quality (14 points).

Wetland G

Wetland G is a 1.94-acre, Category III, scrub-shrub and emergent, slope wetland, which lies in the central portion of the study area. Wetland G contains areas of upland hummocks, with existing ditches located in the northwestern and northeastern portions of the wetland. Wetland G scored low for habitat functions (16 points), hydrologic functions (5 points), and for improving water quality (14 points). A historic retaining/farm pond is located directly south of Wetland G, which was constructed between 1990 and 2002 (Figure D-1; Appendix D). No wetland signature was visible in historical imagery prior to pond construction.

Wetland J

Wetland J is a 0.61-acre, Category III, scrub-shrub and emergent, slope wetland, which lies in the south-central portion of the study area. Water leaves the wetland without being impounded, and no surface ponding was present or evidence of previous ponding. Wetland J scored moderate for habitat functions (6 points), moderate for hydrologic functions (5 points), and moderate for improving water quality (6 points).

Wetland L

Wetland L is a 0.07-acre, Category III, scrub-shrub and emergent, slope wetland, which lies in the easternmost portion of the study area and outlets to Type Np stream (Stream A) via an underground culvert. Wetland L scored moderate for habitat functions (5 points), moderate for hydrologic functions (5 points), and moderate for improving water quality (6 points).

Wetland M

Wetland M is a 0.07-acre, Category III, forested and scrub-shrub, slope wetland, which lies in the central western portion of the study area. Wetland M scored moderate for habitat functions (6 points), moderate for hydrologic functions (5 points), and moderate for improving water quality (5 points).

Wetland O

Wetland O is a 0.02-acre, Category IV, scrub-shrub and emergent, slope wetland, which lies in the south-central portion of the study area. The wetland outlets to a Type Ns stream (Stream B). Wetland O scored low for habitat functions (13 points), hydrologic functions (1 points), and for improving water quality (12 points).

Exempt Wetlands

CMC 16.53.010(C)(2)(b) states that wetlands created from nonwetland sites, including but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, stormwater facilities, farm ponds, and landscape amenities, are considered artificial wetlands. Wetlands considered artificial according to CMC shall be exempt from the provisions of CMC Chapter 16.53 Wetlands, provided that they are otherwise consistent with the provisions of other local, state, and federal laws and requirements.

Located south of Wetland G is a small, historic farm pond which was created from an upland site sometime between 1990 and 2002 (Figure D-1; Appendix D). As the historic farm pond south of Wetland G was man-made from uplands, it shall be considered exempt from City of Camas regulation and, therefore, no buffers are required.

Wetland Buffer Requirements

CMC 16.53.040 uses the following three parameters in determining wetland buffer widths for wetlands:

- 1) Wetland categorization per the Rating System
- 2) Habitat score from the Rating System
- 3) Proposed land use intensity

Category III wetlands with proposed high land use intensity and habitat scores greater than 5 according to the Rating System, are required to have buffers as designated in *CMC Table 16.53.040-3*. Category III wetlands with habitat scores equal to or less than

four according to the Rating System, are required to have buffers as designated in *CMC Table 16.53.040-1*. Wetland buffers are summarized in Table 2.

 Table 2. Summary of Wetlands Onsite

Wetland Name (size)	Cowardin Classification ¹ /HGM	State/Local Classification ²	Habitat Score ²	Proposed Land Use Intensity ³	Standard Buffer Width ⁴ (feet)
Wetland B (4.48 acres onsite)	FO, SS, EM/slope	Category III ⁷	21	High	80 ⁵
Wetland D (0.99 acres)	SS & EM/depressional	Category III ⁷	18	High	80 ⁵
Wetland G (1.94 acres)	SS & EM/slope	Category III ⁷	16	High	80 ⁵
Wetland J (0.61 acres)	SS & EM/slope	Category III	6	High	135
Wetland L (0.07 acres)	SS & EM/slope	Category III	5	High	120
Wetland M (0.07 acres)	FO & SS/slope	Category III	6	High	135
Wetland O (0.02 acres)	SS & EM/slope	Category IV ⁷	13	High	50 ⁵

¹Cowardin *et al.* 1979

Vested Wetlands

The buffers for wetlands B, D, G and O were previously established by the City of Camas according to a *Critical Areas Report* produced in December 2014, under past approvals for the Green Mountain PRD. Under City File No. SUB14-02, the city granted PRD approval for a 1,300 lot multi-phased, multi-use development, and subdivision approval for 201 lots. Those approvals impacted critical areas relating to Wetlands B, D, G and O; thus triggering the City's regulations. Because of this, the Applicant was required to perform critical area analyses compliant with the City's protocols. This analysis resulted in the City establishing the classification and buffer standards for these wetlands under the municipal code active at the time. Table 3 depicts the wetland type and buffers for Wetlands B, D, G, and O previously established by the City.

²According to Hruby 2014 and Hruby 2004

³According to CMC Table 16.53.040-4

⁴According to CMC Table 16.53.040-1 and Table 16.53.040-3

⁵See section "Vested Wetlands" for buffer designations

Table 3. Wetlands Vested from December 2014 Critical Areas Report

Wetland Name (size)	Cowardin Classification ¹ /HGM	State/Local Classification ²	Habitat Score ²	Proposed Land Use Intensity ³	Standard Buffer Width ⁴ (feet)
Wetland B (4.48 acres onsite)	FO & SS/slope	Category III	21	High	80
Wetland D (0.99 acres)	SS & EM/depressional	Category III	18	High	80
Wetland G (1.94 acres)	SS & EM/slope	Category III	16	High	80
Wetland O (0.02 acres)	FO/slope	Category IV	13	High	50

¹Cowardin *et al.* 1979

Functionally Isolated Buffers

Fish and Wildlife Habitat Conservation Areas

CMC Chapter 16.61 regulates Fish and Wildlife Habitat Conservation Areas, which include areas with which state or federally designated endangered, threatened, and sensitive species have a primary association, state priority habitats and areas associated with state priority species, habitats of local importance (Oregon white oak and Camas lily), naturally occurring ponds under 20 acres, waters of the state, bodies of water planted with game fish by a governmental or tribal entity, and state natural area preserves and natural resource conservation areas (CMC 16.61.010(A)).

Streams

Washington Department of Natural Resources (DNR) Forest Practice Maps indicate the presence of one undefined stream, originating offsite to the east within the central portion of the study area (Figure 7). This stream is mapped as flowing through the former golf course, into the forested area, and offsite under NE Ingles Road. ELS biologists did not locate a natural defined channel or the presence of surface water in the areas mapped by the DNR as having a stream. Instead, several wetlands are present in roughly the trajectory of the mapped stream (Figure 2). ELS biologists did identify two streams onsite:

²According to Hruby 2004

³According to CMC Table 16.53.040-4

⁴According to CMC Table 16.53.040-1

Stream A

Stream A originates offsite to the east, flows southwesterly through the southern portion of the study area, and drains offsite to the south into a roadside ditch along NW Goodwin Road (Figure 2; Table 4). This stream has flow year round, and therefore, is considered perennial, is not known to be used by fish, and does not meet the physical criteria to be used by fish. Stream A is approximately 3- to 5-feet feet in diameter at bank-full-width, and consists mainly of riffles with no apparent pools. Stream substrate consists of mainly small cobble and sand/sediment. Stream A is not mapped on the DNR Forest Practice Map (Figure 7).

Stream B

Stream B is a Type Ns (non-fish, seasonal) stream (Figure 2; Table 4). This stream originates onsite, near the location of one of the former golf course ponds and Wetland O, and flows southwesterly and offsite into a roadside ditch along NE Ingle Road. This stream had an approximate bank-full-width of 1- to 2-feet during the time of the site visit, and stream substrate consisted of mainly small cobble and sand. Stream B is not mapped on the DNR Forest Practice Map (Figure 7).

Table 4. Summary of Streams Onsite

Stream Name	DNR Stream Type	Stream Buffer Width ¹ (feet)
Stream A	Type Np (non-fish, perennial)	50
Stream B	Type Ns (non-fish, seasonal)	25

¹According to *CMC 16.61.040(D)*, stream buffer widths shall be measured outward, on the horizontal plane, from the ordinary high water mark. This determination is preliminary until reviewed, modified and/or approved by the City of Camas.

Oregon White Oak

The study area has previously been assessed for Oregon white oak, which is included in the *Oregon White Oak Advance Mitigation Plan for Green Mountain Mixed Use PRD* prepared by *Ecological Land Services, Inc.* on February 24, 2016 (City File No. SUB14-02).

Ponds

Per *CMC* 16.53.010(*C*)(2)(*b*), artificial wetlands are exempt from the provisions of *Chapter* 16.53. Artificial wetlands are considered by the City of Camas to be wetlands created from non-wetland sites including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, stormwater facilities, farm ponds, and landscape amenities. The 4 remaining onsite ponds were created as part of the former golf course and have plastic-lined bottoms, and therefore, require no buffers or further regulation from *CMC*.

LIMITATIONS

ELS personnel base the conclusions contained within this report on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with the findings presented in this report.

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. There are no other warranties, express or implied. The services performed were consistent with our agreement with our client. This report is prepared solely for the use of our client and may not be used or relied upon by a third party for any purpose. Any such use or reliance will be at such party's risk.

The opinions and recommendations contained in this report apply to conditions existing when services were performed. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report. ELS does not warrant the accuracy of supplemental information incorporated in this report that was supplied by others.

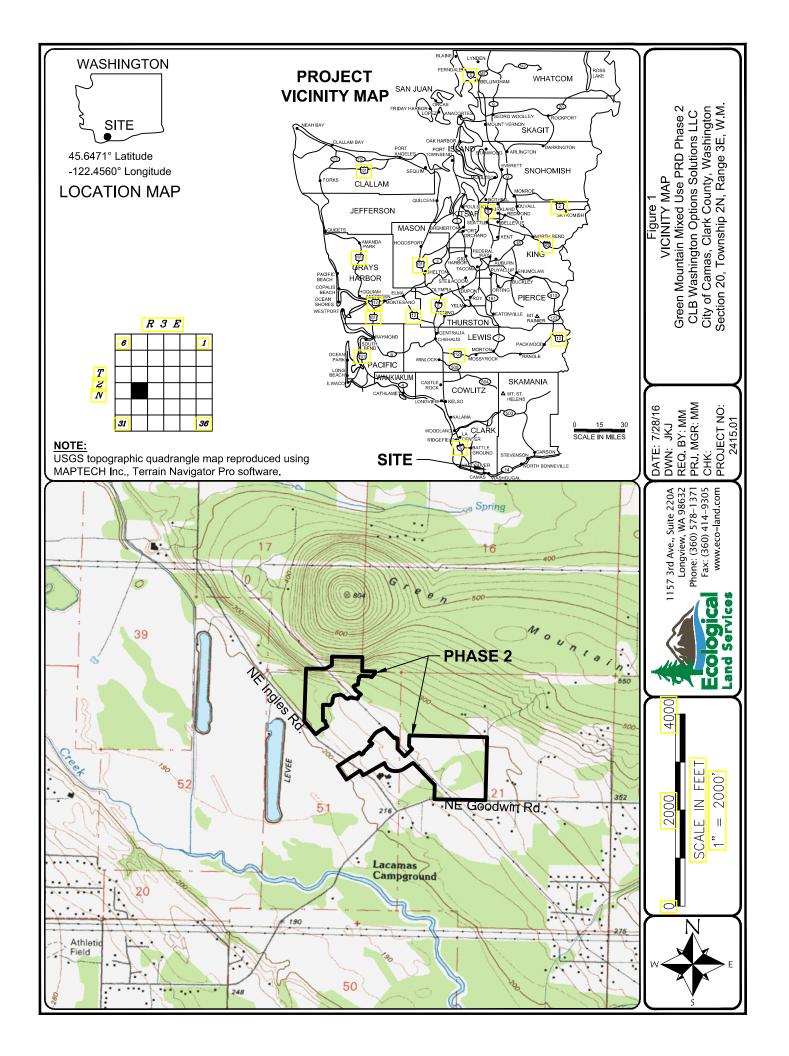
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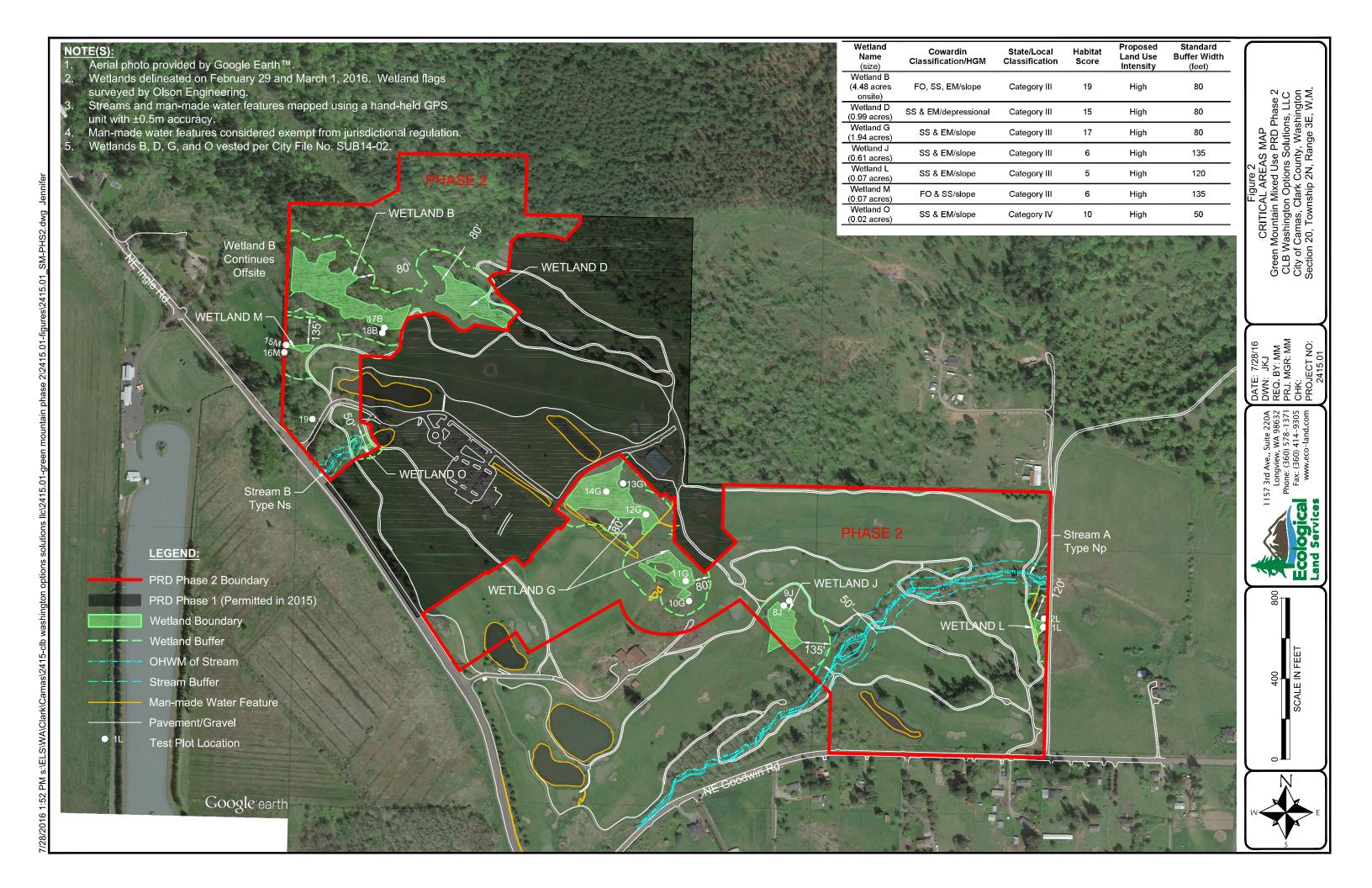
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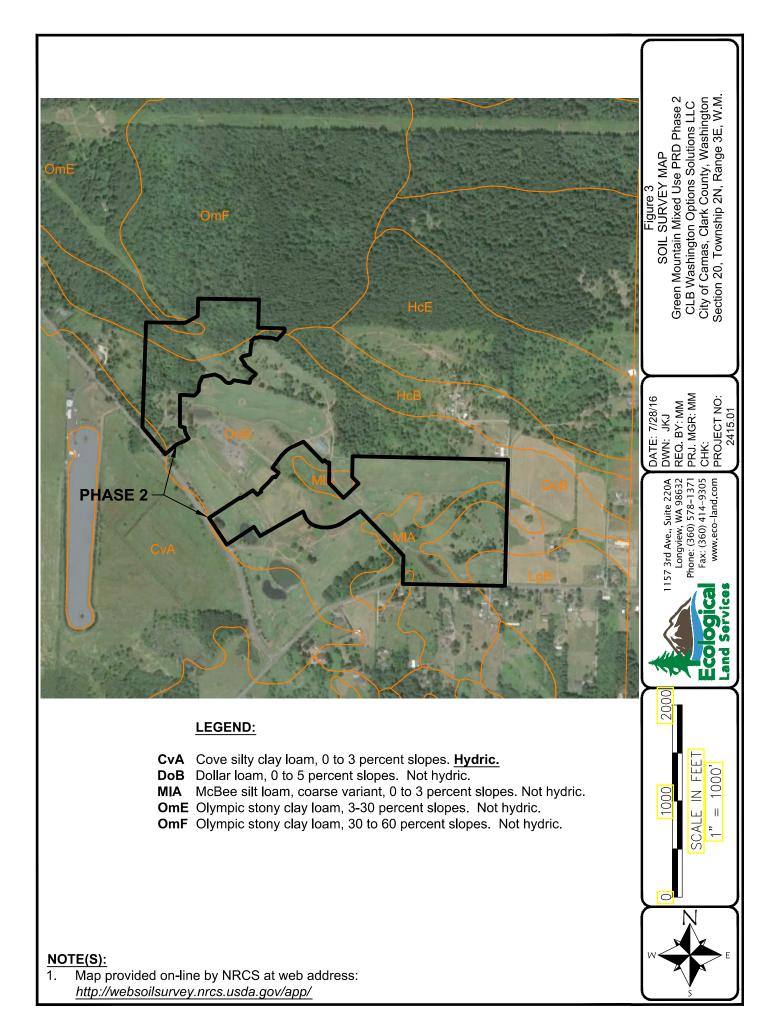
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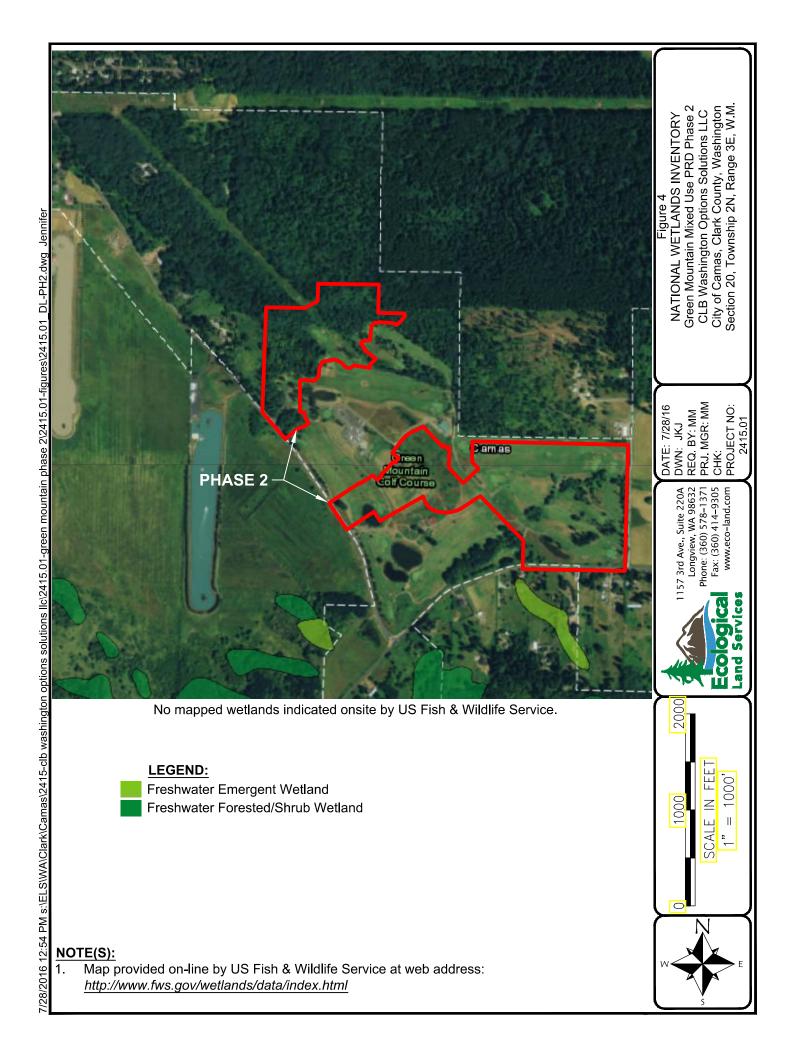
<u>Figures</u>

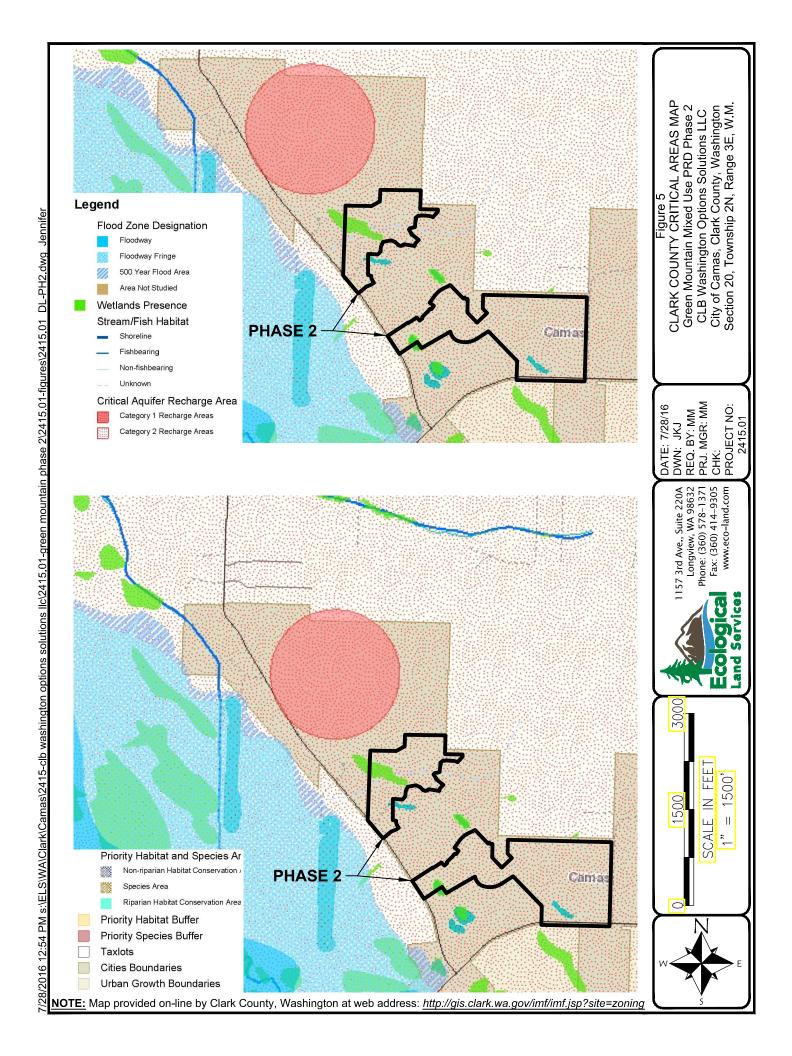
Figure 1	Vicinity Map
Figure 2	Critical Areas Map
Figure 2	Critical Areas Map (oversized)
Figure 3	Soil Survey Map
Figure 4	National Wetlands Inventory
Figure 5	Clark County Critical Areas Map
Figure 6	WDFW Priority Habitat and Species
Figure 7	DNR Stream Type Map
Photoplates	1-5

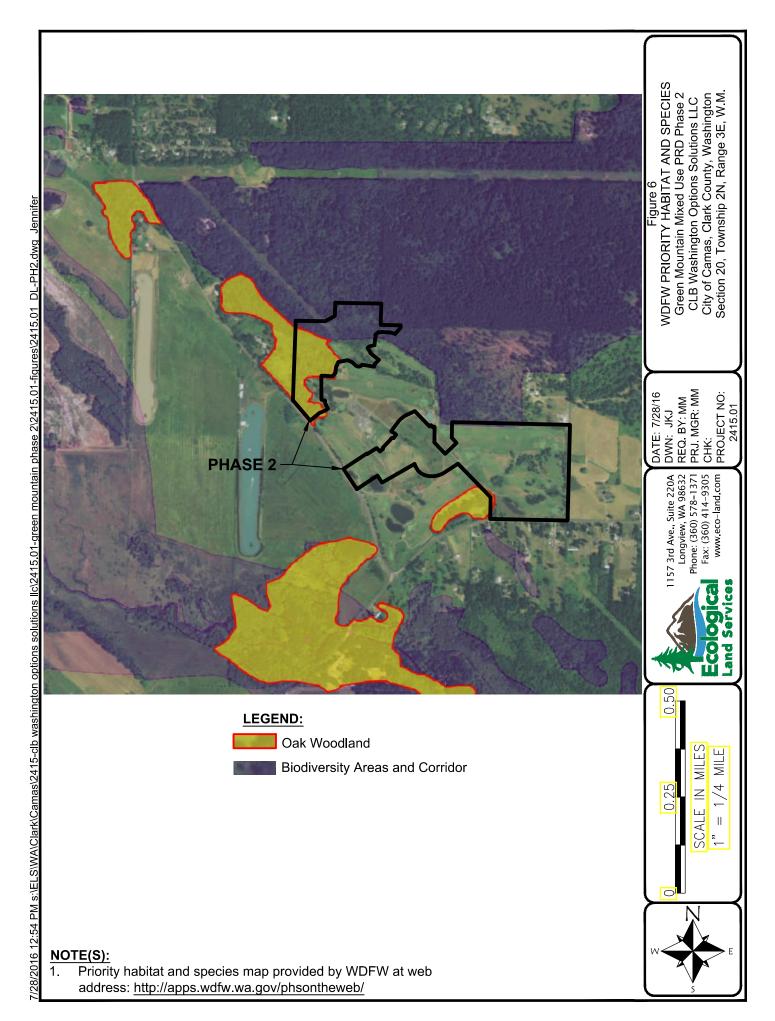


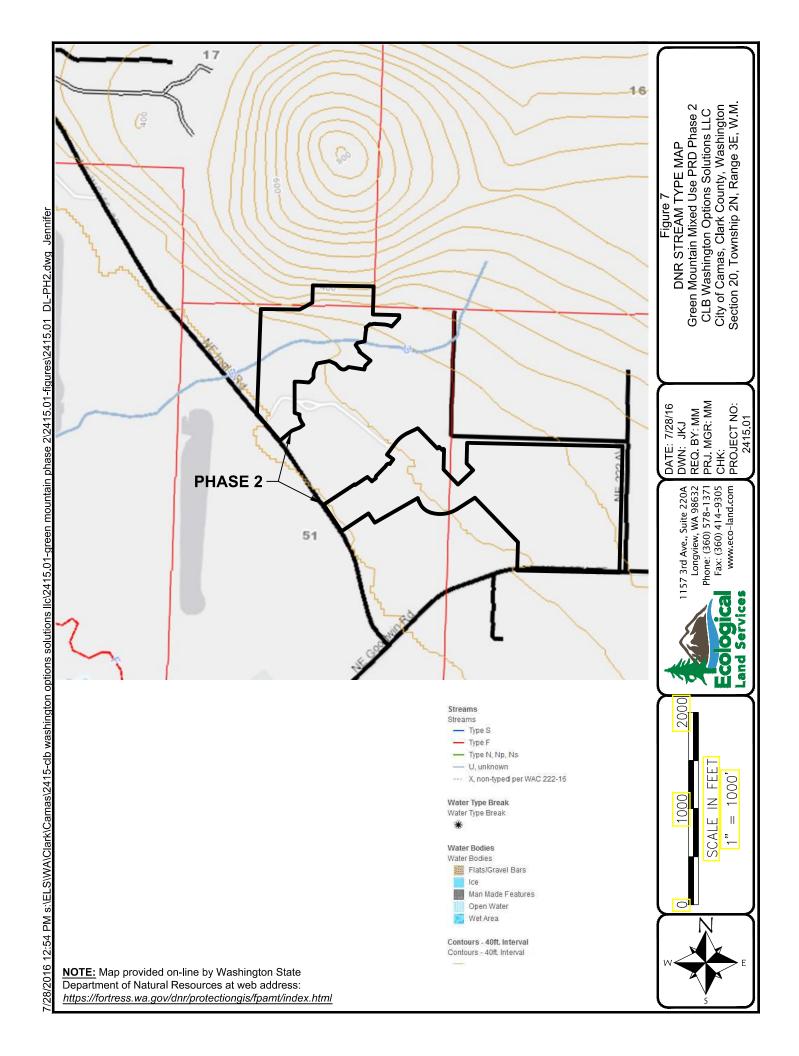














Above: North view of the northwestern portion of Wetland B. Photo taken March 1, 2016. *Below*: Northeast view of the northwestern portion of Wetland B. Photo taken March 1, 2016.





1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305 DATE: 3/10/16 DWN: JM PRJ. MGR: MM PROJ.#: 2048.01 Photoplate 1 SITE PHOTOS Green Mountain PRD Green Mountain Land, LLC City of Camas, Washington

Above: West view of the scrub-shrub and emergent vegetation of Wetland G. Photo taken February 29, 2016.



Above: Northwestern view of the scrub-shrub and emergent vegetation of Wetland G with the BPA easement in the background. Photo taken February 29, 2016.





1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305 DATE: 3/10/2016 DWN: JM PRJ. MGR: MM PROJ.#: 2048.01 Photoplate 2
SITE PHOTOS
Green Mountain PRD
Green Mountain Land, LLC
City of Camas, Washington



Above: Northeastern view of Stream N, forked on the southeast portion of the project site. Photo taken February 29, 2016.

Below: Northwestern view of Wetland J with the BPA easement bisecting the wetland. Photo taken February 29, 2016.





1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305

DATE: 3/10/2016 DWN: JM PRJ. MGR: MM PROJ.#: 2048.01 Photoplate 3
SITE PHOTOS
Green Mountain PRD
Green Mountain Land, LLC
City of Camas, Washington



Above: Northwestern view of Wetland B, which extends offsite to the northwest. Photo taken March 1, 2016.



1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305 DATE: 3/10/2016 DWN: JM PRJ. MGR: MM PROJ.#: 2048.01 Photoplate 4
SITE PHOTOS
Green Mountain PRD
Green Mountain Land, LLC
City of Camas, Washington



Above: Southeastern view of Wetland J. Photo taken February 29, 2016.



1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 Fax: (360) 414-9305

DATE: 3/10/2016 DWN: JM PRJ. MGR: MM

PROJ.#: 2048.01

Photoplate 5 SITE PHOTOS Green Mountain PRD Green Mountain Land, LLC City of Camas, Washington

Appendix A

Wetland Determination Data Forms

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

Project/Site: Creen Mountain DDD		City/Co	unty: Camas/	Clark Samplin	ng Date: 2/29/2	2016	
Project/Site: Green Mountain PRD Applicant/Owner: Green Mountain Land, LLC		City/Co	State: W		ampling Point:		
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho	ffmann	Coatio		Range: 20, 2N, 3E	ampling Point.	IL	
				, Range. 20, 2N, 3E		Slope (%):0	20/
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		4500			-3%
Subregion (LRR): A2 Soil Map Unit Name: MIA, McBee silt loam	Lat: 45.647	1	_ Long: <u>-122.</u> 4		Datum: NAD	53	
	- 4 this times of	waara VaaM		WI classification: none			
Are climatic / hydrologic conditions on the site typical fo					/ N N - D		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly				Circumstances" present?	res 🖂 INO		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally pr			-	iny answers in Remarks.)	_		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ns, transects, import	tant feature	s, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No [la tha Car					
Hydric Soils Present? Yes ⊠ No [within a	mpled Area	Vaa Na Na T	٦		
Wetland Hydrology Present? Yes ⊠ No [Yes⊠ No⊡			
Remarks: Test plot located within Wetland L. All three	wetland para	ameters are m	et, therefore	the test plot was sampled	within a wetla	nd.	
VEGETATION (Use scientific names)							
	Absolute	Dominant	Indicator	Dominance Test Work	sheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status				
1.	%			Number of Dominant Sp		5	(A)
2.	%			That Are OBL, FACW, o	or FAC:		
3.	%						
4.	%			Total Number of Domina		5	(B)
Total Cover:	%			Species Across All Strat	a:		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				Percent of Dominant Sp That Are OBL, FACW, o		100	(A/B)
1. Rosa nutkana	20%	VOC	FAC	Prevalence Index work			
Nosa nutkana Physocarpus capitatus	20%	yes	FACW	Total % Cover of:		fultiply by:	
3. Spiraea douglasii	10%	yes	FACW	OBL species			
	10% %	yes	FACW	FACW species	x 1=		
4 5.	% %			FACW species	x 2=		
Total Cover:	50%			FACU species	x 3=	-	
	30%			UPL species	x 4=		
Herb Stratum (Plot size: 5 ft radius) 1. Phalaris arundinacea	80%	V00	FACW	Column Totals:	x 5= (A)		(B)
2. Carex stipata	20%	yes	OBL		Index = B/A=		(D)
	%	yes	OBL	Hydrophytic Vegetatio			
3.	70			☐ 1 – Rapid Test for		logototion	
4.	%			☐ 1 - Rapid Test for ☐ 2 - Dominance Te		regetation	
	%			3 - Prevalence Inc			
5.	70			4 - Morphological		Dravida	
6.	%			supporting data In	Auapiailons (Piovide	to choot)
7.	%			Supporting data in	itemarks or c	ii a sepaia	ile sheet)
8.				☐ Wetland Non-Vas	cular Plante ¹		
Total Cover:				☐ Problematic Hydro		tion ¹ (Evol	ain)
Woody Vine Stratum (Plot size: 15 ft radius)	100 /6				priylic vegeta	lion (Expi	all I)
	%			¹ Indicators of hydric soil	and wotland k	ydrology	
2.				Must be present, unless			
			-	wust be present, unless	disturbed of p	TODIETTALIC	,.
Total Cover:							
				Hydrophytic Vegetation	Present?		
% Bare Ground in Herb Stratum 0%						Yes⊠	
Remarks:Trace amount of Rubus ursinus (FACU). Th	e dominance	test was met	due to over 5	0% of dominant species b	eing OBL, FA	CW, or FA	C.

SOIL

Depth Matri	v		Redox F	atures				
nches) Color (moist)	<u>*</u> %	Color (mo		Type ¹	Loc ²	_	Texture	Remarks
0-8 10YR 4/2	100%	00101 (1110		<u> 1980 </u>			silty clay loam	romano
8-16 10YR 4/1	60%	7.5YR 5/		С	М		silty clay loam	
	%		9					
	%							
	%		9					
			9					
	%_		9		-			
Function C. Consentration	<u>%</u>	DM Dadward	Matrix CS Cave	<u> </u>	Cand Crai	21 00	otion: DL Doro Linin	a M Matrix
Type: C=Concentration, ydric Soil Indicators: (A					Sand Grai		ation: PL=Pore Lining	
Histosal (A1)	pplicable to a		Redox (S5)	eu.,			n Muck (A10)	, riyuric oolis
Histic Epipedon (A2)			d Matrix (S6)				Parent Material (TF2	2)
,p.podo (//			2 man / (00)				/ Shallow Dark Surfac	
Black Histic (A3)		☐ Loamy	Mucky Mineral (F	1) (except ML	RA 1)		er (Explain in Remark	
] Hydrogen Sulfide (A4)		-	Gleyed Matrix (F:		ŕ			•
Depleted Below Dark S	urface (A11)	•	d Matrix (F3)					
Thick Dark Surface (A1:	, ,	-	Dark Surface (F6)				
Sandy Mucky Minerals	,		d Dark Surface (3Indicat	tors of hydrophytic ve	getation and
Sandy Gleyed Matrix (S		-	Depressions (F8)	,			tland hydrology must	_
estrictive Layer (if prese		_					and the state of t	p
, , ,	,							
ype:					H	ydric Soi	Il Present?	_
								Yes⊠ N
epth (inches):								
eginning within 10 inches								
eginning within 10 inches	of the soil surfa						with matrix colors of a	4/2.
eginning within 10 inches IYDROLOGY /etland Hydrology Indica	of the soil surfa	ace. Redox co	ncentrations are				with matrix colors of	4/2.
eginning within 10 inches YDROLOGY /etland Hydrology Indications (min. of	of the soil surfa	ace. Redox co	ncentrations are	oresent, which	is require	d in soils	Secondary Indicators (2 or more required) Water Stained Le	4/2. s aves (B9)
YDROLOGY Vetland Hydrology Indications (min. of Surface Water (A1)	of the soil surfa	check all that a	ncentrations are apply) Stained Leaves (E	oresent, which	is require	d in soils	Secondary Indicators (2 or more required) Water Stained Le) (MLRA 1, 2, 4A,	4/2. s aves (B9) and 4B)
YDROLOGY Vetland Hydrology Indications (min. of Surface Water (A1) High Water Table (A2)	of the soil surfa	check all that a	apply) Stained Leaves (East (B11)	oresent, which	is require	d in soils	Secondary Indicators (2 or more required) Water Stained Le) (MLRA 1, 2, 4A, 3	4/2. s aves (B9) and 4B) s (B10)
YDROLOGY Vetland Hydrology Indications (min. of Surface Water (A1) High Water Table (A2) Saturation (A3)	of the soil surfa	check all that a	apply) Stained Leaves (East (B11) Invertebrates (B	oresent, which (B9) (except MI	is require	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, 3) Drainage Pattern Dry-Season Water	4/2. s aves (B9) and 4B) s (B10) er Table (C2)
YDROLOGY Vetland Hydrology Indication Timary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ators:	check all that a	apply) Stained Leaves (East (B11) Invertebrates (Ben Sulfide Odor (eresent, which (B9) (except MI (C1)	LRA 1, 2, 4	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, 3) Drainage Pattern Dry-Season Wate	aves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (
YDROLOGY /etland Hydrology Indication imary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ators:	check all that a	apply) Stained Leaves (East (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres a	gresent, which (S9) (except MI (S13) (C1) (S13) (S13)	LRA 1, 2, 4	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, 3) Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Posi	saves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (tion (D2)
YDROLOGY /etland Hydrology Indication imary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ators:	check all that a Water-S Salt Cru Aquatic Hydrogu Oxidize Presence	apply) Stained Leaves (East (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres ace of Reduced Iro	eresent, which (a) (except Miles) (b) (except Miles) (c)	LRA 1, 2, 4	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, a) Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Posi	aves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (tion (D2) (D3)
YDROLOGY /etland Hydrology Indication imary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	ators:	check all that a Water-S Salt Cru Aquatic Hydrogu Oxidize Presenu	apply) Stained Leaves (East (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres ace of Reduced Iro	eresent, which (B9) (except MI (B3) (C1) (Along Living Roon (C4) (C1) (C3) (C4) (C3)	LRA 1, 2, 4	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, 3) Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Test	aves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (tion (D2) (D3) t (D5)
Improvements: Hydric soil indicate eginning within 10 inches and inches are soil inches are so	of the soil surfa	check all that a Water-S Salt Cru Aquatic Hydrogu Oxidize Presenu	apply) Stained Leaves (East (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres ace of Reduced Iro	eresent, which (B9) (except MI (B3) (C1) (Along Living Roon (C4) (C1) (C3) (C4) (C3)	LRA 1, 2, 4	d in soils	Secondary Indicators (2 or more required) Water Stained Le (MLRA 1, 2, 4A, a) Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Posi	aves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (tion (D2) (D3) t (D5)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Green Mountain PRD		City/Co	ounty:Camas/	/Clark Sampling Date: 2/29/2016
Applicant/Owner: Green Mountain Land, LLC			State: W	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho	ffmann	Section	on, Township	, Range: _20, 2N, 3E
Landform (hillslope, terrace, etc.): footslope		Local relief: C	onvex	Slope (%): <u>0-3%</u>
Subregion (LRR): A2	Lat: 45.647	' 1	Long: -122	4560 Datum: NAD83
Soil Map Unit Name: MIA, McBee silt loam				WI classification: none
Are climatic / hydrologic conditions on the site typical for	or this time of	year? Yes⊠	No□ (If r	no, explain Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly	y disturbed?	Ar	rea "Normal C	Circumstances" present? Yes⊠ No□
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally p	roblematic?	(If need	ded, explain a	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map			-	
		umpining po	mic roodino	no, transcoto, important routaros, stor
Hydrophytic Vegetation Present? Yes No		Is the Sa	mpled Area	
Hydric Soils Present? Yes ☐ No ☐			Wetland?	Yes⊡ No⊠
Wetland Hydrology Present? Yes ☐ No ☐ Remarks: Test plot located northeast of Wetland L. N		iaatara wara n		fore the test plat was compled within an unland area
VEGETATION (Use scientific names)	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status	Dominance rest Molksneer
1.	% Cover %	Species:	Status	Number of Dominant Species 0 (A)
				Number of Dominant Species 0 (A) That Are OBL, FACW, or FAC:
3.	%	-	-	11101110 052,171011, 011710.
4.			-	Total Number of Dominant 4 (B)
Total Cover:		-		Species Across All Strata:
Total Cover.				0 (A/B)
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC
Corylus cornuta	70%	yes	FACU	Prevalence Index worksheet
2. Rubus ursinus	30%	yes	FACU	Total % Cover of: Multiply by:
3. Vaccinium parvifolium	20%	no	FACU	OBL species x 1=
4. Rosa nutkana	10%	no	FAC	FACW species x 2=
5.	%			FAC species x 3=
Total Cover:	110%			FACU species x 4=
Herb Stratum (Plot size: 5 ft radius)	000/		E4011	UPL species x 5= (B)
1. Polystichum munitum	30%	yes	FACU	Column Totals: (A) (B)
2. Tellima grandiflora	15%	yes	FACU	Prevalence Index = B/A=
3. Juncus effusus	5%	no	FACW	Hydrophytic Vegetation Indicators:
4.	%			1 – Rapid Test for Hydrophytic Vegetation
				2 – Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
5. 6.	%	-	-	4 - Morphological Adaptations¹ (Provide
0.	%			supporting data In Remarks or on a separate sheet)
7.	%			Supporting data in Normania of on a separate sheet/
8.	//		-	☐ Wetland Non-Vascular Plants¹
Total Cover:	50%		-	☐ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)				
1	%			¹ Indicators of hydric soil and wetland hydrology
2.	%			Must be present, unless disturbed or problematic.
Total Cover:	%	-		
Total Cover:				Hydrophytic Vegetation Present?
0/ Days Over a 12 Hard Over as 500/				
% Bare Ground in Herb Stratum 50%				Yes No⊠
				ytic vegetation is not present because the number of OBL,
FACW, and FAC plant observed within the vicinity of the	ie test plot wa	as iess man sc	% of the don	ninant vegetation present.

SOIL Sampling Point: 2L

Depth Matri	¥		Redox Fe	atures			
nches) Color (moist)	<u>%</u>	Color (mo		Type ¹	Loc ²	Texture	Remarks
0-16 10YR 3/4	80%	5YR 4/6		Туре		sandy clay loam	Remarks
1011(0/4	<u> </u>	011(-1/0	<u> </u>			danay day loam	
	<u> </u>						
	%		<u> </u>		·		
	<u> </u>		<u> </u>		·		
	<u>%</u>		<u> </u>		·		
	%		<u> </u>				
	- /		<u> </u>				
Type: C=Concentration,		RM=Reduced			and Grains ² I	ocation: PL=Pore Lining	n M=Matrix
ydric Soil Indicators: (A						cators for Problematic	
Histosal (A1)	ppilouble to u		Redox (S5)	,u.,		cm Muck (A10)	Tiyano oono
Histic Epipedon (A2)			d Matrix (S6)			ed Parent Material (TF2)	١
Triistic Epipedori (AZ)			u Matrix (30)			ery Shallow Dark Surfac	
Black Histic (A3)		□Loamy	Mucky Mineral (F1) (except MI P		ther (Explain in Remarks	
		-			A 1)	iller (Explain in Nemark	>)
Hydrogen Sulfide (A4)		-	Gleyed Matrix (F2))			
Depleted Below Dark Su	` '	-	ed Matrix (F3)				
Thick Dark Surface (A12	•		Dark Surface (F6)				
Sandy Mucky Minerals (S1)	□ Deplete	ed Dark Surface (F	7)	³ Indio	cators of hydrophytic veg	getation and
] Sandy Gleyed Matrix (S	4)	☐ Redox I	Depressions (F8)			Vetland hydrology must b	
estrictive Layer (if prese			1 (/			vollaria riyarology maot k	oo prooont
comicuro Layer (ii press	,.						
ype:					Hvdric S	Soil Present?	
// ·							Yes□ N
41 (2 1)							_
emarks: No hydric soil inc	licators were n	net because th	e chroma of the so	oil sample was t	oo high.		
emarks: No hydric soil inc	licators were n	net because th	e chroma of the so	oil sample was t	oo high.		
emarks: No hydric soil inc		net because th	e chroma of the so	oil sample was t	oo high.	Secondary Indicators	3
emarks: No hydric soil inc	ators:			oil sample was t	oo high.	Secondary Indicators (2 or more required)	;
emarks: No hydric soil inc	ators:			oil sample was t	oo high.	(2 or more required)	
emarks: No hydric soil inc IYDROLOGY /etland Hydrology Indica rimary Indicators (min. of	ators:	check all that a	apply)			(2 or more required) Water Stained Lea	aves (B9)
emarks: No hydric soil incomplete	ators:	check all that a	apply) Stained Leaves (B			(2 or more required) Water Stained Least (MLRA 1, 2, 4A, a	aves (B9) and 4B)
YDROLOGY /etland Hydrology Indicarimary Indicators (min. of Surface Water (A1) High Water Table (A2)	ators:	check all that a	apply) Stained Leaves (B: ust (B11)	9) (except MLR		(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a	aves (B9) and 4B) s (B10)
PYDROLOGY Vetland Hydrology Indication rimary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3)	ators:	check all that a	apply) Stained Leaves (Baust (B11) Invertebrates (B1	9) (except MLR		(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate	aves (B9) and 4B) s (B10) r Table (C2)
IYDROLOGY Vetland Hydrology Indications (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ators:	check all that a	apply) Stained Leaves (Bast (B11) Invertebrates (B1	9) (except MLR 3)	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C
PYDROLOGY Vetland Hydrology Indication Timary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ators:	check all that a	Apply) Stained Leaves (Brust (B11) Invertebrates (B1 en Sulfide Odor (Cdd Rhizospheres al	9) (except MLR 3) 31) ong Living Root	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) and 4B) (B10) (Table (C2) on Aerial Imagery (Cion (D2)
PYDROLOGY Vetland Hydrology Indication Timary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ators:	check all that a	apply) Stained Leaves (Bast (B11) Invertebrates (B1	9) (except MLR 3) 31) ong Living Root	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible	aves (B9) and 4B) (B10) (Table (C2) on Aerial Imagery (Cion (D2)
PYDROLOGY Vetland Hydrology Indication Timary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ators:	check all that a	Apply) Stained Leaves (Bust (B11) Invertebrates (B1) en Sulfide Odor (C) d Rhizospheres alloe of Reduced Iron	9) (except MLR 3) 11) ong Living Root	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	ators:	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present	epply) Stained Leaves (Bust (B11) Invertebrates (B1) en Sulfide Odor (Cod Rhizospheres aloce of Reduced Iron Reduction in	9) (except MLR 3) :1) ong Living Roof n (C4) Tilled Soils (C6)	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard (FAC-Neutral Test	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5)
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emarks: No hydric soil incomplete	ators: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presend Recent Stunted	epply) Stained Leaves (Bust (B11) Invertebrates (B1) en Sulfide Odor (Cod Rhizospheres aloce of Reduced Iron Reduction in	9) (except MLR 3) :1) ong Living Root n (C4) Tilled Soils (C6) s (D1) (LRR A)	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard (FAC-Neutral Test	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A)
PYDROLOGY Vetland Hydrology Indication Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	ators: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presend Recent Stunted	Apply) Stained Leaves (Baust (B11) Invertebrates (B1 en Sulfide Odor (Cod Rhizospheres aloce of Reduced Iron Reduction in Iron Stressed Plant	9) (except MLR 3) :1) ong Living Root n (C4) Tilled Soils (C6) s (D1) (LRR A)	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A)
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IYDROLOGY Vetland Hydrology Indicatorismary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Active Indicators:	ators: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	Estained Leaves (Bust (B11) Invertebrates (B1en Sulfide Odor (Cod Rhizospheres aldoe of Reduced Iron Reduction in Itor Stressed Plant Explain in Remarks	9) (except MLR 3) 51) ong Living Roof n (C4) Tilled Soils (C6) s (D1) (LRR A)	A 1, 2, 4A, & 4	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A)
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IYDROLOGY Vetland Hydrology Indicators (min. of Indicators (min. o	one required; on	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	Estained Leaves (Bist (B11) Invertebrates (B1en Sulfide Odor (Cd Rhizospheres alce of Reduced Iron Reduction in Itor Stressed Plant Explain in Remarks Depth (Inches Depth (Inches)	9) (except MLR 3) c1) ong Living Roof n (C4) Tilled Soils (C6) s (D1) (LRR A)	A 1, 2, 4A, & 4 s (C3)	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A) mocks (D4)
IYDROLOGY Vetland Hydrology Indicators (min. of Indicators (min. o	ators: one required; o erial Imagery (E	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	Estained Leaves (Bust (B11) Invertebrates (B1en Sulfide Odor (Code Rhizospheres alore of Reduced Iron Reduction in It or Stressed Plant Explain in Remarks	9) (except MLR 3) c1) ong Living Roof n (C4) Tilled Soils (C6) s (D1) (LRR A)	A 1, 2, 4A, & 4 s (C3)	(2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A)
IYDROLOGY Vetland Hydrology Indicatorismary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Activation Present? Vater Table Present? Includes Capillary fringe)	one required; on	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Stunted Other (E	Estained Leaves (Bust (B11) Invertebrates (B1en Sulfide Odor (Code Rhizospheres alone of Reduced Iron Reduction in Itor Stressed Plant Explain in Remarks Depth (Inches Depth (Inches Depth (Inches Depth (Inches)	e) (except MLR 3) c1) ong Living Root n (C4) Tilled Soils (C6) s (D1) (LRR A) c) c: 1: 1: 15	A 1, 2, 4A, & 4 s (C3)	(2 or more required) □ Water Stained Lea IB) (MLRA 1, 2, 4A, a □ Drainage Patterns □ Dry-Season Wate □ Saturation Visible □ Geomorphic Posit □ Shallow Aquitard (a) □ FAC-Neutral Test □ Raised Ant Mound □ Frost-Heave Hum Hydrology Present?	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A) mocks (D4)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) I ron Deposits (B5) Surface Soil Cracks (B6) I nundation Visible on Ae ield Observations: urface Water Present? vater Table Present? aturation Present? includes Capillary fringe)	one required; on	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Stunted Other (E	Estained Leaves (Bust (B11) Invertebrates (B1en Sulfide Odor (Code Rhizospheres alone of Reduced Iron Reduction in Itor Stressed Plant Explain in Remarks Depth (Inches Depth (Inches Depth (Inches Depth (Inches)	e) (except MLR 3) c1) ong Living Root n (C4) Tilled Soils (C6) s (D1) (LRR A) c) c: 1: 1: 15	A 1, 2, 4A, & 4 s (C3)	(2 or more required) □ Water Stained Lea IB) (MLRA 1, 2, 4A, a □ Drainage Patterns □ Dry-Season Wate □ Saturation Visible □ Geomorphic Posit □ Shallow Aquitard (a) □ FAC-Neutral Test □ Raised Ant Mound □ Frost-Heave Hum Hydrology Present?	aves (B9) and 4B) s (B10) r Table (C2) on Aerial Imagery (C03) (D3) (D5) ds (D6) (LRR A) mocks (D4)
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WDROLOGY Vetland Hydrology Indication I Surface Water (A1) I High Water Table (A2) I Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) I Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Active Mater Mater Present? Vater Table Present? Vater Table Present? Vater Table Present? Vater Table Capillary fringe)	one required; on	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Stunted Other (E	Estained Leaves (Bust (B11) Invertebrates (B1en Sulfide Odor (Code Rhizospheres alone of Reduced Iron Reduction in Itor Stressed Plant Explain in Remarks Depth (Inches D	e) (except MLR 3) c1) ong Living Root n (C4) Tilled Soils (C6) s (D1) (LRR A) c) c: 15 revious inspection	Wetland	(2 or more required) Water Stained Lease (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mound Frost-Heave Hum Hydrology Present?	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Imagery (Cition (D2) (D3) (D5) ds (D6) (LRR A) mocks (D4) Yes No

Project/Site: Green Mountain PRD		City/Co	unty: Camas/	/Clark Sampling Dat	e:2/29/2016	
Applicant/Owner: Green Mountain Land, LLC			State: W	A Samplin	g Point: 8J	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: <u>20, 2N, 3E</u>		
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		4560 Datum	Slope (%):0	-3%
Subregion (LRR): A2 Soil Map Unit Name: MIA, McBee silt loam	Lat: 45.647	<u>'1</u>	_Long:-122.	4560 Datum WI classification: none	n:_NAD83	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Ves⊠				
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally pr	y disturbed?	Ar	ea "Normal C	Dircumstances" present? Yes⊠ any answers in Remarks.)	No□	
SUMMARY OF FINDINGS – Attach site map			•	•	anturas ata	
<u>, </u>		amping po	iiii iocalio	ins, transects, important i	eatures, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soils Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐		within a	mpled Area Wetland?	Yes⊠ No⊡		
Remarks: Test plot located within the northern portion	of Wetland J	I. All three wet	land paramet	ters are met, therefore the test p	lot was sampled w	ithin a
wetland. VEGETATION (Use scientific names)						
TEGETATION (OSC SCIONAINC HAINES)	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status	Dominance rest worksneet		
1.	% %			Number of Dominant Species That Are OBL, FACW, or FAC	1	(A)
2. 3.	0/			- Mat 7110 022, 171011, 611710	•	
3.				Total Number of Dominant	1	(B)
Total Cover:	%			Species Across All Strata:		/
Continue (Charles Charles (Dich since 45 ft and inc)				Percent of Dominant Species	100	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius) 1.	%			That Are OBL, FACW, or FAC Prevalence Index worksheet		
1				Total % Cover of:	Multiply by:	
3.	0/			OBL species	x 1=	
4.	%			FACW species	x 2=	
5	%			FAC species	x 3=	
Total Cover:	%			FACU species UPL species	x 4=	
Herb Stratum (Plot size: 5 ft radius) 1. Phalaris arundinacea	80%	yes	FACW	Column Totals:	x 5= (A)	(B)
2. Lotus corniculatus	15%	no	FAC	Prevalence Index		(-)
3. Schedonorus arundinaceus	5%	no	FAC	Hydrophytic Vegetation Indi		
4.	%			☐ 1 – Rapid Test for Hydro		
5. 6.	%		-	☐ 3 - Prevalence Index is ≤ 4 - Morphological Adapta		
0.	%			supporting data In Rema		te sheet)
7.	%					,
8.	%			☐ Wetland Non-Vascular F		
Total Cover:	100%			☐ Problematic Hydrophytic	: Vegetation¹ (Expla	ain)
Woody Vine Stratum (Plot size: 15 ft radius)	0/			¹ Indicators of hydric soil and w	otland budralagu	
1. 2.	<u>%</u> %	-	-	Must be present, unless distur		
-				wast be present, unless distar	bed of problematic	
Total Cover:				Hydrophytic Vegetation Prese	ant?	
% Bare Ground in Herb Stratum <u>0%</u>					Yes⊠	No□
Remarks:The dominance test was met due to over 50	% of domina	nt species beir	ng OBL, FAC	W, or FAC.	100	
		·	5 ,	,		

SOIL Sampling Point: 8

				_				
Depth Matri			Redox Fe		. 2	_	- .	5
Color (moist)	%	Color (mo		Type¹	Loc ²		Texture	Remarks
0-16 10YR 3/2	60%	7.5YR 4	40% 40% %	_ <u>C</u>	M		silty clay loam	
						_		
	<u> </u>		<u> </u>		-			
 -	%		%					
	%		%					
	%		%		· 			
Гуре: C=Concentration,					Sand Grain			
ydric Soil Indicators: (A	pplicable to a			ed.)			tors for Problemati	c Hydric Soils
Histosal (A1)			Redox (S5)				Muck (A10)	0)
Histic Epipedon (A2)		☐ Strippe	ed Matrix (S6)				Parent Material (TF: Shallow Dark Surfa	
Black Histic (A3)		□Loamy	Mucky Mineral (F	I) (excent MI	RΔ 1)		r (Explain in Remarl	
Hydrogen Sulfide (A4)		-	Gleyed Matrix (F2				i (Explain in Roman	NO)
Depleted Below Dark S	urfaco (A11)	- · · · · · · · · · · · · · · · · · · ·	ed Matrix (F3)	,				
Thick Dark Surface (A1:	, ,	-	Dark Surface (F6)					
Sandy Mucky Minerals	,		ed Dark Surface (F6)	7)		31001:001	are of budrants 415	actation and
☐ Sandy Mucky Millerals ☐ Sandy Gleyed Matrix (S			Depressions (F8)	')			ors of hydrophytic ve	•
estrictive Layer (if prese		☐ IXedox	Depressions (1 0)			vvei	land hydrology must	be present
estrictive Layer (ii presi	- 111.).							
ype:					Ну	dric Soil	Present?	
'' <u> </u>								Yes⊠ ∣
emarks: Hydric soil indica						upper 12	2 inches of the soil, a	and had a matrix valu
emarks: Hydric soil indica or less, and a chroma of						upper 12	2 inches of the soil, a	and had a matrix valu
emarks: Hydric soil indica or less, and a chroma of YDROLOGY	2 or less, with						Secondary Indicator	rs
emarks: Hydric soil indicator less, and a chroma of a chroma of a chroma of a chroma divided by the soil indicator in the soil indic	2 or less, with	5% or more di	istinct or prominen					rs
emarks: Hydric soil indicator less, and a chroma of YDROLOGY /etland Hydrology Indicators (min. of	2 or less, with	5% or more di	apply)	t redox conce	ntrations.		Secondary Indicator (2 or more required) Water Stained Lo	rs) eaves (B9)
emarks: Hydric soil indicator less, and a chroma of IYDROLOGY Vetland Hydrology Indicators (min. of Surface Water (A1)	2 or less, with	5% or more di	apply) Stained Leaves (B	t redox conce	ntrations.	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A,	eaves (B9) and 4B)
emarks: Hydric soil indicator less, and a chroma of IYDROLOGY /etland Hydrology Indicators (min. of Surface Water (A1) High Water Table (A2)	2 or less, with	check all that	apply) Stained Leaves (Bust (B11)	t redox conce	ntrations.	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr	rs) eaves (B9) and 4B) ns (B10)
IYDROLOGY Vetland Hydrology Indicatorismary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3)	2 or less, with	check all that :	apply) Stained Leaves (Bust (B11) c Invertebrates (B1	9) (except MI	ntrations.	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat	rs) eaves (B9) and 4B) ns (B10) er Table (C2)
emarks: Hydric soil indicator less, and a chroma of a	2 or less, with a ators: one required; of	check all that a water Salt Cr	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (C	9) (except MI 3)	ntrations.	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery
IYDROLOGY Vetland Hydrology Indicator Indicator Indicators (min. of Indicators Indicators (min. of Indicators	2 or less, with a ators: one required; of	check all that a	apply) Stained Leaves (Bust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres a	9) (except MI 3) 21) long Living Ro	ntrations.	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos	eaves (B9) and 4B) ns (B10) eer Table (C2) e on Aerial Imagery
emarks: Hydric soil indicator less, and a chroma of a	2 or less, with a ators: one required; of	check all that a water Water Salt Cr Aquation Hydrog Oxidize Present	apply) Stained Leaves (Bust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres a	9) (except Mi 3) C1) long Living Ro	LRA 1, 2, 4	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Water Saturation Visible Geomorphic Poses	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery sition (D2)
Remarks: Hydric soil indicator less, and a chroma of a	2 or less, with a ators: one required; of	check all that a water Salt Cr Aquation Hydrog Oxidize Presen	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres alace of Reduced Iron to Iron Reduction in	9) (except MI 3) c1) long Living Ro n (C4) Tilled Soils (C	LRA 1, 2, 4	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) and 4B) as (B10) eer Table (C2) e on Aerial Imagery sition (D2) d (D3) st (D5)
Pepth (inches): Remarks: Hydric soil indicator less, and a chroma of a chroma	ators: one required; o	check all that a water Salt Cr Aquatic Hydrog Oxidize Recent Stunted	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres and the ced Feduced Iron Reduction in dor Stressed Plant	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR	LRA 1, 2, 4	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitare FAC-Neutral Tese Raised Ant Mour	eaves (B9) and 4B) as (B10) are Table (C2) e on Aerial Imagery sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indicator less, and a chroma of a	ators: one required; o	check all that a water Salt Cr Aquatic Yoxidize Present Stunter	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres alace of Reduced Iron to Iron Reduction in	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR	LRA 1, 2, 4	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) and 4B) as (B10) are Table (C2) e on Aerial Imagery sition (D2) d (D3) at (D5) ands (D6) (LRR A)
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emarks: Hydric soil indicator less, and a chroma of a	ators: one required; o	check all that a water Salt Cr Aquatic Yoxidize Present Stunter	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres and the ced Feduced Iron Reduction in dor Stressed Plant	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR	LRA 1, 2, 4	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitare FAC-Neutral Tese Raised Ant Mour	eaves (B9) and 4B) as (B10) are Table (C2) e on Aerial Imagery sition (D2) d (D3) at (D5) ands (D6) (LRR A)
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IYDROLOGY Vetland Hydrology Indicator Indicato	ators: one required; of the second se	check all that a water Salt Cr Aquatic Present Stunter (Far) No N	apply) Stained Leaves (Bust (B11) convertebrates (B1) gen Sulfide Odor (Ced Rhizospheres and the office of Reduced Iron Reduction in dor Stressed Plant Explain in Remarks Depth (Inches Depth (Inche	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C is (D1) (LRR s)):):):	LRA 1, 2, 4 Dots (C3) C6) A)	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery d (D3) et (D5) ands (D6) (LRR A) mmocks (D4)
emarks: Hydric soil indicator less, and a chroma of a	ators: one required; of the second se	check all that a water Salt Cr Aquatic Present Stunter (Far) No N	apply) Stained Leaves (Bust (B11) convertebrates (B1) gen Sulfide Odor (Ced Rhizospheres and the office of Reduced Iron Reduction in dor Stressed Plant Explain in Remarks Depth (Inches Depth (Inche	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C is (D1) (LRR s)):):):	LRA 1, 2, 4 Dots (C3) C6) A)	A, & 4B)	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes Raised Ant Mour	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery d (D3) et (D5) ands (D6) (LRR A) mmocks (D4)
IYDROLOGY Vetland Hydrology Indicator less, and a chroma of Vetland Hydrology Indicator less and less arimary Indicators (min. of le	ators: one required; of the second se	check all that a water Salt Cr Aquatic Present Stunter (Far) No No No No Monatoring water No Monatoring No Monatoring Water N	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres a loce of Reduced Iron to Stressed Plantexplain in Remarks Depth (Inches Depth	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR s)):): revious insper	LRA 1, 2, 4 Doots (C3) C6) A) Went	tland Hyd	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mour Frost-Heave Hur	eaves (B9) and 4B) as (B10) are Table (C2) are on Aerial Imagery d (D3) at (D5) ands (D6) (LRR A) ammocks (D4) Yes 🖂 No
emarks: Hydric soil indicator less, and a chroma of a	ators: one required; of Yes Yes Yes Yes Stream gauge,	check all that a water Salt Cr Aquatic Present Stunted Other (B37) No No No No monitoring we cator A3 was residued.	apply) Stained Leaves (Bust (B11) c Invertebrates (B1) gen Sulfide Odor (Ced Rhizospheres a loce of Reduced Iron to Stressed Plantexplain in Remarks Depth (Inches Depth	9) (except MI 3) 21) long Living Ro n (C4) Tilled Soils (C ts (D1) (LRR s)):): revious insper	LRA 1, 2, 4 Doots (C3) C6) A) Went	tland Hyd	Secondary Indicator (2 or more required) Water Stained Lo (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Mour Frost-Heave Hur	eaves (B9) and 4B) as (B10) are Table (C2) are on Aerial Imagery d (D3) at (D5) ands (D6) (LRR A) ammocks (D4) Yes 🖂 No

				-	
Project/Site: Green Mountain PRD		City/Co	unty: Camas/		
Applicant/Owner: Green Mountain Land, LLC		Coatio	State: W		g Point: 9J
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho Landform (hillslope, terrace, etc.): footslope		Local relief: Co		, Range: 20, 2N, 3E	Slope (%): 0-3%
Subregion (LRR):A2	Lat: 45.647		Long:-122.4	4560 Datum	: NAD83
Soil Map Unit Name: MIA, McBee silt loam	Lut. 40.047			WI classification: none	. 14/1200
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠			
Are Vegetation⊠, Soil⊡, or Hydrology⊡ significantly				Circumstances" present? Yes□	No⊠
Are Vegetation□, Soil□, or Hydrology□ naturally pi	oblematic?	(If need	led, explain a	ny answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ns, transects, important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [· · · · · · · · · · · · · · · · · · ·	<u></u>
Hydric Soils Present? Yes ☐ No 🛭		within a	mpled Area	Yes□ No⊠	
Wetland Hydrology Present? Yes ☐ No 🛭					
Remarks: Test plot located northeast of Wetland J. Vopresent, the test plot is determined to not be sampled volume.					Triydrophytic vegetation is
VEGETATION (Use scientific names)					
	Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status		
1	%			Number of Dominant Species	1 (A)
2.	%			That Are OBL, FACW, or FAC:	
3.	<u>%</u>			Total Number of Dominant	4 (5)
4Total Covers	<u>%</u> %			Species Across All Strata:	1 (B)
Total Cover:					100 (A/B)
				Percent of Dominant Species	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	0.4			That Are OBL, FACW, or FAC	
1.	<u>%</u> %			Prevalence Index worksheet	
2. 3.	0/		-	Total % Cover of: OBL species	Multiply by: x 1=
3. 4.				FACW species	x 1=
5.	//			FAC species	x 3=
Total Cover:	%			FACU species	x 4=
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=
1. Lolium perenne	90%	yes	FAC	Column Totals:	(A) (B)
2. Lotus corniculatus	5%	no	FAC	Prevalence Index	
3. <u>Schedonorus arundinaceus</u>	5%	no	FAC	Hydrophytic Vegetation India	
4.	%			☐ 1 – Rapid Test for Hydro	
5.	%			☐ 3 - Prevalence Index is ≤	
6.				4 - Morphological Adapta	
	%				rks or on a separate sheet
7	%			_	4
8.	%			☐ Wetland Non-Vascular P	
Total Cover:	100%			☐ Problematic Hydrophytic	Vegetation' (Explain)
Woody Vine Stratum (Plot size: 15 ft radius) 1.	%			¹ Indicators of hydric soil and we	etland hydrology
2.				Must be present, unless disturb	
Total Cover:	%		-	made so process, associations	704 or problematic.
rotal Cover:				Hydrophytic Vegetation Prese	nt?
% Bare Ground in Herb Stratum 0%				riyarophytic vegetation riese	Yes⊠ No⊡
Remarks:The dominance test was met due to over 50	% of dominar	nt species beir	na OBL. FAC	W. or FAC.	1032 110
	,, ,, ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ороолоо оол	.g ==,	,	

Soll Sampling Point: 9

JOIL										Sampling Point:
Profile D	escription: (Desc	ribe to the dep	pth needed t	to docum	ent the ind	icator or co	onfirm	the al	osence of indicators.)	
D	84-1-2				D. I. F. (
Depth	Matrix	<u>x </u>	Color (m		Redox Feat		Lo	2	Toyturo	Domorko
(inches) 0-10	Color (moist) 10YR 3/3	50%	Color (mo	JISI)	%	Type ¹	LO		Texture silty clay loam	Remarks See Remarks Below
0-10	10YR 3/2	50%							silty clay loam	See Remarks Below
10-16	10YR 3/2	85%	5YR 4/	·6	15%		N	1	silty clay loam	Occ Remarks Below
		%			%					
-	-	%			%					
		%			%					
		%			%					
		%			%					
							Sand G		² Location: PL=Pore Lin	
	oil Indicators: (A	pplicable to al				.)			Indicators for Problema	atic Hydric Soils
Histos			☐ Sandy] 2 cm Muck (A10)	
☐ Histic	Epipedon (A2)		☐ Strippe	ed Matrix	(S6)			Ļ	Red Parent Material (T	
	LP-C- (AO)			N4 -1 N4	P 1 (54)	/ 	D 4 4\	Ļ	Very Shallow Dark Sur	
	Histic (A3)		-	-		except MLI	RA 1)		Other (Explain in Rema	arks)
•	gen Sulfide (A4)		☐ Loamy	-	, ,					
	ted Below Dark Sເ		-	ed Matrix						
	Dark Surface (A12	•		Dark Sur	, ,					
☐ Sandy	Mucky Minerals (S1)	□ Deplete	ed Dark S	Surface (F7)			³	ndicators of hydrophytic	vegetation and
☐ Sandy	Gleyed Matrix (S	4)	☐ Redox	Depressi	ons (F8)				Wetland hydrology mu	st be present
Restricti	ve Layer (if prese	ent):								•
Type:								Hydr	ic Soil Present?	
Donth (in	oboo):									Yes⊡ No
Depth (in	<u>'</u>			0		,	0 11 1		12.1	6.0 9 69 6
				U to TU In	ches below	son surface.	. 5011 18	not n	ydric because the chrom	a of the soil profile from
10 inches	s below the soil su	nace is too nigi	1 (above 2).							
HYDRO	LOGY									
	Hydrology Indica	tore:							Secondary Indicat	ore
Welland	riyarology maica	itors.							(2 or more require	
Primary I	ndicators (min. of	one required: c	heck all that	apply)					(2 or more require	α)
		oooquou, o		~~~/					Water Stained	Leaves (B9)
☐ Surfac	ce Water (A1)		☐ Water-	Stained L	eaves (B9)	(except ML	RA 1.	2. 4A.		
	Vater Table (A2)			ust (B11)	, ,	(,	_,,	☐ Drainage Patte	
☐ Satura	, ,			, ,	rates (B13)				☐ Dry-Season W	` '
	Marks (B1)				e Odor (C1)	١				ble on Aerial Imagery (C
	ent Deposits (B2)					ng Living Ro	ots (C3	3)	☐ Geomorphic Po	
	eposits (B3)				duced Iron (013 (00	,	☐ Shallow Aquita	
	Mat or crust (B4)					led Soils (C	6)		☐ FAC-Neutral Te	
_	, ,						-			
	eposits (B5)	`				(D1) (LRR A	4)			unds (D6) (LRR A)
	ce Soil Cracks (B6	•		Explain in	Remarks)				☐ Frost-Heave H	ummocks (D4)
∐ Inunda	ation Visible on Ae	erial Imagery (B	57)							
Field Ob	servations:									
	Vater Present?	Yes □	No 🛛	Dont	h (Inches):					
	ble Present?	Yes \square	No ⊠	•	h (Inches):		,	Watla	nd Hydrology Present?	
	n Present?	Yes 🗌	No ⊠		h (Inches):			vvetia	ila riyarology i resent:	Yes ☐ No 🗵
	Capillary fringe)	. 55 Ш		Борі	(100 🗀 110 🖸
	Recorded Data (S	Stream gauge, r	monitoring we	ell, aerial	photos, prev	vious inspec	tions),	if avai	lable:	
	•	0 0 ,	J	,	·	•	,,			
	NI	1		0.1.1.1	1.1					
	:No wetland hydro	logy indicators	were met at	this test p	lot.					
	:No wetland hydro	logy indicators	were met at	this test p	lot.					
	:No wetland hydro	logy indicators	were met at	this test p	lot.					

Project/Site: Green Mountain PRD		City/Co	unty: Camas/			
Applicant/Owner: Green Mountain Land, LLC	ffmann	Contin	State: W	A Sampling Po , Range: 20, 2N, 3E	oint: 10G	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho Landform (hillslope, terrace, etc.): footslope		Local relief: Co		, Range: _20, 2N, 3E	Slope (%):0	L50/
Subregion (LRR):A2	Lat: 45.647		Long:-122.	4560 Datum: N		r-J /0
Soil Map Unit Name: DoB, Dollar loam	Lat. 40.047	· •		WI classification: none	1/1000	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠			<u> </u>	
Are Vegetation□, Soil□, or Hydrology□ significantly	y disturbed?			Dircumstances" present? Yes⊠ No	o□	
Are Vegetation□, Soil□, or Hydrology□ naturally pi				any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map	showing s				ures. etc.	
Hydrophytic Vegetation Present? Yes ⊠ No [
Hydric Soils Present? Yes ☐ No 🖸			mpled Area			
Wetland Hydrology Present? Yes ☐ No 🛭		within a \	Wetland?	Yes□ No⊠		
Remarks: Test plot located southeast of the southern	depression o	of Wetland G ar	nd northwest	of Wetland U. Although hydrophytic	vegetation is	present,
no hydric soil or wetland hydrology indicators were pre	sent, therefor	e the test plot	is determined	d to not be located within a wetland.		
VEGETATION (Use scientific names)						
Tros Stratum (Plataina 20 ft radius)	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status	Number of Dominant Species	•	(4)
1. Quercus garryana	20%	yes	FACU	That Are OBL, FACW, or FAC:	3	_ (A)
2. 3.	<u>%</u> %	·		That Are OBE, 1 NOW, of 1 No.		
4.				Total Number of Dominant	5	(B)
Total Cover:	20%	-		Species Across All Strata:		_ (D)
Total Cover.	2070				60	(A/B)
				Percent of Dominant Species		_ (,,,,,)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	000/		E4011	That Are OBL, FACW, or FAC		
1. Rubus ursinus	20%	yes	FACU	Prevalence Index worksheet	Multiply by	
2. 3.	<u>%</u> %	-	-	Total % Cover of: OBL species	Multiply by:	
4.				·	(2= (2=	
5.		-		·	· 3=	
Total Cover:	20%		-	i	· 4=	
Herb Stratum (Plot size: 5 ft radius)				i ———	< 5=	
1. Festuca rubra	30%	yes	FAC		(A)	(B)
2. Schedonorus arundinaceus	30%	yes	FAC	Prevalence Index = B	3/A=	, ,
3.	%			Hydrophytic Vegetation Indicate		
4.	%			☐ 1 – Rapid Test for Hydrophy		
			-		4	
5	%			☐ 3 - Prevalence Index is ≤3.0		
6.	%			4 - Morphological Adaptation		.to oboot\
7.	%		-	supporting data In Remarks	or on a separa	ile sneet)
8.		-		☐ Wetland Non-Vascular Plant	te ¹	
Total Cover:	60%		-	☐ Problematic Hydrophytic Ve		ain)
Woody Vine Stratum (Plot size: 15 ft radius)					901011011 (=)1	с ,
1. Rubus armeniacus	30%	yes	FAC	¹ Indicators of hydric soil and wetla	nd hydrology	
2.	%			Must be present, unless disturbed	or problemation).
Total Cover:	30%					
				Hydrophytic Vegetation Present?	?	
% Bare Ground in Herb Stratum 40%					Yes⊠	No□
Remarks:Trace amount of Juncus effusus (FACW) ar	nd <i>Phalaris ar</i>	rundinacea (FA	CW). 40% o	f bareground covered in unknown de		
dominance test was met due to over 50% of dominant	species being	g OBL, FACW,	or FAC.			

SUIL								Sampling Point: 10G
Profile De	escription: (Desc	ribe to the de	pth needed t	o document the inc	licator or conf	irm the abser	nce of indicators.)	
D	NA. c.			D. I. E				
Depth	Matrix	<u> </u>	Color (ma	Redox Feat		Loc ²	Tardura	Domorko
(inches) 0-12	Color (moist) 10YR 3/3	100%	Color (mo	<u>iist) %</u> %	Type ¹	LOC	Texture silt loam	Remarks
12-16	10YR 3/3	50%					silt loam	See Remarks Below
12-16	10YR 4/6	50%					Silt loam	See Remarks Below
12 10	101111110	%					Oilt Iodill	<u>coo riomanio Bolon</u>
		%		<u> </u>	· ———			
		%		%				
		%		%	<u> </u>			
		%		%				
							cation: PL=Pore Lin	
		pplicable to al		ss otherwise noted	.)		cators for Problema	tic Hydric Soils
Histos	, ,			Redox (S5)			cm Muck (A10)	
☐ Histic	Epipedon (A2)			d Matrix (S6)			ed Parent Material (TI	
□ Dii-i	:-+:- (A O)			NA	/ NI DA		ry Shallow Dark Surf	
	Histic (A3)			Mucky Mineral (F1)	(except MLRA	. 1) Ut	her (Explain in Rema	irks)
	gen Sulfide (A4)		-	Gleyed Matrix (F2)				
•	ed Below Dark Su	, ,	-	ed Matrix (F3)				
	Dark Surface (A12	•		Dark Surface (F6)				
-	Mucky Minerals (-	ed Dark Surface (F7))	³ Indic	ators of hydrophytic v	egetation and
	Gleyed Matrix (Se		☐ Redox	Depressions (F8)		W	etland hydrology mus	st be present
Restrictiv	e Layer (if prese	ent):						
_							- '' P10	
Type:	<u> </u>					Hydric S	oil Present?	Vaa 🗆 Na 🕅
Depth (inc	chae).							Yes⊡ No⊠
	•		l manatuis funcion d	2 to 16 inches below	the eath accura			
itemarks.	Soil profile corisis	sted of a filized	i illatiix iloili	Z to 10 inches belov	w the son sunat			
HYDRO	LOGY							
	Hydrology Indica	itors:					Secondary Indicate	ore
Wetland	i iyarology ilialoa	itors.					(2 or more required	
Primary Ir	ndicators (min. of	one required: c	heck all that	(vlage			(2 or more required	
	(···			 ☐ Water Stained I	Leaves (B9)
☐ Surfac	e Water (A1)		☐ Water-	Stained Leaves (B9)	(except MLRA	1. 2. 4A. & 4		
	Vater Table (A2)		☐ Salt Cr		(, , , ,	☐ Drainage Patte	-
☐ Satura	` '			: Invertebrates (B13)	ı		☐ Dry-Season Wa	
	Marks (B1)			en Sulfide Odor (C1				ole on Aerial Imagery (C9)
· 	ent Deposits (B2)			d Rhizospheres alo		(C3)	☐ Geomorphic Po	
	eposits (B3)			ce of Reduced Iron		(00)	☐ Shallow Aquitar	
	Mat or crust (B4)			Iron Reduction in Ti			☐ FAC-Neutral Te	, ,
_				or Stressed Plants				unds (D6) (LRR A)
	eposits (B5)	`			(DI) (LRR A)			, , ,
	e Soil Cracks (B6		•	Explain in Remarks)			☐ Frost-Heave Hu	ummocks (D4)
∐ Inunda	ition Visible on Ae	rial Imagery (E	37)					
Field Obs	servations:							
	Vater Present?	Yes □	No ⊠	Depth (Inches):				
	ole Present?	Yes 🗌	No ⊠	Depth (Inches):		Wetland F	lydrology Present?	
	Present?	Yes 🗌	No ⊠	Depth (Inches):		i i i i i i i i i i i i i i i i i i i	.ya. ology i rocolii	Yes ☐ No 🏻
	Capillary fringe)	- -		-1 (
		tream gauge, i	monitoring we	II, aerial photos, pre	vious inspectio	ns), if available	e:	
_								
Remarks:								

Project/Site: Green Mountain PRD		City/Co	unty: Camas	/Clark Sampling Dat	e: 2/29/2016	
Applicant/Owner: Green Mountain Land, LLC			State: W	A Samplin	g Point: 11G	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho		·		, Range: 20, 2N, 3E		
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		4500 Det.	Slope (%):0)-3%
Subregion (LRR): A2 Soil Map Unit Name: MIA, McBee silt loam	Lat: 45.647	/1	Long: -122.	4560 Datum WI classification: none	n: NAD83	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear2 Ves⊠				
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly	y disturbed?	Ar	ea "Normal (Circumstances" present? Yes⊠	No□	
Are Vegetation , Soil , or Hydrology naturally pr		•		any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map		sampling po	int locatio	ons, transects, important t	eatures, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soils Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐		within a	mpled Area Wetland?	Yes⊠ No⊡		
Remarks: Test plot located within the southwestern dwithin a wetland.	epression of v	Wetland G. All	three wetian	a parameters are met, therefore	the test plot was s	sampied
VEGETATION (Use scientific names)						
Tree Stratum (Plot size:30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet		
1	% %			Number of Dominant Species That Are OBL, FACW, or FAC		_ (A)
3. 4.	<u>%</u>	-	-	Total Number of Dominant	3	(B)
Total Cover:	%			Species Across All Strata:	400	- ` '
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				Percent of Dominant Species That Are OBL, FACW, or FAC		_ (A/B)
Typha latifolia Z.	<u>80%</u>	yes	OBL	Prevalence Index worksheet Total % Cover of:	t Multiply by:	
3.	%			OBL species	x 1=	
4.	%			FACW species	x 2=	
5	%			FAC species	x 3=	
Total Cover:	80%			FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)	F00/		FACW	UPL species	x 5=	(D)
Phalaris arundinacea Juncus effusus	50% 50%	yes ves	FACW	Column Totals: Prevalence Index	(A) (– Β/Δ –	(B)
3.	3070		17.000	Hydrophytic Vegetation Indi		
4.						
	%			□ 2 – Dominance Test is >		
5	%			3 - Prevalence Index is		
6.	%			4 - Morphological Adapta		.414\
7.	%	-		supporting data In Rema	arks or on a separa	ite sneet)
8.				☐ Wetland Non-Vascular F	Plants ¹	
Total Cover:	100%	-		☐ Problematic Hydrophytic		ain)
Woody Vine Stratum (Plot size: 15 ft radius)						,
1	%			¹ Indicators of hydric soil and w		
2	%			Must be present, unless distur	bed or problemation).
Total Cover:	%					
				Hydrophytic Vegetation Prese		—
% Bare Ground in Herb Stratum 0%	20/ of domino	nt annaina hair	~ ODL FAC)\\\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Yes⊠	No.
Remarks:The dominance test was met due to over 50	% or domina	nt species beir	ig OBL, FAC	ov, or FAC.		
						J

Depth Matri	v		Dadas	k Features				
Depth Matri nches) Color (moist)	<u>x</u> %	Color (mo			1 Loc	<u>c²</u>	Texture	Remarks
0-2 10YR 5/1	100%	Coloi (IIIC	/ /	% Type		<u> </u>	silty clay loam	INGINAINS
2-16 10YR 5/1	60%	10YR 4/	/6 40		M	 1	silty clay loam	
 -	%			%				
	%			%				
	%			%				
				<u>%</u>				
	<u> </u>			%				
Tuna. C. Canaantration		DM Dadwaad	Motrice CC Co	<u>%</u>	40d Cond C	21 0	notion: DL Dava Lining	~ NA Matrix
Type: C=Concentration, lydric Soil Indicators: (A					tea Sana G		ators for Problematic	
∃ Histosal (A1)	pplicable to a		Redox (S5)	ioteu.)			m Muck (A10)	, riyuric oolis
Histic Epipedon (A2)			d Matrix (S6)				d Parent Material (TF2)
2 · ······· = - - - - - - - - - - - - -							y Shallow Dark Surfac	
Black Histic (A3)		☐ Loamy	Mucky Mineral	(F1) (except	MLRA 1)	☐ Oth	er (Explain in Remark	s)
☐ Hydrogen Sulfide (A4)		☐ Loamy	Gleyed Matrix	(F2)				
Depleted Below Dark Su	urface (A11)	□ Deplete	ed Matrix (F3)					
Thick Dark Surface (A12	2)	☐ Redox	Dark Surface (F6)				
☐ Sandy Mucky Minerals (S1)	□ Deplete	ed Dark Surfac	e (F7)		³ Indica	itors of hydrophytic veg	getation and
Sandy Gleyed Matrix (S	4)	☐ Redox	Depressions (F	- 8)			etland hydrology must	•
estrictive Layer (if prese	ent):							•
ype:						Hydric So	il Present?	V 17 A
anth (inches):								Yes⊠ N
emarks: Hydric soil indica								
emarks: Hydric soil indica eginning within 10 inches epleted matrix.	of the soil surfa						ed within the soil profile	e, which is required i
emarks: Hydric soil indica eginning within 10 inches epleted matrix.	of the soil surfa						ed within the soil profile	e, which is required i
emarks: Hydric soil indicateginning within 10 inchest epleted matrix. IYDROLOGY Vetland Hydrology Indicate	of the soil surfa	ace. A value o	of 4 or more and				Secondary Indicators (2 or more required)	e, which is required i
emarks: Hydric soil indicate eginning within 10 inches epleted matrix. IYDROLOGY Vetland Hydrology Indicationary Indicators (min. of	of the soil surfa	ace. A value o	of 4 or more and	d a chroma of	2 or less w	/as observ€	Secondary Indicators (2 or more required) Water Stained Lea	e, which is required i
emarks: Hydric soil indicate eginning within 10 inches epleted matrix. IYDROLOGY Vetland Hydrology Indicationary Indicators (min. of Surface Water (A1)	of the soil surfa	ace. A value o	apply) Stained Leaves	d a chroma of	2 or less w	/as observ€	Secondary Indicators (2 or more required) Water Stained Lea	e, which is required i
Remarks: Hydric soil indicateginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicater (min. of a surface Water (A1) High Water Table (A2)	of the soil surfa	check all that a	apply) Stained Leaves	d a chroma of	2 or less w	/as observ€	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a	e, which is required i
Remarks: Hydric soil indicateginning within 10 inchest epleted matrix. HYDROLOGY Vetland Hydrology Indicater (min. of Surface Water (A1) High Water Table (A2) Saturation (A3)	of the soil surfa	check all that a	apply) Stained Leaves ust (B11)	d a chroma of	2 or less w	/as observ€	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a	aves (B9) and 4B) s (B10) er Table (C2)
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. HYDROLOGY Wetland Hydrology Indicate Primary Indicators (min. of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ators:	check all that a	apply) Stained Leaves ust (B11) c Invertebrates	d a chroma of G (B9) (except (B13) or (C1)	2 or less w	zas observe	Secondary Indicators (2 or more required) Water Stained Le. (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Water	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicate Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ators:	check all that a	apply) Stained Leaves ust (B11) c Invertebrates ien Sulfide Odd	es (B9) (except (B13) or (C1) es along Living	2 or less w	zas observe	Secondary Indicators (2 or more required) Water Stained Lea (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2)
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicate Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ators:	check all that a	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odded Rhizosphere	s (B9) (except (B13) or (C1) es along Living Iron (C4)	2 or less w	zas observe	Secondary Indicators (2 or more required) Water Stained Leas (MLRA 1, 2, 4A, as Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Position	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3)
Depth (inches): Remarks: Hydric soil indicate deginning within 10 inches depleted matrix. HYDROLOGY Vetland Hydrology Indicate deginary Indicators (min. of degree o	ators:	check all that a Water-s Salt Cri Aquatic Hydrog Oxidize Presen Recent	apply) Stained Leaves ust (B11) c Invertebrates pen Sulfide Odd ed Rhizosphere ice of Reduced	s (B9) (except (B13) or (C1) es along Living Iron (C4) in in Tilled Soil	2 or less we the third t	zas observe	Secondary Indicators (2 or more required) Water Stained Le. (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3)
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicate Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5)	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odo ed Rhizosphere ice of Reduced t Iron Reduction	s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil.	2 or less we the third t	zas observe	Secondary Indicators (2 or more required) Water Stained Le. (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
lemarks: Hydric soil indicate eginning within 10 inches epleted matrix. IYDROLOGY Vetland Hydrology Indicate in inches epleted matrix. IYDROLOGY Vetland Hydrology Indicate in inches	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted	apply) Stained Leaves ust (B11) c Invertebrates uen Sulfide Odo ed Rhizosphere ice of Reduced c Iron Reduction d or Stressed F	s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil.	2 or less we the third t	zas observe	Secondary Indicators (2 or more required) Water Stained Least (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounce	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
lemarks: Hydric soil indicate eginning within 10 inches epleted matrix. IYDROLOGY Vetland Hydrology Indicate in inches epleted matrix. IYDROLOGY Vetland Hydrology Indicate in inches	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted	apply) Stained Leaves ust (B11) c Invertebrates uen Sulfide Odo ed Rhizosphere ice of Reduced c Iron Reduction d or Stressed F	s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil.	2 or less we the third t	zas observe	Secondary Indicators (2 or more required) Water Stained Least (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounce	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicate Primary Indicators (min. of a Surface Water (A1) and High Water Table (A2) and Saturation (A3) and Water Marks (B1) and Sediment Deposits (B2) and Deposits (B3) algal Mat or crust (B4) are Inundation Visible on Activided Characteristics (B6) and Inundation Visible on Activided Characteristics (B6) and Charact	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odd ed Rhizosphere ace of Reduced t Iron Reduction d or Stressed F Explain in Rem	s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks)	2 or less we the third t	zas observe	Secondary Indicators (2 or more required) Water Stained Least (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounce	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
Remarks: Hydric soil indical leginning within 10 inches lepleted matrix. HYDROLOGY Vetland Hydrology Indical Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odd ed Rhizosphere ice of Reduced c Iron Reduction d or Stressed F Explain in Rem	d a chroma of (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes):	2 or less were MLRA 1, 2 g Roots (C3 s (C6) RR A)	2, 4A, & 4E	Secondary Indicators (2 or more required) Water Stained Lease (MLRA 1, 2, 4A, a) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mount	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
Remarks: Hydric soil indicate eginning within 10 inches epleted matrix. IYDROLOGY Vetland Hydrology Indicate Primary Indicators (min. of a surface Water (A1) and High Water Table (A2) and Saturation (A3) and Water Marks (B1) and Sediment Deposits (B2) and Deposits (B3) and Algal Mat or crust (B4) are Inon Deposits (B5) and Surface Soil Cracks (B6) and Inundation Visible on Activided Observations: Vater Table Present?	of the soil surfa	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odd ed Rhizosphere ace of Reduced t Iron Reduction d or Stressed F Explain in Rem	d a chroma of s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes): hes):	2 or less were MLRA 1, 2 g Roots (C3 s (C6) RR A)	2, 4A, & 4E	Secondary Indicators (2 or more required) Water Stained Least (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounce	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A)
Remarks: Hydric soil indical eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicator (min. of min. o	of the soil surfactors: one required; of the soil surfactors: one required; of the soil surfactors: Yes □ Yes □ Yes □ Yes □ Yes □	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odd ed Rhizosphere ace of Reduced t Iron Reduction d or Stressed F Explain in Rem Depth (Inc Depth (Inc	d a chroma of (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes): hes): 10 hes): 0	2 or less was a MLRA 1, 2 g Roots (C3 s (C6) RR A)	2, 4A, & 4E	Secondary Indicators (2 or more required) Water Stained Leas) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mount Frost-Heave Hum	aves (B9) and 4B) s (B10) or Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A) amocks (D4)
Remarks: Hydric soil indical eginning within 10 inches epleted matrix. HYDROLOGY Vetland Hydrology Indicator (min. of min. o	of the soil surfactors: one required; of the soil surfactors: one required; of the soil surfactors: Yes □ Yes □ Yes □ Yes □ Yes □	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odd ed Rhizosphere ace of Reduced t Iron Reduction d or Stressed F Explain in Rem Depth (Inc Depth (Inc	d a chroma of (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes): hes): 10 hes): 0	2 or less was a MLRA 1, 2 g Roots (C3 s (C6) RR A)	2, 4A, & 4E	Secondary Indicators (2 or more required) Water Stained Leas) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mount Frost-Heave Hum	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) c (D5) ds (D6) (LRR A) amocks (D4)
Remarks: Hydric soil indical leginning within 10 inches lepleted matrix. HYDROLOGY Vetland Hydrology Indical Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Activities Water Table Present? Vater Table Present? Saturation Present? Includes Capillary fringe) Describe Recorded Data (See 1997)	of the soil surface. Intors: Intors:	check all that a Check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent Stunted Other (E	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odo ed Rhizosphere ace of Reduced c Iron Reduction d or Stressed F Explain in Rem Depth (Inc Depth (Inc	d a chroma of s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes): hes): 10 hes): 0 s, previous ins	2 or less were the MLRA 1, 2 or less were the ML	wetland H	Secondary Indicators (2 or more required) Water Stained Leas) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mount Frost-Heave Hum	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) s (D5) ds (D6) (LRR A) amocks (D4) Yes No
Remarks: Hydric soil indical leginning within 10 inches lepleted matrix. HYDROLOGY Vetland Hydrology Indical Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Activities (B4) Water Table Present? Vater Table Present? Saturation Present? Includes Capillary fringe)	of the soil surface. Intors: Intors:	check all that a water-s Salt Cri Aquatic Presen Recent Stunted Other (E S7) No No No No monitoring we	apply) Stained Leaves ust (B11) c Invertebrates gen Sulfide Odo ed Rhizosphere ace of Reduced c Iron Reduction d or Stressed F Explain in Rem Depth (Inc Depth (Inc Depth (Inc	d a chroma of s (B9) (except (B13) or (C1) es along Living Iron (C4) n in Tilled Soil Plants (D1) (LF arks) hes): hes): 10 hes): 0 s, previous ins	2 or less were the MLRA 1, 2 or less were the ML	wetland H	Secondary Indicators (2 or more required) Water Stained Leas) (MLRA 1, 2, 4A, a Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mount Frost-Heave Hum	aves (B9) and 4B) s (B10) er Table (C2) on Aerial Imagery (tion (D2) (D3) s (D5) ds (D6) (LRR A) amocks (D4) Yes No

Project/Site: Green Mountain PRD		City/Co	unty: <u>Camas/</u>		ampling Date: 2		
Applicant/Owner: Green Mountain Land, LLC			State: W		Sampling F	oint: 12G	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: <u>20, 2N, 3E</u>	!	01(0/)	0.00/
Landform (hillslope, terrace, etc.): <u>footslope</u> Subregion (LRR):A2	Lat: 45.647	Local relief: Co	onvex Long:-122.	4560	Datum:	Slope (%):	0-3%
Soil Map Unit Name: MIA, McBee silt loam	Lat. 45.047	1		WI classification:non		INADOS	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠					
Are Vegetation□, Soil□, or Hydrology□ significantly	disturbed?			Circumstances" prese		io 🗌	
Are Vegetation□, Soil□, or Hydrology□ naturally pr		(If need	led, explain a	any answers in Rema	rks.)		
SUMMARY OF FINDINGS – Attach site map	showing s	ampling po	int locatio	ns, transects, im	portant fea	tures, etc.	
Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soils Present? Yes ☐ No ☐ Wetland Hydrology Present? Yes ☐ No ☐ Remarks: Test plot located within Wetland G. Althoug because no wetland hydrology was present within 12 ir	☐ ☐ h hydrophytic	within a vegetation is	present, the	test plot was determi			
high, and the layer from 12-18 inches is technically a d to meet hydric soil specifications of an F3.							
VEGETATION (Use scientific names)							
	Absolute	Dominant	Indicator	Dominance Test \	Norksheet		
<u>Tree Stratum</u> (Plot size: <u>30</u> ft radius)	% Cover	Species?	Status	N (B			
1.	%	-		Number of Domina That Are OBL, FAC		3	_ (A)
2.	% %			That Are Obl., I Ac	W, or rac.		
3. 4.	% %		-	Total Number of Do	ominant	4	(B)
Total Cover:				Species Across All	Strata:		_ (D)
				Develope of Demine	nt Charles	75	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				Percent of Domina That Are OBL, FAC			
1. Spiraea douglasii	60%	yes	FACW	Prevalence Index			
2. Rubus ursinus	15%	yes	FACU	Total % Cov		Multiply by	:
3.	%			OBL species		x 1=	
4.	%			FACW species		x 2=	
5.	%			FAC species		x 3=	
Total Cover:	75%			FACU species		x 4=	
Herb Stratum (Plot size: 5 ft radius) 1. Schedonorus arundinaceus	50%	yes	FAC	UPL species Column Totals:		x 5= (A)	(B)
2.	 %	yes	170	- ∤	lence Index =	` '	(D)
3.	%			Hydrophytic Vege			
4.	%			☐ 1 – Rapid Te			1
	70			□ 2 – Dominan			
5	%				ce Index is ≤3.0		
6.	%				gical Adaptatio		oto oboot)
7.	%				ala ili Kelliaik	s or on a separ	ate sneet)
8.				☐ Wetland Non	-Vascular Plar	nts ¹	
Total Cover:	50%					egetation ¹ (Exp	olain)
Woody Vine Stratum (Plot size: 15 ft radius)							-
1. Rubus armeniacus	5%	yes	FAC	¹ Indicators of hydri			
2	<u>%</u>	-		Must be present, u	nless disturbed	d or problemat	ic.
Total Cover:	5%					_	
				Hydrophytic Veget	ation Present		
% Bare Ground in Herb Stratum 50%	0/ 1/ 1/ 1/		ODL 540	M		Yes⊠	No
Remarks:The dominance test was met due to over 50	% of dominal	nt species beir	ng OBL, FAC	W, or FAC.			

Depth Matri	χ.		Redox F	eatures				
nches) Color (moist)	<u>%</u>	Color (mo		Type ¹	Loc ²	_	Texture	Remarks
0-12 10YR 3/3	100%	00101 (1110		<u> </u>			silty clay loam	romano
12-18 10YR 4/2	90%	10YR 4/		С	М		silty clay loam	
	%			%				
	%			%				
	<u>%</u>			<u>/</u>				
	<u>%</u>			<u>/</u>				
	<u> </u>			<u>//</u>	· 			
ype: C=Concentration,	<u>'-</u> -	2M-Reduced		<u> </u>	Sand Grai	ne ² l oc	ation: DI –Pore Linin	a M-Matrix
ydric Soil Indicators: (A					Sand Gran		tors for Problemati	
Histosal (A1)	- - - - - - - - - -		Redox (S5)	,			n Muck (A10)	,
Histic Epipedon (A2)			d Matrix (S6)				Parent Material (TF2	2)
,			. ,				/ Shallow Dark Surfa	
Black Histic (A3)		☐ Loamy	Mucky Mineral (F	1) (except ML	.RA 1)	☐ Othe	er (Explain in Remark	ks)
Hydrogen Sulfide (A4)		☐ Loamy	Gleyed Matrix (F	2)				
Depleted Below Dark Su	ırface (A11)	□ Deplete	d Matrix (F3)					
Thick Dark Surface (A12	2)	☐ Redox I	Dark Surface (F6	5)				
] Sandy Mucky Minerals (S1)	□ Deplete	d Dark Surface (F7)		3Indicat	tors of hydrophytic ve	egetation and
] Sandy Gleyed Matrix (S	4)	☐ Redox I	Depressions (F8))		We	tland hydrology must	be present
estrictive Layer (if prese	ent):							
							U.D	
/pe:					Hy	aric Soi	I Present?	Yes⊟ I
anth (inches):								162□ 1
emarks: Hydric soil indica gh. Additionally, the layer il profile to meet hydric so	from 12-18 inc	hes is technic						
emarks: Hydric soil indica gh. Additionally, the layer il profile to meet hydric so YDROLOGY	from 12-18 inco	hes is technic					however the layer be	egins too deep withir
emarks: Hydric soil indica gh. Additionally, the layer il profile to meet hydric so YDROLOGY	from 12-18 inco	hes is technic					however the layer be	egins too deep within
emarks: Hydric soil indica gh. Additionally, the layer poil profile to meet hydric so YDROLOGY etland Hydrology Indica	from 12-18 income specification specification stores:	thes is technic is of an F3.	ally a depleted m				Secondary Indicator (2 or more required)	egins too deep within
emarks: Hydric soil indica gh. Additionally, the layer ill profile to meet hydric so YDROLOGY etland Hydrology Indica imary Indicators (min. of	from 12-18 income specification specification stores:	thes is technic is of an F3.	ally a depleted m	natrix based on	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le	egins too deep withings
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric so YDROLOGY Yetland Hydrology Indica rimary Indicators (min. of	from 12-18 incoil specification	thes is technic is of an F3. theck all that a	ally a depleted m	natrix based on	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A,	egins too deep withings rs) eaves (B9) and 4B)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric so YDROLOGY /etland Hydrology Indica rimary Indicators (min. of] Surface Water (A1)] High Water Table (A2)	from 12-18 incoil specification	ches is technic is of an F3. check all that a	ally a depleted mapply) Stained Leaves (lust (B11)	natrix based on	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le) (MLRA 1, 2, 4A, Drainage Pattern	egins too deep withings rs) eaves (B9) and 4B) ns (B10)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric so YDROLOGY /etland Hydrology Indica rimary Indicators (min. of] Surface Water (A1)] High Water Table (A2)] Saturation (A3)	from 12-18 incoil specification	ches is technic is of an F3. check all that a Water-S Salt Cru	ally a depleted mapply) Stained Leaves (last (B11) Invertebrates (B	natrix based on 39) (except MI	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water	egins too deep withings rs eaves (B9) and 4B) ns (B10) er Table (C2)
emarks: Hydric soil indica gh. Additionally, the layer bil profile to meet hydric soil profile to meet hydric solly profile to meet	from 12-18 incoil specification	ches is technic as of an F3. check all that a Water-S Salt Cru Aquatic Hydrogo	ally a depleted mapply) Stained Leaves (last (B11) Invertebrates (Ben Sulfide Odor (B9) (except MI	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (
emarks: Hydric soil indica gh. Additionally, the layer bil profile to meet hydric soil profile to meet hydric solly profile to meet	from 12-18 incoil specification	ches is technic as of an F3. check all that a Water-S Salt Cru Aquatic Hydrog Oxidize	apply) Stained Leaves (I ust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres	B9) (except MI 13) C1) along Living Ro	value and	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (ition (D2)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric so YDROLOGY Vetland Hydrology Indica rimary Indicators (min. of] Surface Water (A1)] High Water Table (A2)] Saturation (A3)] Water Marks (B1)] Sediment Deposits (B2)] Drift Deposits (B3)	from 12-18 incoil specification	ches is technic as of an F3. check all that a Water-S Salt Cru Aquatic Hydrogu Oxidize Presence	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres are of Reduced Inc.	B9) (except MI 13) C1) along Living Ro	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard	egins too deep withings rs eaves (B9) and 4B) ns (B10) er Table (C2) e on Aerial Imagery (sition (D2) I (D3)
emarks: Hydric soil indication in the layer of the layer	from 12-18 incoil specification	ches is technic as of an F3. check all that a Water-S Salt Cru Aquatic Hydrogu Oxidize Present Recent	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres ace of Reduced Internal Reduction in	anatrix based on B9) (except MI 13) C1) along Living Ro on (C4) a Tilled Soils (C	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (ition (D2) d (D3) st (D5)
lepth (inches): emarks: Hydric soil indicaligh. Additionally, the layer oil profile to meet hydric soil profile (A1) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5)	from 12-18 incoil specification ators: one required; of	ches is technic as of an F3. check all that a Water-S Salt Cru Aquatic Hydrogo Oxidize Preseno Recent Stunted	ally a depleted mapply) Stained Leaves (last (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres are of Reduced Inforn Reduction infor Stressed Plan	B9) (except MI 13) C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric soil profile to meet hydric soll primary Indicators (min. of a surface Water (A1) and High Water Table (A2) and Saturation (A3) and Water Marks (B1) and Sediment Deposits (B2) brift Deposits (B3) algal Mat or crust (B4) algorithms (B5) and Surface Soil Cracks (B6)	from 12-18 incoil specification ators: one required; of	ches is technic is of an F3. check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presence Recent Stunted Other (E	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres ace of Reduced Internal Reduction in	B9) (except MI 13) C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric soil profile to meet hydric soll	from 12-18 incoil specification ators: one required; of	ches is technic is of an F3. check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presence Recent Stunted Other (E	ally a depleted mapply) Stained Leaves (last (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres are of Reduced Inforn Reduction infor Stressed Plan	B9) (except MI 13) C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) st (D5) ands (D6) (LRR A)
emarks: Hydric soil indica gh. Additionally, the layer oil profile to meet hydric soil profile to meet hydric soll	from 12-18 incoil specification ators: one required; of	ches is technic is of an F3. check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presence Recent Stunted Other (E	ally a depleted mapply) Stained Leaves (last (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres are of Reduced Inforn Reduction infor Stressed Plan	B9) (except MI 13) C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indication gh. Additionally, the layer poil profile to meet hydric soil grand Hydrology Indication gran	from 12-18 incoil specification ators: one required; of	ches is technic is of an F3. check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presence Recent Stunted Other (E	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres de of Reduced Iron Reduction in or Stressed Plaixplain in Remark	B9) (except MI 13) (C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR A	LRA 1, 2, 4	chroma,	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indication of the layer of laye	from 12-18 incoil specification ators: one required; of irial Imagery (E	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Hydrog Present Stunted Other (E87)	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres de of Reduced Iron Reduction in or Stressed Plataxplain in Remark	B9) (except MI 13) (C1) along Living Ro on (C4) n Tilled Soils (C nts (D1) (LRR A	LRA 1, 2, 4 Doots (C3) C6) A)	tA, & 4B	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (dition (D2) d (D3) est (D5) ands (D6) (LRR A) and (D4)
emarks: Hydric soil indication and the layer of the layer	from 12-18 incoil specification itors: one required; coil specification	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Hydrog Oxidize Present Stunted Other (E87)	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres de of Reduced Iron Reduction in or Stressed Plaixplain in Remark	anatrix based on the strict based on the stric	LRA 1, 2, 4 Doots (C3) C6) A)	tA, & 4B	Secondary Indicator (2 or more required) Water Stained Let) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Moure Frost-Heave Hunders	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (sition (D2) d (D3) at (D5) ands (D6) (LRR A)
emarks: Hydric soil indication gh. Additionally, the layer bill profile to meet hydric soil profile to meet hydrocard from the soil profile soil soil profile soil	from 12-18 incoil specification Itors: one required; of rial Imagery (E Yes Yes Yes Yes Yes Yes Yes Yes	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Hydrog Present Stunted Other (E87) No No No No No No	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres de of Reduced Iron Reduction in or Stressed Platixplain in Remark Depth (Inche Depth (Inche Depth (Inche	anatrix based on the strict based on the stric	LRA 1, 2, 4 Doots (C3) C6) A)	tland Hy	Secondary Indicator (2 or more required) Water Stained Lete) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Moure Frost-Heave Hundrology Present?	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (dition (D2) d (D3) est (D5) ands (D6) (LRR A) and (D4)
emarks: Hydric soil indication and the layer of layer of the layer of la	from 12-18 incoil specification Itors: one required; of rial Imagery (E Yes Yes Yes Yes Yes Yes Yes Yes	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Hydrog Present Stunted Other (E87) No No No No No No	ally a depleted mapply) Stained Leaves (lust (B11) Invertebrates (Ben Sulfide Odor (d Rhizospheres de of Reduced Iron Reduction in or Stressed Platixplain in Remark Depth (Inche Depth (Inche Depth (Inche	anatrix based on the strict based on the stric	LRA 1, 2, 4 Doots (C3) C6) A)	tland Hy	Secondary Indicator (2 or more required) Water Stained Lete) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Pose Shallow Aquitard FAC-Neutral Tese Raised Ant Moure Frost-Heave Hundrology Present?	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (dition (D2) d (D3) et (D5) ands (D6) (LRR A) mmocks (D4)
emarks: Hydric soil indicating and Additionally, the layer bill profile to meet hydric soil profile to meet hydrocard soil profile soil	from 12-18 incoil specification itors: one required; of rial Imagery (E Yes Yes Yes Yes Stream gauge,	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Present Stunted Other (E87) No No No No monitoring we	ally a depleted management of the property of	anatrix based on the strict based on the stric	LRA 1, 2, 4 Doots (C3) C6) A) We	tland Hy	Secondary Indicator (2 or more required) Water Stained Lete) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Post Shallow Aquitard FAC-Neutral Test Raised Ant Mourt Frost-Heave Hundrology Present?	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (dition (D2) d (D3) at (D5) ands (D6) (LRR A) anmocks (D4) Yes No
emarks: Hydric soil indication gh. Additionally, the layer bill profile to meet hydric soil surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Activities Water Present? Vater Table Present? Vater Table Present? Includes Capillary fringe)	from 12-18 incoil specification ators: one required; of rial Imagery (E Yes Yes Yes Yes Stream gauge, er table and so	ches is technic is of an F3. check all that a water-S Salt Cru Aquatic Present Stunted Other (E S7) No No No No monitoring we	ally a depleted management of the present, the definition of the present of the	anatrix based on the state of t	LRA 1, 2, 4 Doots (C3) C6) A) We ctions), if a	tland Hy	Secondary Indicator (2 or more required) Water Stained Lete) (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Post Shallow Aquitard FAC-Neutral Test Raised Ant Mour Frost-Heave Hunderdrology Present?	egins too deep withings eaves (B9) and 4B) as (B10) er Table (C2) e on Aerial Imagery (dition (D2) d (D3) at (D5) ands (D6) (LRR A) anmocks (D4) Yes No

Project/Site: Green Mountain PRD Applicant/Owner: Green Mountain Land, LLC		City/Co	unty: <u>Camas</u> State: W	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho	ffmann	Section		o, Range: 20, 2N, 3E
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		Slope (%):0-3%
Subregion (LRR): A2	Lat: 45.647		Long:-122.	
Soil Map Unit Name: MIA, McBee silt loam				IWI classification: none
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly				Circumstances" present? Yes⊠ No□
Are Vegetation□, Soil□, or Hydrology□ naturally pi				any answers in Remarks.)
		•	-	
SUMMARY OF FINDINGS – Attach site map		ampling po	int locatio	ons, transects, important leatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [Is the Sa	mpled Area	
Hydric Soils Present? Yes ☐ No 🛭	◁		Wetland?	Yes⊡ No⊠
Wetland Hydrology Present? Yes ⊠ No [within a	welland:	res No
Remarks: Test plot located northeast of the northern	portion of Wet	tland G. Althοι	ugh hydrophy	ytic vegetation and wetland hydrology are present, the test
plot was determined to not be sampled within a wetland	d because the	e vegetation wa	as not strong	gly hydrophytic, and soils within this test plot did not meet
any hydric soil indicators because they lacked any trac				
		•		
VECETATION (11)				
VEGETATION (Use scientific names)				
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status	
1	%			Number of Dominant Species 3 (A)
				That Are OBL, FACW, or FAC:
3.				Total Number of Dominant
4.	%			Species Across All Strata:
Total Cover:	%			
				Percent of Dominant Species — 75 (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC
	%			Prevalence Index worksheet
2	%		-	Total % Cover of: Multiply by:
	0/		-	OBL species x 1=
			-	FACW species x 2=
4 5.			-	
Total Cover:	%			FACU species x 4=
Herb Stratum (Plot size: 5 ft radius)	E00/		E40	UPL species x 5=
1. Schedonorus arundinaceus	50%	yes	FAC	Column Totals: (A) (B)
2. Phalaris arundinacea	50%	yes	FACW	Prevalence Index = B/A=
3. Cirsium vulgare	30%	yes	FACU	Hydrophytic Vegetation Indicators:
4.	%			1 – Rapid Test for Hydrophytic Vegetation
-				2 – Dominance Test is >50%
5	%			3 - Prevalence Index is ≤3.0 ¹
6.	%			4 - Morphological Adaptations ¹ (Provide
				supporting data In Remarks or on a separate shee
7	%			
8.	%			☐ Wetland Non-Vascular Plants ¹
Total Cover:	130%			☐ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)				
1. Rubus armeniacus	20%	yes	FAC	¹ Indicators of hydric soil and wetland hydrology
2.	%			Must be present, unless disturbed or problematic.
Total Cover:	20%			
Total Cover.				Hydrophytic Vegetation Present?
0/ 0 0 1: 11 1 0/ / 00/				
% Bare Ground in Herb Stratum 0%				Yes⊠ No□
Remarks:The dominance test was met due to over 50)% of dominar	nt species beir	ng OBL, FAC	CW, or FAC.

OIL								Sampling Point: 130
Profile Do	escription: (Desc	ribe to the de	pth needed to	o document the ind	icator or conf	irm the abso	ence of indicators.)	
D	Market			D. I. E. (
Depth	Matrix	<u> </u>	Color (mo	Redox Feat		Loc ²	Touture	Domonto
(inches) 0-9	Color (moist) 10YR 3/2	100%	Color (mo	ist) % %	Type ¹	LOC	Texture silty clay loam	Remarks
9-16	10YR 4/2	100%					silty clay loam	See Remarks Below
3 10	1011(4/2	<u> </u>					Sitty Clay Ioani	Occ Remarks Below
-		%						
		%		<u> </u>				· ·
		%		%				-
		%		%				
		%		%				
							Location: PL=Pore Lir	
		pplicable to a		s otherwise noted)		licators for Problema	itic Hydric Soils
Histos				Redox (S5)			2 cm Muck (A10)	- >
Histic	Epipedon (A2)		☐ Strippe	d Matrix (S6)			Red Parent Material (T	
	Histia (A2)		Птости	Mucky Minoral (E1)	oveent MLDA		/ery Shallow Dark Sur Other (Explain in Rema	
	Histic (A3)		-	Mucky Mineral (F1)	except wick	(I)	Julei (Explain in Rema	irs)
	gen Sulfide (A4)	(0.44)		Gleyed Matrix (F2)				
	ed Below Dark Su	` '	•	d Matrix (F3)				
	Dark Surface (A12	,		Dark Surface (F6)		2		
	Mucky Minerals (•	-	d Dark Surface (F7)			icators of hydrophytic	•
	Gleyed Matrix (S		∐ Redox l	Depressions (F8)		'	Wetland hydrology mu	st be present
Restrictiv	e Layer (if prese	ent):						
Typo:						Hydric	Soil Present?	
Гуре:	<u> </u>					нуштс	Son Fresent?	Yes□ No
Depth (ind	ches):							Tes_ No
HYDRO	LOGY							
Netland	Hydrology Indica	itors:					Secondary Indicat	ors
							(2 or more require	d)
rimary ir	ndicators (min. of	one required; o	check all that a	ipply)				I (DO)
□ Surfac	e Water (A1)		□ Water-9	Stained Leaves (B9)	(except MI P	112118	☐ Water Stained 4B) (MLRA 1, 2, 4	. ,
	Vater Table (A2)		Salt Cru		(except MEIX	ι, 2, 4Α, α	☐ Drainage Patte	
⊠ rugu v ⊠ Satura	, ,			Invertebrates (B13)			☐ Dry-Season W	'
	Marks (B1)			en Sulfide Odor (C1)			•	ble on Aerial Imagery (C9)
	ent Deposits (B2)			d Rhizospheres alor		(C3)	Geomorphic Po	
	ent Deposits (B2) eposits (B3)			ce of Reduced Iron ((03)	☐ Shallow Aquita	
	Mat or crust (B4)			Iron Reduction in Til	•		☐ FAC-Neutral To	
_								
	eposits (B5)	`		or Stressed Plants	(DI) (LKK A)			unds (D6) (LRR A)
	e Soil Cracks (B6		•	xplain in Remarks)			☐ Frost-Heave H	ummocks (D4)
inunda	ition Visible on Ae	enai imagery (E	57)					
Field Obs	servations:							
	Vater Present?	Yes □	No 🖂	Depth (Inches):				
	ole Present?	Yes ⊠	No 🗌	Depth (Inches):	<u>6</u>	Wetland	Hydrology Present?	
	Present?	Yes 🖂	No 🗌	Depth (Inches):				Yes 🛛 No 🗌
	Capillary fringe)							
Describe	Recorded Data (S	Stream gauge,	monitoring we	ll, aerial photos, prev	vious inspectio	ns), if availat	ole:	
Danie 1 1	Matan () 1 1	_4/'··	Late :	Litabile 40 to 1			dual and to Process A.C.	
kemarks:	vvater table and s	aturation were	both present	within 12 inches of the	ne soil surface	meeting hyd	drology indicators A2 a	ana A3.

Project/Site: Green Mountain PRD		City/Co	unty: <u>Camas</u> /		npling Date: 2/2		
Applicant/Owner: Green Mountain Land, LLC			State: W		Sampling Poi	nt: <u>14G</u>	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: <u>20, 2N, 3E</u>			
Landform (hillslope, terrace, etc.): footslope		Local relief: Co				_Slope (%): <u>0</u>	-3%
Subregion (LRR): A2	Lat: 45.647	<u>′1 </u>	Long: -122.		Datum: NA	\D83	
Soil Map Unit Name: MIA, McBee silt loam				WI classification: none			
Are climatic / hydrologic conditions on the site typical fo						¬	
Are Vegetation□, Soil□, or Hydrology□ significantly Are Vegetation□, Soil□, or Hydrology□ naturally pr				Dircumstances" preser any answers in Remar		_	
		,		•	,		
SUMMARY OF FINDINGS – Attach site map		ampling po	int locatio	ns, transects, imp	portant featu	res, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soils Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐		within a		_	No□		
Remarks: Test plot located within the northern portion	of Wetland C	3. All three we	tland parame	eters are met, therefore	e the test plot w	as sampled w	ithin a
wetland.							
VEGETATION (Use scientific names)							
	Absolute	Dominant	Indicator	Dominance Test W	orksheet		
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status				
1.	%			Number of Dominar		2	(A)
2.	%			That Are OBL, FAC	W, or FAC:		. ,
3.	%			Taral Name of Control			
4	%			Total Number of Do		2	(B)
Total Cover:	%			Species Across All S	Siraia.		
				Percent of Dominan	t Species	100	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FAC			
1. Typha latifolia	80%	yes	OBL	Prevalence Index v			
2.	%			Total % Cove	er of:	Multiply by:	
3.	%			OBL species	x ′	1=	
4	%			FACW species	x 2	2=	
5	%			FAC species	x3	3=	
Total Cover:	80%			FACU species	X 4		
Herb Stratum (Plot size: 5 ft radius)				UPL species		5=	
Phalaris arundinacea	100%	yes	FACW	Column Totals:	(A	,	(B)
2.	<u>%</u>				ence Index = B/		
3. 4.	%			Hydrophytic Veget ☑ 1 – Rapid Tes			
4.	%					c vegetation	
5.	%			3 - Prevalence	4		
6.					ical Adaptations	s1 (Provide	
	%				ta In Remarks o		te sheet)
7.	%						
7. 8.	%			_	Vascular Plants		
Total Cover:	100%			☐ Problematic H	ydrophytic Vege	etation1 (Expla	ain)
Woody Vine Stratum (Plot size: 15 ft radius)				1			
1	<u>%</u>			¹ Indicators of hydric			
2	<u>%</u> %			Must be present, un	iess disturbed d	r problematic	
Total Cover:	%						
				Hydrophytic Vegeta	tion Present?		
% Bare Ground in Herb Stratum <u>0%</u>						Yes⊠	No□
Remarks:The dominance test was met due to over 50	% of dominar	nt species beir	ng OBL, FAC	W, or FAC.			

Depth Matri	iy		Radov	Features				
nches) Color (moist)	%	Color (mo			Loc ²	_	Texture	Remarks
0-6 10YR 4/1	100%	00101 (1110	131) /	% Type			silty clay loam	rtemants
6-16 10YR 5/1	80%	7.5YR 4	/6 20		М		clay loam	
	%			%				
	%			%				
	%			%				
	%			%	_			
				%				
				%		2,	DI D. I	
ydric Soil Indicators: (A					Sand Grai		ation: PL=Pore Linin itors for Problemati	
Histosal (A1)	ррисавіе то а		Redox (S5)	iotea.)			n Muck (A10)	c nyuric soils
Histic Epipedon (A2)			d Matrix (S6)				Parent Material (TF2	P)
Tristic Epipedori (A2)		□ опрре	a Matrix (50)				/ Shallow Dark Surfa	
Black Histic (A3)		☐ Loamy	Mucky Mineral	(F1) (except M	LRA 1)		er (Explain in Remark	
Hydrogen Sulfide (A4)		-	Gleyed Matrix		,	<u> </u>	, ,	,
Depleted Below Dark S	urface (A11)	-	ed Matrix (F3)	(· -)				
Thick Dark Surface (A1	, ,	•	Dark Surface (I	- 6)				
Sandy Mucky Minerals	•		ed Dark Surface	•		3Indiact	ors of hydrophytic ve	actation and
] Sandy Mucky Millerals] Sandy Gleyed Matrix (S			Depressions (F					-
estrictive Layer (if pres		☐ Medox	Doprossions (I	<u> </u>		vvet	tland hydrology must	ne hieseill
estrictive Layer (ii pres	ent).							
/ре:					Hy	ydric Soi	I Present?	
· —						•		Yes⊠ I
emarks: Hydric soil indica								
emarks: Hydric soil indica eginning within 10 inches iil profile.								
emarks: Hydric soil indicateginning within 10 inches oil profile.	of the soil surfa						na of 2 or less, which	was observed within
emarks: Hydric soil indicateginning within 10 inches bil profile. YDROLOGY //etland Hydrology Indicate	of the soil surfa	ace. A deplete	d matrix requir				Secondary Indicator	was observed within
emarks: Hydric soil indicateginning within 10 inches bil profile. YDROLOGY Vetland Hydrology Indications (min. of	of the soil surfa	ace. A deplete	d matrix require	es a value of 4 c	or more, and	d a chrom	Secondary Indicator (2 or more required)	was observed withing serves (B9)
emarks: Hydric soil indicateginning within 10 inches bil profile. YDROLOGY /etland Hydrology Indications (min. of Surface Water (A1)	of the soil surfa	check all that a	d matrix require apply) Stained Leaves		or more, and	d a chrom	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A,	was observed withings s eaves (B9) and 4B)
emarks: Hydric soil indicate ginning within 10 inches peginning within 10 i	of the soil surfa	check all that a	apply) Stained Leaves ust (B11)	es a value of 4 c	or more, and	d a chrom	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A,	was observed within s eaves (B9) and 4B) s (B10)
emarks: Hydric soil indicateginning within 10 inches bill profile. YDROLOGY /etland Hydrology Indication in the second in the	of the soil surfa	check all that a	apply) Stained Leaves ust (B11) Invertebrates	es a value of 4 c (B9) (except M	or more, and	d a chrom	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water	was observed withing s eaves (B9) and 4B) s (B10) er Table (C2)
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Vetland Hydrology Indication in the second in the	ators: one required; o	check all that a	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo	(B9) (except M (B13) r (C1)	or more, and	d a chrom	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible	s eaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Vetland Hydrology Indication in the imary Indicators (min. of a surface Water (A1) and High Water Table (A2) and Saturation (A3) and Water Marks (B1) sediment Deposits (B2)	ators: one required; o	check all that a	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere	(B9) (except M (B13) r (C1) s along Living R	or more, and	d a chrom	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2)
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Vetland Hydrology Indication in the image i	ators: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Presen	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced	(B9) (except M (B13) r (C1) s along Living R Iron (C4)	or more, and	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3)
emarks: Hydric soil indicate eginning within 10 inches bil profile. IYDROLOGY /etland Hydrology Indicate imary Indicators (min. of a High Water Table (A2) and Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	ators: one required; o	check all that a Water-S Salt Cri Aquatic Hydrog Oxidize Presen Recent	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5)
repth (inches): remarks: Hydric soil indicate eginning within 10 inches oil profile. IYDROLOGY Vetland Hydrology Indication in the equation of the equation of the equation (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5)	ators: one required; o	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR	or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches poil profile. YDROLOGY Vetland Hydrology Indication in the image of the image	ators: one required; o	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR	or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Tetland Hydrology Indication in the sequence of the soil profile. YUROLOGY Tetland Hydrology Indication in the sequence of th	ators: one required; o	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR	or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate enarks: Hydric soil indicate enarks: Hydric soil indicate enarks: Hydric soil inches enarks: Hydrology Indicate enarks: Hydrolo	ators: one required; o	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR	or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Yetland Hydrology Indication in the inches bil profile. YUROLOGY Yetland Hydrology Indication in the inches bil profile. Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Additional in the indications:	ators: one required; of	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR arks)	or more, and street an	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches oil profile. IYDROLOGY Vetland Hydrology Indication in the image of the image	ators: one required; of the soil surface.	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (dants (D1) (LRR arks)	or more, and like a 1, 2, 4 oots (C3)	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches bill profile. YDROLOGY Vetland Hydrology Indication of the inches of th	ators: one required; of	check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (I lants (D1) (LRR arks)	or more, and like a 1, 2, 4 oots (C3)	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
emarks: Hydric soil indicate eginning within 10 inches bill profile. YDROLOGY /etland Hydrology Indication in the inches bill profile. YUROLOGY /etland Hydrology Indication in the inches bill profile in the inches bill profile in the inches bill profile in the inches bill be in the inches bill be in the indication (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Additional inches in the indication in the indicatio	ators: one required; of the soil surface. one required; of the soil surface.	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (I lants (D1) (LRR arks)	or more, and like a 1, 2, 4 oots (C3)	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	was observed withing seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ads (D6) (LRR A)
emarks: Hydric soil indicate eginning within 10 inches bill profile. YDROLOGY /etland Hydrology Indicate in inches bill profile. Ydeland Hydrology Indicate in inches in inches bill profile. Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Additional inches in inch	ators: one required; of the soil surface of th	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR arks)	or more, and other more, and o	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
emarks: Hydric soil indicate eginning within 10 inches bil profile. IYDROLOGY /etland Hydrology Indicate imary Indicators (min. of a light of	ators: one required; of the soil surface of th	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (lants (D1) (LRR arks)	or more, and other more, and o	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Le (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Saturation Visible Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mour	seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) nds (D6) (LRR A) nmocks (D4)
emarks: Hydric soil indicate eginning within 10 inches bil profile. YDROLOGY Yetland Hydrology Indication in the inches bil profile. YUROLOGY Yetland Hydrology Indication in the inches bil profile. Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Additional inches water Present? Yeter Table Present? Saturation Present? Saturation Present? Saturation Present?	ators: one required; of the soil surface. one required; of the soil surface. one required; of the soil surface. Yes \(\sum_{Yes} \(\sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \(\sum_{Yes} \lefture_{Yes} \sum_{Yes} \lefture_{Yes} \sum_{Yes} \lefture_{Yes} \(\sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \sum_{Yes} \lefture_{Yes} \sum_{Yes} \lefture_{Yes} \lefture	check all that a Check all that a Water-S Salt Cru Aquatic Hydrog Oxidize Present Recent Stunted Other (E	apply) Stained Leaves ust (B11) Invertebrates en Sulfide Odo d Rhizosphere ce of Reduced Iron Reduction d or Stressed P Explain in Rema	(B9) (except M (B13) r (C1) s along Living R Iron (C4) in Tilled Soils (I lants (D1) (LRR arks) nes):	or more, and like a control (C3) (C3) (C6) (A) (We excitons), if a	4A, & 4B)	Secondary Indicator (2 or more required) Water Stained Leter (MLRA 1, 2, 4A, Drainage Pattern Dry-Season Water Staturation Visible Geomorphic Poston Shallow Aquitard FAC-Neutral Teston Raised Ant Mour Frost-Heave Hunderdrology Present?	was observed withings seaves (B9) and 4B) s (B10) er Table (C2) e on Aerial Imagery (ition (D2) (D3) t (D5) ends (D6) (LRR A) enmocks (D4) Yes No

Project/Site: Creen Mountain DDD		City/Co	untu Compo	(Clark Sampling Data	-2/04/2016	
Project/Site: Green Mountain PRD Applicant/Owner: Green Mountain Land, LLC		City/Co	unty: Camas/ State: W		Point: 15M	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho	ffmann	Soction		, Range: 20, 2N, 3E	FOILIL TOW	
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		, realige. 20, 211, 3L	Slope (%):0-5%	
Subregion (LRR):A2	Lat: 45.647		Long:-122.	4560 Datum:	: NAD83	
Soil Map Unit Name: DoB, Dollar loam				WI classification: none	10.000	
Are climatic / hydrologic conditions on the site typical for	or this time of	vear? Yes⊠				
Are Vegetation□, Soil□, or Hydrology□ significantly				Circumstances" present? Yes⊠	No□	
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally pr				any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map		•	•	•	atures etc	
Hydrophytic Vegetation Present? Yes ⊠ No [,		_
Hydric Soils Present? Yes No			mpled Area			
Wetland Hydrology Present? Yes ⊠ No [within a	Wetland?	Yes□ No⊠		
Remarks: Test plot located adjacent to the southern b	_	Vetland M. Alth	ough hydrop	hytic vegetation and wetland hydr	rology are present, the te	st
plot was not considered to be contained within a wetlar						
matrix of 3/1.					, , , , , , , , , , , , , , , , , , , ,	
VEGETATION (Use scientific names)						
	Absolute	Dominant	Indicator	Dominance Test Worksheet	·	
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status			
Quercus garryana	20%	yes	FACU	Number of Dominant Species	3 (A)	
2	%	-	-	That Are OBL, FACW, or FAC:		
3	%	-	-	Total Number of Deminent		
4	%		-	Total Number of Dominant Species Across All Strata:	5 (B)	
Total Cover:	20%			Species Across All Strata.	()	
				Percent of Dominant Species	60 (A/B)	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC		
Oemleria cerasiformis	15%	yes	FACU	Prevalence Index worksheet		
2. Thuja plicata	10%	yes	FAC	Total % Cover of:	Multiply by:	
3. Rubus ursinus	5%	no	FACU	OBL species	x 1=	
4	%			FACW species	x 2=	
5	%			FAC species	x 3=	
Total Cover:	30%			FACU species	_ x 4=	
Herb Stratum (Plot size: 5 ft radius)	/			UPL species	_ x 5=	
1. Phalaris arundinacea	90%	yes	FAC	Column Totals:	(A) (B)	
2.	<u>%</u>			Prevalence Index :		
3	%			Hydrophytic Vegetation Indic		
4.	%			☐ 1 – Rapid Test for Hydrop		
5.	%			 2 – Dominance Test is >5 3 - Prevalence Index is ≤		
6.	/0		-	4 - Morphological Adapta		
0.	%			supporting data In Remar		it)
7.	%	·		cupperting data in recinal	no or on a coparate once	,
8.	%	-	-	☐ Wetland Non-Vascular PI	ants ¹	
Total Cover:	90%			Problematic Hydrophytic		
Woody Vine Stratum (Plot size: 15 ft radius)					· · · · ·	
1. Rubus armeniacus	10%	yes	FAC	¹ Indicators of hydric soil and we	tland hydrology	
2.	%			Must be present, unless disturb	ed or problematic.	
Total Cover:	10%					
				Hydrophytic Vegetation Preser	nt?	
% Bare Ground in Herb Stratum 10%					Yes⊠ No□	
Remarks:Trace amount of Corylus cornuta (FACU). T	he dominanc	e test was me	t due to over	50% of dominant species being 0		
, , , , , , , , , , , , , , , , , , , ,				3	, , , , , , , , , , , , , , , , , , , ,	

SOIL Sampling Point: 15

Depth Matr	ix		Redox Fea	tures			
nches) Color (moist)	%	Color (moi			Loc ²	Texture	Remarks
0-16 10YR 3/1	100%	10101	// // %	Турс		gravelly clay loam	romano
	<u> </u>		<u></u> %			, on only one y	
	%	-	%		 -		-
	%		%				
	%		%				
	%		%				·
	%		%				
	%_						
Type: C=Concentration							
lydric Soil Indicators: (A	Applicable to a			i.)		ators for Problemati	ic Hydric Soils
Histosal (A1)		☐ Sandy F				m Muck (A10)	-)
Histic Epipedon (A2)		□ Stripped	d Matrix (S6)			d Parent Material (TF	
7 Dioak Histia (A2)			Musica Mineral (E4)	/aveent MLDA		ry Shallow Dark Surfa	
Black Histic (A3)		-	Mucky Mineral (F1)	(except WLRA	1) 🗆 Otr	ner (Explain in Remar	KS)
Hydrogen Sulfide (A4)		•	Gleyed Matrix (F2)				
Depleted Below Dark S		-	d Matrix (F3)				
Thick Dark Surface (A1			Dark Surface (F6)				
☐ Sandy Mucky Minerals	(S1)	Deplete	d Dark Surface (F7)	³ Indica	ators of hydrophytic ve	egetation and
☐ Sandy Gleyed Matrix (\$	64)	☐ Redox [Depressions (F8)		We	etland hydrology mus	t be present
estrictive Layer (if pres	ent):						•
ype:					Hydric Sc	oil Present?	=
							Yes⊡ No
\ 4 - (! \).							
emarks: Soils did not me			hydric soils becaus	se although the r	natrix meets t	he color criteria of an	F6, a matrix of 3/1
Remarks: Soils did not me equires 2% or more redox			hydric soils becaus	se although the r	natrix meets t	he color criteria of an	F6, a matrix of 3/1
Remarks: Soils did not me equires 2% or more redox	kimorphic conce		hydric soils becaus	se although the r	natrix meets t	Secondary Indicato	rs
Remarks: Soils did not me equires 2% or more redox	ators:	entrations.		se although the r	natrix meets t		rs
Remarks: Soils did not me equires 2% or more redox	ators:	entrations.		se although the r	natrix meets t	Secondary Indicato (2 or more required	rs)
Remarks: Soils did not me equires 2% or more redox	ators:	entrations.				Secondary Indicato (2 or more required	rs) eaves (B9)
IYDROLOGY Vetland Hydrology Indicators (min. of Surface Water (A1)	ators:	entrations. check all that a	pply)			Secondary Indicato (2 or more required	rs) eaves (B9) and 4B)
Emarks: Soils did not me equires 2% or more redoxing a sequires 2% or more redoxing a sequire	ators:	check all that a	pply) Stained Leaves (B9)	except MLRA		Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr	rs) eaves (B9) and 4B) ns (B10)
emarks: Soils did not me equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% of the equir	ators:	check all that a	pply) Stained Leaves (B9) ist (B11) Invertebrates (B13)	except MLRA		Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat	rs) eaves (B9) and 4B) ns (B10) ter Table (C2)
emarks: Soils did not me equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% or more redoxing a control of the equires 2% of the equir	ators:	check all that a	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) en Sulfide Odor (C1	(except MLRA	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl	rs) eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9
emarks: Soils did not me equires 2% or more redox and a redox and	ators:	check all that a	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1 d Rhizospheres alo	(except MLRA)) ng Living Roots	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9
IYDROLOGY Vetland Hydrology Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ators:	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized	Estained Leaves (B9) Invertebrates (B13) In Sulfide Odor (C1 d Rhizospheres alo the of Reduced Iron	(except MLRA)) ng Living Roots (C4)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2)
IYDROLOGY Wetland Hydrology Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4)	ators:	check all that a Water-S Salt Cru Aquatic Hydroge Oxidizee Present	Estained Leaves (B9) st (B11) Invertebrates (B13) en Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5)
IYDROLOGY Vetland Hydrology Indicators (min. of Marks (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Indicator (B4) Iron Deposits (B5)	ators: one required;	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presend Recent Stunted	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo te of Reduced Iron Iron Reduction in T or Stressed Plants	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
IYDROLOGY Vetland Hydrology Indicators (min. of Marker Marks (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B	ators: one required;	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted	Estained Leaves (B9) st (B11) Invertebrates (B13) en Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox and a redox and	ators: one required;	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo te of Reduced Iron Iron Reduction in T or Stressed Plants	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox and a redox and	ators: one required;	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo te of Reduced Iron Iron Reduction in T or Stressed Plants	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9) sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox equires 2% Vetland Hydrology Indic equires (a) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Inundation Visible on A	ators: one required;) 6) erial Imagery (I	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks)	(except MLRA)) ng Living Roots (C4) illed Soils (C6)	1, 2, 4A, & 4E	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox equires 2% Vetland Hydrology Indic equires (Min. of Surface Water (A1) equires (Min. of Surface Water (A1) equires (Min. of Surface Water (A1) equires (Min. of Surface Soil Cracks (B2) equires (Min. of Surface Soil Cracks (B3) equires (Min. of Surface Soil Cracks (B4) equires (Min. of Surface Water Present?	ators: one required; i) iii) erial Imagery (I	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks) Depth (Inches):	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mout	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox HYDROLOGY Vetland Hydrology Indicators (min. of many Indicators (min. of min. of many Indicators (min. of many Indicators (min. of min. of min. of many Indicators (min. of min.	ators: one required; Yes Yes Yes Yes Yes	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks)	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitaro FAC-Neutral Tes	rs) eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
Depth (inches): Remarks: Soils did not me equires 2% or more redox HYDROLOGY Wetland Hydrology Indice Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Surface Soil Cracks (B2) Inundation Visible on A Field Observations: Surface Water Present? Water Table Present? Saturation Present? Includes Capillary fringe)	ators: one required; i) iii) erial Imagery (I	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T or Stressed Plants (xplain in Remarks) Depth (Inches): Depth (Inches)	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mout	eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A)
Remarks: Soils did not me equires 2% or more redox HYDROLOGY Vetland Hydrology Indice Primary Indicators (min. of Marks (Marks (Mark	ators: one required; Yes Yes Yes Yes Yes Yes Yes	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1 In Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks) Depth (Inches): Depth (Inches):	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mout Frost-Heave Hui	rs) eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
IYDROLOGY Vetland Hydrology Indicators (min. of Marks) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Surface Water Present? Vater Table Present? Vater Table Present? Includes Capillary fringe)	ators: one required; Yes Yes Yes Yes Yes Yes Yes	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) In Sulfide Odor (C1 In Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks) Depth (Inches): Depth (Inches):	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3)	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mout Frost-Heave Hui	rs) eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4)
IYDROLOGY Vetland Hydrology Indicators (min. of Marks) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B1) Surface Water Present? Vater Table Present? Vater Table Present? Includes Capillary fringe)	ators: one required; Yes Yes Yes Yes Stream gauge,	check all that a Water-S Salt Cru Aquatic Hydroge Oxidized Presence Recent Stunted Other (E	pply) Stained Leaves (B9) Ist (B11) Invertebrates (B13) En Sulfide Odor (C1 d Rhizospheres alo ce of Reduced Iron Iron Reduction in T or Stressed Plants xplain in Remarks) Depth (Inches): Depth (Inches): Depth (Inches):	(except MLRA)) ng Living Roots (C4) illed Soils (C6) (D1) (LRR A)	1, 2, 4A, & 4E (C3) Wetland H s), if available	Secondary Indicato (2 or more required Water Stained L (MLRA 1, 2, 4A, Drainage Patterr Dry-Season Wat Saturation Visibl Geomorphic Pos Shallow Aquitard FAC-Neutral Tes Raised Ant Mout Frost-Heave Hut	rs) eaves (B9) and 4B) ns (B10) ter Table (C2) e on Aerial Imagery (C9 sition (D2) d (D3) st (D5) nds (D6) (LRR A) mmocks (D4) Yes No

Project/Site: Green Mountain PRD		City/Co	unty: Camas		mpling Date:		
Applicant/Owner: Green Mountain Land, LLC		0	State: W		Sampling	Point: 16M	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: <u>20, 2N, 3E</u>		Ol (0()	2.50/
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		4500		Slope (%):	J-5%
Subregion (LRR): A2	Lat: 45.647	/1	_ Long: <u>-122.</u>			NAD83	
Soil Map Unit Name: DoB, Dollar loam		0		WI classification: none			
Are climatic / hydrologic conditions on the site typical for						N. 🗆	
Are Vegetation , Soil , or Hydrology significant				Circumstances" preser		No∐	
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally p		•	•	any answers in Remar	•		
SUMMARY OF FINDINGS – Attach site map	showing s	sampling po	int locatio	ns, transects, im _l	portant fe	atures, etc.	
Hydrophytic Vegetation Present? Yes ☐ No ☐	\leq	la tha Ca	maled Area				
Hydric Soils Present? Yes ☐ No 🛭	\leq		mpled Area Wetland?	Yes□ I	No⊠		
Wetland Hydrology Present? Yes ☐ No 🛭				_			
Remarks: Test plot located southwest of the most sou	uthwestern po	ortion of Wetlar	nd M. No wet	land indicators were p	resent, ther	efore the test plo	ot was
sampled within an upland area.							
VEGETATION (Use scientific names)							
VEGETATION (Use scientific flames)	A book ito	Dominant	Indiantor	Dominanas Tast M	la virala a a t	·	
Trop Stratum (Plot size: 20 ft radius)	Absolute % Cover	Dominant Species?	Indicator	Dominance Test W	orksneet		
Tree Stratum (Plot size: 30 ft radius)		Species?	Status	Number of Dominar	ot Species	0	(4)
1. Quercus garryana	30%	yes	FACU	That Are OBL, FAC		3	_ (A)
2. Pseudotsuga menziesii	30%	yes	FACU	That Are OBL, I AO	W, OI I AC.		
3.	%			Total Number of Do	minant	•	(D)
4	<u>%</u>			Species Across All		6	_ (B)
Total Cover:	60%			Openios 7 to 1000 7 to 1	2	50	(A (D)
				Percent of Dominan	t Species	50	_ (A/B)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FAC			
1. Thuja plicata	20%	yes	FAC	Prevalence Index v			
2. Cornus sericea	15%	yes	FACW	Total % Cove	er of:	Multiply by:	
3. Rubus ursinus	10%	yes	FACU	OBL species		x 1=	
4.	%			FACW species	-	x 2=	
5.	%			FAC species	-	x 3=	
Total Cover:	45%			FACU species		x 4=	
Herb Stratum (Plot size: 5 ft radius)				UPL species		x 5=	
1.	%			Column Totals:		(A)	(B)
2.	%	· -		Prevale	ence Index =	` '	` '
3.	%			Hydrophytic Veget	ation Indica	ators:	
4.				☐ 1 – Rapid Tes			
	%			2 – Dominano	e Test is >5	0%	
5.	%			3 - Prevalence	e Index is ≤3	3.0 ¹	
6.	0/			4 - Morpholog	ical Adaptat	tions ¹ (Provide	
	%			☐ supporting da	ta In Remar	ks or on a separ	ate sheet)
7.	%						
8.	%			☐ Wetland Non-	Vascular Pla	ants ¹	
Total Cover:	%			☐ Problematic F	lydrophytic \	Vegetation ¹ (Exp	lain)
Woody Vine Stratum (Plot size: 15 ft radius)							
1. Rubus armeniacus	90%	yes	FAC	¹ Indicators of hydric	soil and we	tland hydrology	
2.	%			Must be present, un	less disturb	ed or problemati	c.
Total Cover:	90%						
Total Covol.				Hydrophytic Vegeta	tion Preser	nt?	
% Bare Ground in Herb Stratum 100%				,		Yes□	No
Remarks:Trace amount of Phalaris arundinacea (FAC	N/V Hydroph	vtic vogotation	ie not proco	ent bocqueo only 50%	of dominant		
or FAC.	ov). Hydropi	iyiic vegetatioi	i is not prese	in because only 50 /6	or dominant	species are OD	L, I ACVV,
orrac.							

SUIL								Sampling Point: 16M
Profile D	escription: (Desc	ribe to the dep	oth needed to	document the indi	icator or cor	nfirm the	absence of indicators.)	· ·
Donth	Motri			Redox Featu	ıroo			
Depth (inches)	Color (moist)	<u>~</u> _	Color (mois		Type ¹	Loc ²	 Texture	Remarks
0-8	10YR 3/2	100%	00101 (111010	""" 	Туро	200	gravelly clay loam	Romano
8-16	10YR 3/3	99%	7.5YR 4/6	1%	С	М	gravelly clay loam	
		%		%				
		%_		%_				
		<u>%</u>						
		<u>%</u>		<u>%</u> %				
		- <u>%</u> -						
1Type:	C-Concentration		M-Reduced M		or Coated Sa	and Grain	ns. ² Location: PL=Pore Lining	n M-Matrix
				otherwise noted.		and Oran	Indicators for Problematic	
Histos		opilouble to un	☐ Sandy Re		,		2 cm Muck (A10)	71194110 00110
	Epipedon (A2)		☐ Stripped				Red Parent Material (TF2)
	,			, ,			☐ Very Shallow Dark Surfac	e (TF12)
□ Black	Histic (A3)		-	ucky Mineral (F1) (except MLR	A 1)	☐ Other (Explain in Remarks	s)
☐ Hydro	gen Sulfide (A4)		☐ Loamy G	leyed Matrix (F2)				
□ Deple	ted Below Dark Sເ	ırface (A11)	☐ Depleted					
	Dark Surface (A12	•	· 	ark Surface (F6)				
-	Mucky Minerals (Depleted	Dark Surface (F7)			³ Indicators of hydrophytic veg	getation and
☐ Sandy	Gleyed Matrix (S	4)	☐ Redox De	epressions (F8)			Wetland hydrology must	be present
Restricti	ve Layer (if prese	nt):						
T							dria Cail Brancott	
Type:						пу	dric Soil Present?	Yes⊡ No⊠
Depth (in	ches):							Tes_ No
' '	<u> </u>	icators were m	et because a m	atrix of 3/2 requires	s 5% or more	redoxim	orphic concentrations, in whic	th none were observed
	•			to meet any hydric				
LIVERO	1 00V							
HYDRO								
Wetland	Hydrology Indica	tors:					Secondary Indicators	5
Primary I	ndicators (min. of	one required: c	hack all that an	nlv)			(2 or more required)	
Filliary	nuicators (min. or t	one required, c	neck all that ap	piy)			 ☐ Water Stained Lea	avec (P0)
□ Surfa	ce Water (A1)		□ Water-St	ained Leaves (B9) (excent MI R	Δ124		,
	Water Table (A2)		☐ Salt Crus		(except initio	, <u>-</u> , -	☐ Drainage Patterns	•
	ation (A3)			nvertebrates (B13)			☐ Dry-Season Wate	
	Marks (B1)			Sulfide Odor (C1)				on Aerial Imagery (C9)
	nent Deposits (B2)			Rhizospheres alon		ts (C3)	☐ Geomorphic Posit	• • • •
	eposits (B3)			of Reduced Iron (0		()	☐ Shallow Aquitard	
	Mat or crust (B4)			on Reduction in Till	*)	☐ FAC-Neutral Test	
_	eposits (B5)			or Stressed Plants (• •		☐ Raised Ant Mound	
	ce Soil Cracks (B6))		plain in Remarks)	<i>D</i> : <i>y</i> (= :(::():()		☐ Frost-Heave Hum	
	ation Visible on Ae		•	piani in Romano,			_ 1 Tool Floave Flam	imooko (D4)
	ation visible on Ac	mai imagery (D	'')					
Field Ob	servations:							
Surface \	Vater Present?	Yes	No 🛛	Depth (Inches):				
	ble Present?	Yes 🗌	No 🗵	Depth (Inches):		Wet	land Hydrology Present?	
	n Present?	Yes 🗌	No 🛚	Depth (Inches):				Yes 🗌 No 🛛
	Capillary fringe)			a a si a la a la a ta a a sa a sa a s		> :6		
Describe	kecorded Data (S	uream gauge, r	nonitoring well,	aerial photos, prev	ious inspecti	ons), if av	valiable:	
Remarks	:No wetland hydro	logy was obser	ved at or near t	his test plot.				
	. ,	3, 1111						

Project/Site: Green Mountain PRD		City/Co	unty: <u>Camas/</u>	Clark Sampling [Date: 3/01/2016
Applicant/Owner: Green Mountain Land, LLC			State: W		pling Point: 17B
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: 20, 2N, 3E	
Landform (hillslope, terrace, etc.): footslope		Local relief: Co		4500 D.	Slope (%): <u>0-5%</u>
Subregion (LRR): A2	Lat: 45.647	/1	_ Long:-122.4		tum: NAD83
Soil Map Unit Name: DoB, Dollar loam	au thia tima af	vaar2 Vaa		WI classification: none	
Are climatic / hydrologic conditions on the site typical for Are Vegetation, Soil, or Hydrology significantly				io, explain Remarks.) Circumstances" present? Yes	M No I
Are Vegetation□, Soil□, or Hydrology□ significanti				iny answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map		•		•	at footures, etc
		samping po	iiit iocatio	iis, transects, importan	it leatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [Is the Sa	mpled Area		
Hydric Soils Present? Yes ⊠ No [within a	Wetland?	Yes⊠ No⊡	
Wetland Hydrology Present? Yes ⊠ No ☐ Remarks: Test plot located within the southern portion		R All three we	tland narame	sters are met therefore the te	est plot was sampled within s
wetland.	TO WELLAND	b. All tillee we	tiana parame	iters are met, mererore me te	st plot was sampled within a
VEGETATION (Use scientific names)					
To a Otract on (District a CO. f II)	Absolute	Dominant	Indicator	Dominance Test Worksho	et
Tree Stratum (Plot size: 30 ft radius)	% Cover	Species?	Status	Number of Dominant Speci	ine o (::
1. Fraxinus latifolia	30%	yes	FACW	That Are OBL, FACW, or F.	0 (71)
2.	<u>%</u> %	-	-	That Are OBL, I ACW, OF I	Αο.
3. 4.		-		Total Number of Dominant	6 (B)
Total Cover:	30%			Species Across All Strata:	(В)
Total Cover.	30 /0				100 (A/B
				Percent of Dominant Specie	es ——— `
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	.=0.		251	That Are OBL, FACW, or F.	
Oenanthe sarmentosa	15%	yes	OBL	Prevalence Index worksh	
2. Rosa pisocarpa	10%	yes	FAC	Total % Cover of:	Multiply by:
3. Rubus ursinus	5% 5%	no	FACU FAC	OBL species FACW species	x 1= x 2=
4. Populus trichocarpa 5.	5% 	no	FAC	FACW species FAC species	x z= x 3=
Total Cover:	35%	-		FACU species	x 3= x 4=
Herb Stratum (Plot size: 5 ft radius)	3370			UPL species	x 5=
1. <i>Juncus</i> sp.	10%	yes	FAC	Column Totals:	(A) (B
2. Rumex sp.	5%	yes	FAC	Prevalence Inc	
3.	%			Hydrophytic Vegetation II	ndicators:
4.	%			☐ 1 – Rapid Test for Hy	drophytic Vegetation
	76			2 – Dominance Test i	
5	%			☐ 3 - Prevalence Index	
6.	%			4 - Morphological Ada	
				supporting data in Re	emarks or on a separate she
7. 8.	<u>%</u> %	-	-	☐ Wetland Non-Vascula	or Dianta ¹
Total Cover:	15%				ytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)	1376				ylic vegetation (Explain)
1. Rubus armeniacus	10%	yes	FAC	¹ Indicators of hydric soil and	d wetland hydrology
2.	%			Must be present, unless dis	
Total Cover:	10%	-	-		
Total Cover.				Hydrophytic Vegetation Pr	esent?
% Bare Ground in Herb Stratum 85%				liyarophytic vegetation i	Yes⊠ No□
Remarks: 20% of bare ground was covered in moss.	he dominano	e test was me	t due to over	50% of dominant species be	
Tremarks.2070 of bare ground was covered in moss.	ne dominane	oc tost was me	t due to over	3070 of dominant species be	ing OBE, I NOW, of I NO.

DepthMa				edox Featur	res					
nches) Color (moist)	%	Color (mo		%	Type ¹	Loc ²		Texture		Remarks
0-16 10YR 3/2	95%	5YR 4/	6	5%	C	RC		sandy silt loam		
	%			<u>%</u>					_	
				<u>%</u>					_	
	<u>%</u> %			<u>%</u> %		-				
		-		// //////////////////////////////////						
										
						-			_	
Гуре: C=Concentration		RM=Reduced	Matrix, CS:		or Coated S	Sand Gra	ains. ² Loc	ation: PI =Pore Lin	ning. M=Ma	trix
ydric Soil Indicators: (· · · · · · · · · · · · · · · · · · ·							tors for Problema	•	
] Histosal (A1)	• •		Redox (S5)					n Muck (A10)	•	
] Histic Epipedon (A2)		☐ Strippe	d Matrix (S	6)				Parent Material (T		
								Shallow Dark Sur)
Black Histic (A3)		☐ Loamy	Mucky Min	eral (F1) (e	xcept MLI	RA 1)	☐ Othe	er (Explain in Rema	arks)	
] Hydrogen Sulfide (A4)		☐ Loamy	Gleyed Ma	ıtrix (F2)						
Depleted Below Dark	Surface (A11)	□ Deplete	ed Matrix (F	- 3)						
Thick Dark Surface (A	12)	□ Redox	Dark Surface	ce (F6)						
_] Sandy Mucky Mineral:	•		ed Dark Sur	. ,			3Indicat	ors of hydrophytic	venetation	and
Sandy Gleyed Matrix			Depression	, ,				tland hydrology mu	J	
estrictive Layer (if pre			_ ор. осо. с.	(. 0)			****	liand hydrology mu	ist be prese	111
	,.									
ype:						F	lydric Soi	I Present?		
										Yes⊠ N
onth (inches):										
emarks: Hydric soil indi or less, and a chroma c							e upper 12	2 inches of the soil	, and had a	matrix value
emarks: Hydric soil indi or less, and a chroma c	f 2 or less, with						e upper 12			matrix value
emarks: Hydric soil indi or less, and a chroma c	f 2 or less, with						e upper 12	Secondary Indicat	tors	matrix value
emarks: Hydric soil indi or less, and a chroma c YDROLOGY etland Hydrology Indi	f 2 or less, with	5% or more di	stinct or pro				e upper 1:		tors	matrix value
emarks: Hydric soil indi or less, and a chroma c YDROLOGY /etland Hydrology Indi	f 2 or less, with	5% or more di	stinct or pro				e upper 1:	Secondary Indicat (2 or more require	tors ed)	
emarks: Hydric soil indi or less, and a chroma c	f 2 or less, with	5% or more di	apply)	ominent red	dox concen	trations.		Secondary Indicat (2 or more require	tors ed) Leaves (B9	
emarks: Hydric soil indicor less, and a chroma control of the soil indicor less, and a chroma control of the soil indicator in the s	f 2 or less, with cators: of one required;	5% or more di	apply) Stained Lea		dox concen	trations.		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44	tors ed) Leaves (B9 A, and 4B)	
emarks: Hydric soil indicor less, and a chroma control of the soil indicators (MIN. of the soil indicat	f 2 or less, with cators: of one required;	check all that	apply) Stained Leaust (B11)	ominent red	dox concen	trations.		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte	tors (d) Leaves (B9 A, and 4B) erns (B10)))
emarks: Hydric soil indicor less, and a chroma control of the soil indicators (MICA) YDROLOGY Yetland Hydrology Indicators (min. of the soil of the	f 2 or less, with cators: of one required;	check all that a	apply) Stained Leaust (B11) c Invertebra	eves (B9) (entes (B13)	dox concen	trations.		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W	tors (d) Leaves (B9 A, and 4B) (erns (B10) (ater Table ()) (C2)
emarks: Hydric soil indicor less, and a chroma control of less, an	f 2 or less, with cators: of one required;	check all that a	apply) Stained Leaust (B11) c Invertebra	eves (B9) (entes (B13) Odor (C1)	except ML	RA 1, 2,		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil	Leaves (B9 A, and 4B) erns (B10) ater Table (ble on Aeria	(C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma of a	f 2 or less, with cators: of one required;	check all that a	apply) Stained Leaust (B11) c Invertebra	aves (B9) (entes (B13) Odor (C1) neres along	except ML	RA 1, 2,		Secondary Indicat (2 or more require) Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season Water Saturation Visil Geomorphic Po	Leaves (B9 A, and 4B) erns (B10) ater Table (ble on Aeria osition (D2)	(C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma control of less,	f 2 or less, with cators: of one required;	check all that a	apply) Stained Lea ust (B11) c Invertebra uen Sulfide (ed Rhizosph	aves (B9) (entes (B13) Odor (C1) neres along ced Iron (C-	except ML Living Roo 4)	RA 1, 2,		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po	Leaves (BS A, and 4B) erns (B10) ater Table (ble on Aeria osition (D2)	(C2) al Imagery (C
Pepth (inches): Remarks: Hydric soil indiction less, and a chroma control of less, and a chroma	f 2 or less, with cators: of one required;	check all that a	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Redu	aves (B9) (entes (B13) Odor (C1) neres along ced Iron (Cottion in Tille	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma contest, and a ch	f 2 or less, with cators: of one required;	check all that a	apply) Stained Leaust (B11) c Invertebra len Sulfide (ed Rhizosphace of Reduction Reduction Reduction Reduction Stresse	aves (B9) (entes (B13) Odor (C1) Deres along Ced Iron (Cotion in Tille Ced Plants (Common tille)	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma of the search of the se	f 2 or less, with cators: of one required; 2)	check all that a	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Redu	aves (B9) (entes (B13) Odor (C1) Deres along Ced Iron (Cotion in Tille Ced Plants (Common tille)	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
PMARCH Soil indicators (min. of less, and a chroma of less, and a	f 2 or less, with cators: of one required; 2)	check all that a	apply) Stained Leaust (B11) c Invertebra len Sulfide (ed Rhizosphace of Reduction Reduction Reduction Reduction Stresse	aves (B9) (entes (B13) Odor (C1) Deres along Ced Iron (Cotion in Tille Ced Plants (Common tille)	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
PAROLOGY Tetland Hydrology Indicators (min. of a surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B1) Algal Mat or crust (B4) I ron Deposits (B5) Surface Soil Cracks (B1)	f 2 or less, with cators: of one required; 2)	check all that a	apply) Stained Leaust (B11) c Invertebra len Sulfide (ed Rhizosphace of Reduction Reduction Reduction Reduction Stresse	aves (B9) (entes (B13) Odor (C1) Deres along Ced Iron (Cotion in Tille Ced Plants (Common tille)	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma of the control of	f 2 or less, with cators: of one required; 2) Aerial Imagery (check all that a Water- Salt Cr Aquation Oxidized Present Recent Stunted Other (B	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Reduction Reduction Stresse	aves (B9) (entes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ed Plants (Cotemarks)	except ML Living Rod 4) ed Soils (Co	RA 1, 2, ots (C3)		Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5)	(C2) al Imagery (C
IYDROLOGY Vetland Hydrology Individual Primary Indicators (min. of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (E1) Inundation Visible on Indicators (Water Present?	f 2 or less, with cators: of one required; 2) Aerial Imagery (check all that a Water- Salt Cr Aquation Hydrog Oxidized Present Recent Stunted Other (B	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (extes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ed Plants (Demarks) (Inches):	except ML J Living Roo 4) ed Soils (Co	RA 1, 2, ots (C3) 6)	4A, & 4B)	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Ho	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (C
Elemarks: Hydric soil indicor less, and a chroma concless, and a chroma concless, and a chroma concless, and a chroma concless. IYDROLOGY Vetland Hydrology Indicording of the concless of t	f 2 or less, with cators: of one required; 2) Aerial Imagery (Yes Yes Yes Xes Xes Xes Xes Xes Xes Xes X	check all that a Water- Salt Cr Aquatio Hydrog Oxidize Present Stuntee Other (I	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (enter the second property of the s	except ML J Living Roo 4) ed Soils (Co	RA 1, 2, ots (C3) 6)	4A, & 4B)	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W. Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (C LRR A) D4)
Remarks: Hydric soil indicor less, and a chroma concless, and a chroma concless, and a chroma concless, and a chroma concless, and a chroma concless. Wetland Hydrology Indicators (min. concless) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or crust (B4) Iron Deposits (B5) Surface Soil Cracks (B3) Inundation Visible on a concless water Table Present?	f 2 or less, with cators: of one required; 2) Aerial Imagery (Yes Yes Yes Yes Yes Yes Xes Xes Xes	check all that a Water- Salt Cr Aquation Hydrog Oxidized Present Recent Stunted Other (B	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphace of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (extes (B13) Odor (C1) neres along ced Iron (Cotion in Tille ed Plants (Demarks) (Inches):	except ML J Living Roo 4) ed Soils (Co	RA 1, 2, ots (C3) 6)	4A, & 4B)	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Ho	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (C
emarks: Hydric soil indiction less, and a chroma of the second of the se	f 2 or less, with cators: of one required; 2) Aerial Imagery (Yes Yes Yes Yes Yes Xes Xes Xes Xes Xes Xes Xes X	check all that a water Salt Cr Aquation Present Stunted Other (B)	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphete of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (enter the second property of the s	except ML J Living Roo 4) ed Soils (Co D1) (LRR A	RA 1, 2, ots (C3) 6)	4A, & 4B)	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Ho	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (C LRR A) D4)
emarks: Hydric soil indiction less, and a chroma of the search of the se	f 2 or less, with cators: of one required; 2) Aerial Imagery (Yes Yes Yes Yes Yes Xes Xes Xes Xes Xes Xes Xes X	check all that a water Salt Cr Aquation Present Stunted Other (B)	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphete of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (enter the second property of the s	except ML J Living Roo 4) ed Soils (Co D1) (LRR A	RA 1, 2, ots (C3) 6)	4A, & 4B)	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Ho	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (C LRR A) D4)
YDROLOGY Yetland Hydrology Individed in the second of the	cators: of one required; 2) Yes \(\text{Yes} \(\text{Yes} \) Yes \(\text{Yes} \(\text{X} \) (Stream gauge	check all that a water Salt Cr Aquation Present Stunted Other (B) No N	apply) Stained Leaust (B11) c Invertebra gen Sulfide (ed Rhizosphete of Reduction Reduction Reduction Stresse Explain in R	aves (B9) (entes (B13)) Odor (C1) Deres along Ced Iron (Cotion in Tille Ced Plants (Cotion in Tille Cemarks) (Inches): (Inches): (Inches): (Inches): (Inches): (Inches): (Inches): (Inches): (Inches):	except ML J Living Roo 4) ed Soils (Co D1) (LRR A	RA 1, 2, ots (C3) 6) A) W	4A, & 4B) etland Hy available:	Secondary Indicat (2 or more require Water Stained (MLRA 1, 2, 44) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave Ho	Leaves (BSA, and 4B) erns (B10) ater Table (ble on Aeria osition (D2) ard (D3) est (D5) unds (D6) (ummocks ((C2) al Imagery (G LRR A) D4)

Project/Site: Green Mountain PRD		City/Co	unty: Camas/	Clark Sampling	g Date: 3/01/2016	
Applicant/Owner: Green Mountain Land, LLC			State: W		npling Point: 18B	
Investigator(s): M. MGrath, F. Naglich, J. Madriz, L. Ho				, Range: 20, 2N, 3E		
Landform (hillslope, terrace, etc.): footslope		Local relief: Co			Slope (%):)-5%
Subregion (LRR):A2	Lat: 45.647	<u>′1</u>	Long:-122.4		atum: NAD83	
Soil Map Unit Name: DoB, Dollar loam	41-:-4:4			WI classification: none		
Are climatic / hydrologic conditions on the site typical for Are Vegetation□, Soil□, or Hydrology□ significantly				no, explain Remarks.) Circumstances" present? Ye	vo⊠ No□	
Are Vegetation□, Soil□, or Hydrology□ significantly Are Vegetation□, Soil□, or Hydrology□ naturally pi				iny answers in Remarks.)	2 INO	
SUMMARY OF FINDINGS – Attach site map		•		•	ent footures, etc	
<u>-</u>		sampling po	int locatio	ns, transects, importa	nt reatures, etc.	
Hydrophytic Vegetation Present? Yes No		Is the Sa	mpled Area			
Hydric Soils Present? Yes ☐ No ☐ Wetland Hydrology Present? Yes ☐ No ☐		within a	Wetland?	Yes⊟ No⊠		
Wetland Hydrology Present? Yes No Remarks: Test plot located north of Wetland B. No we	<u>ນ</u> etland indicato	ors were prese	nt therefore	the test nlot was sampled w	vithin an unland area	
Remarks. Test plot located flortif of Wetland B. No we	stiario iridicati	ors were prese	ant, therefore	the test plot was sampled w	numin an upland area.	
L						
VEGETATION (Use scientific names)						
Trace Otractions (Distraction 20 ft and live)	Absolute	Dominant	Indicator	Dominance Test Worksh	neet	
Tree Stratum (Plot size: 30 ft radius)	% Cover 70%	Species?	Status FAC	Number of Dominant Spe	cies	(4)
1. Populus trichocarpa 2.		yes	FAC	That Are OBL, FACW, or		_ (A)
3.	<u>%</u> %	-			1710.	
4.		-		Total Number of Dominan	nt 6	(B)
Total Cover:	70%			Species Across All Strata:	:	_ (D)
10tal 00v01.	1070				. 16	(A/B)
0 1 (0) 1 0 ((5) () (5)				Percent of Dominant Spec	cies	_ (/
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	200/		FACIL	That Are OBL, FACW, or		
1. Gaultheria shallon	30%	yes	FACU	Prevalence Index works		
Rubus ursinus Symphoricarpos albus	30% 20%	yes	FACU FACU	Total % Cover of:	Multiply by:	
Symphoricarpos albus Acer circinatum	15%	yes no	FAC	OBL species FACW species	x 1= x 2=	
5. Oemleria cerasiformis	5%	no	FACU	FAC species	x 3=	
Total Cover:	100%		17.00	FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=	
1. Polystichum munitum	30%	yes	FACU	Column Totals:	(A)	(B)
2. Galium aparine	25%	yes	FACU	Prevalence I	ndex = B/A=	
3.	%			Hydrophytic Vegetation		
4.	%			☐ 1 – Rapid Test for F	lydrophytic Vegetation	
				2 – Dominance Tes		
5	%	-	-	3 - Prevalence Inde		
6.	%				daptations ¹ (Provide	-414\
7.	%	·	-	Supporting data in F	Remarks or on a separa	ate sneet)
8.		-		☐ Wetland Non-Vascu	ılar Plants ¹	
Total Cover:	55%				phytic Vegetation¹ (Expl	ain)
Woody Vine Stratum (Plot size: 15 ft radius)					ny no vogotanon (Exp.	u,
1	%			¹ Indicators of hydric soil a	nd wetland hydrology	
2.	%	-		Must be present, unless d		Э.
Total Cover:	%					
1016.				Hydrophytic Vegetation F	resent?	
% Bare Ground in Herb Stratum 45%					Yes□	No⊠
Remarks:Hydrophytic vegetation is not present becau	ise the number	er of OBL, FAC	CW, and FAC	plant observed within the v		
than 50% of the dominant vegetation present.				·		

OIL										Sampling Poir	nt: 18B
Profile D	escription: (Desc	cribe to the de	pth needed t	o docum	ent the indi	cator or co	nfirm th	e absence o	f indicators.)		
Depth	Matri	v			Redox Featu	roc					
(inches)	Color (moist)	<u>*</u> %	Color (mo		%	Type ¹	Loc ²		Texture	Remarks	
0-12	10YR 3/3	100%			%	.,,,,,			ilty loam		
12-16	10YR 3/3	95%	10YR 4	/6	5%	С	М		ilty loam		
		%_			%						
		<u>%</u>			%						
		%			<u>%</u>						
					<u>%</u> %					· -	
										· -	
¹ Type:	C=Concentration,		RM=Reduced	Matrix C		or Coated S	Sand Gra	ins ² l ocatio	n: PI =Pore I in	ing M=Matrix	
	ioil Indicators: (A						Jana Ord			tic Hydric Soils	
☐ Histo			☐ Sandy					2 cm Mi		,	
☐ Histic	Epipedon (A2)		☐ Strippe	d Matrix (S6)			☐ Red Pa	rent Material (TI	- 2)	
_									allow Dark Surf		
	Histic (A3)			•	ineral (F1) (except MLF	RA 1)	Other (E	Explain in Rema	rks)	
-	gen Sulfide (A4)		☐ Loamy	-							
	ted Below Dark S	, ,	☐ Deplet		` '						
	Dark Surface (A12	•	☐ Redox		` '						
	y Mucky Minerals	. ,	-		urface (F7)			³ Indicators	of hydrophytic v	egetation and	
☐ Sand	y Gleyed Matrix (S	4)	☐ Redox	Depressi	ons (F8)			Wetlan	d hydrology mus	st be present	
Restrict	ive Layer (if prese	ent):									
T								ludria Cail Dr			
Type:							"	lydric Soil Pr	esent?	Yes□	No
Depth (in	iches):									103	110
HYDRO	DLOGY										
Wetland	Hydrology Indica	ators:						Se	condary Indicate	ors	
	,								or more required		
Primary	ndicators (min. of	one required; o	heck all that	apply)							
	\\/-+ (\\ 4\)		□ \ \ /-+	04=:	(DO) (MI	DA 4 0		Water Stained I	` '	
	ce Water (A1) Water Table (A2)			ust (B11)	eaves (B9) (except wil	KA 1, 2,		(MLRA 1, 2, 4A Drainage Patter		
	ation (A3)			` ,	rates (B13)				Dry-Season Wa		
	r Marks (B1)				e Odor (C1)				-	ole on Aerial Imagery	v (Ca)
	nent Deposits (B2)				pheres along	a Livina Roc	nts (C3)		Geomorphic Po		y (C3)
	Deposits (B3)				luced Iron (C	-	Jis (C3)		Shallow Aquitar		
	Mat or crust (B4)				uction in Till	-	3)		FAC-Neutral Te	, ,	
_	Deposits (B5)				sed Plants (-			unds (D6) (LRR A)	
	ce Soil Cracks (B6	:)			Remarks)) (LIXIX A	•)		Frost-Heave Hu		
	ation Visible on A				(Kemarks)				1 103t-1 leave 1 le	illillocks (D4)	
	ation visible on A	enai imagery (L	, , , , , , , , , , , , , , , , , , ,								
Field Ob	servations:										
	Water Present?	Yes 🗌	No 🗵	•	n (Inches):						
	able Present?	Yes 🗌	No 🖂		n (Inches): _		W	etland Hydro	logy Present?	=	_
	n Present?	Yes 🗌	No 🛛	Depth	n (Inches): _					Yes 🗌 N	o 🖂
	Capillary fringe) Recorded Data (S	Stroam gauge	monitoring w	all agricl r	photoe provi	oue inence	tions) if	available:			
Describe	Recorded Data (S	olieam gauge, i	monitoring we	eli, aeriai į	onotos, previ	lous irispec	110115), II	avaliable.			
Remarks	:No indicators of v	vetland hydrolo	gy were obse	erved at or	near the tes	st plot.					
			J,								

Appendix B

Wetland Rating Forms for Western Washington (2014 Rating System)

Wetland Rating Figure 1
Wetland Rating Figure 2
Wetland Rating Figure 3
Wetland Rating Figure 3
Wetland Rating Figure 4

150' Offset – South
150' Offset – North

Wetland Rating Figure 5 303(d) Listed Waters and TMDLs for WRIA

RATING SUMMARY – Western Washington

Name of wetland (or ID #): _	Wetland J	Date of site visit: _	2/29/2016 & 3/02	<u>1/2016</u>
Rated by J. Madriz, L. Hoffma	ann, and M. McGrath	Trained by Ecology? <u>Y</u>	es_Date of training	09/2015
HGM Class used for rating_	Slope	Wetland has multiple H	GM classes?Y_	<u>x</u> N
NOTE East 's sales	and the State of the	C		-1)

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map Google Earth (2015)

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 ap	oropriate ratings	
Site Potential	L	L	L	
Landscape Potential	M	M	Н	
Value	Н	М	М	TOTAL
Score Based on Ratings	6	5	6	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	ı	II
Wetland of High Conservation Value		I
Bog		I
Mature Forest		1
Old Growth Forest		1
Coastal Lagoon	I	II
Interdunal	1 11	III IV
None of the above		N/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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

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

Slope Wetlands

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

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?
 - __x_The wetland is on a slope (slope can be very gradual),
 - <u>x</u> 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,
 - x 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.

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.

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.

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

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

Rating of Site Potential If score is: ___12 = H ____6-11 = M __x __0-5 = L

Record the rating on the first page

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

Rating of Landscape Potential If score is: $x_1-2 = M_0 = L$

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	4

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

Record the rating on the first page

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream ero	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/8	
in), or dense enough, to remain erect during surface flows.	0
Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1	
All other conditions points = 0	

Rating of Site Potential If score is: $_{1} = M _{x} 0 = L$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1

Rating of Landscape Potential If score is: $x_1 = M = 0 = L$

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or	_
natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 Add the points in the boxes above	1

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X Emergent 3 structures: points = 2 1 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 x Occasionally flooded or inundated 2 types present: points = 1 1 x Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². 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 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats 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

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or 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) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	0
Total for H 1 Add the points in the boxes above	4
Rating of Site Potential If score is:15-18 = H7-14 = Mx0-6 = L	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 0 = 0 % If total accessible habitat is: > $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. **Calculate:** % undisturbed habitat 43 + [(% moderate and low intensity land uses)/2] 10 = 53 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	4
Rating of Landscape Potential If score is: x 4-6 = H 1-3 = M < 1 = L Record the rating on the	he 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: — 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 X Site has 1 or 2 priority habitats (listed on next page) within 100 m Site does not meet any of the criteria above Rating of Value If score is:2 = Hx1 = M0 = L Record the rating on	the first nage
	j st page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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 (<i>full descriptions in WDFW PHS report p. 158 – see web link above</i>).
<u>X</u>	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.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS	0.1
Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
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 Yes –Go to SC 1.1 (No= Not an estuarine wetland	
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? Yes = Category I No - Go to SC 1.2	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 Spartina, 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 un- 	Cat. I
mowed grassland.	Cat. II
— The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 (No = Not a WHCV	
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? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the ke	/
below. If you answer YES you will still need to rate the wetland based on its functions.	
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? Yes – Go to SC 3.3 No – To to SC 3.2 So 3.3 No – To to SC 3.2	
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? Yes – Go to SC 3.3 No = s not a bog	
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? Yes = Is a Category I bog No - Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion b	,
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 th	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
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?	
Yes = Is a Category I bog No = Is not a bog	

SC 4.0. Forested Wetlands Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA			
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>If you answer YES you will still need to rate the wetland based on its functions.</i>			
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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. Mature forests (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). 			
Yes = Category I No = No a forested wetland for this section	Cat. I		
C 5.0. Wetlands in Coastal Lagoons			
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks			
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	Cat. I		
C 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II		
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.			
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II			
SC 6.0. Interdunal Wetlands			
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:			
 Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105 	Cat I		
 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = lot an interdunal wetland for rating 			
C 6.1. 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)? Yes = Category I No – Go to SC 6.2	Cat. II		
C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II No – Go to SC 6.3	Cat. III		
C 6.3. 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?			
Yes = Category III No = Category IV	Cat. IV		
Category of wetland based on Special Characteristics			

Wetland name or number ___J___

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland L	Date of site visit: _	2/29/2016 & 3	<u>3/01/2016</u>
Rated by J. Madriz, L. Hoffmann, and M. McGrath	n_Trained by Ecology? <u>Y</u>	<u>'es</u> Date of train	ning <u>09/2015</u>
HGM Class used for rating Slope	Wetland has multiple H	IGM classes?	_Y <u>x</u> N
NOTE: Form is not complete without the Source of base aerial photo/map Goog		res can be comb	ined).

OVERALL WETLAND CATEGORY _____ (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	L	L	L	
Landscape Potential	M	M	M	
Value	Н	М	М	TOTAL
Score Based on Ratings	6	5	5	16

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

Riverine Wetlands

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

Slope Wetlands

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

HGM Classification of Wetlands in Western Washington

For guestions 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?
 - __x_The wetland is on a slope (slope can be very gradual),
 - <u>x</u> 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,
 - x 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.

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.

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.

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	2
Slope is > 1%-2% points = 2	
Slope is > 2%-5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	3
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > 1/4 of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	5

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

Record the rating on the first page

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

Rating of Landscape Potential If score is: $x_1-2 = M_0 = L$

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	4

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

Record the rating on the first page

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	ion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/8	
in), or dense enough, to remain erect during surface flows.	0
Dense, uncut, rigid plants cover > 90% of the area of the wetland points = 1	
All other conditions points = 0	

Rating of Site Potential If score is: $_{1} = M _{x} 0 = L$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1

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

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 Add the points in the boxes above	1

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 X Emergent 3 structures: points = 2 1 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: ____The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 x Occasionally flooded or inundated 2 types present: points = 1 2 x Saturated only 1 type present: points = 0 x Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². 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 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats 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

	1
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or 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) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) Total for H 1	1
	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat 0 + [(% moderate and low intensity land uses)/2] 0 = 0 % If total accessible habitat is: > $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon contact that directly abuts wetland unit). points = 3 points = 1 contact that directly abuts wetland unit).	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat 45 + [(% moderate and low intensity land uses)/2] 9.5 = 54.5 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	3
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 X Site has 1 or 2 priority habitats (listed on next page) within 100 m Site does not meet any of the criteria above Rating of Value If score is: 2 = H x 1 = M 0 0 = L Record the rating or) the first page
necold the rating of	e jii st page

WDFW Priority Habitats

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

nt how many of the following priority habi

	int how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is ependent 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.
X	Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (<i>full descriptions in WDFW PHS report p. 158 – see web link above</i>).
<u>X</u>	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.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Westland Type	Catagony
Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
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 Yes –Go to SC 1.1 No= Not an estuarine wetland	
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? Yes = Category I No - Go to SC 1.2	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 un- 	Cat. I
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or	Cat. II
contiguous freshwater wetlands. Yes = Category I No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV)	†
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High	
Conservation Value? Yes – Go to SC 2.2 No – so to SC 2.3	Cat. I
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?	
Yes = Category I No = Not a WHCV	
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
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? Yes = Category I No = Not a WHCV	
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key	
below. If you answer YES you will still need to rate the wetland based on its functions.	
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? Yes – Go to SC 3.3 No – to to SC 3.2	
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? Yes – Go to SC 3.3 No = s not a bog	
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? Yes = Is a Category I bog No - Go to SC 3.4	
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by	
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
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? Yes = Is a Category I bog No = Is not a bog	
162 – 12 a Category I bog NO = 15 not a bog	

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>If you answer YES you will still need to rate</i>	
the wetland based on its functions.	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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. Mature forests (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). 	
Yes = Category I No = Not a forested wetland for this section	Cat. I
C 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
 The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon 	Cat. I
C 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	Cat. II
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II	
C 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:	
 Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105 	Cat I
— Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = lot an interdunal wetland for rating	
fC 6.1. 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)? Yes = Category I No – Go to SC 6.2 C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	Cat. II
Yes = Category II No – Go to SC 6.3	Cat. III
C 6.3. 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?	
Yes = Category III No = Category IV	Cat. IV
Category of wetland based on Special Characteristics	N/A

Wetland name or number \underline{L} This page left blank intentionally

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland M	Date of site visit: <u>2/29/2016 & 3/01/2016</u>
Rated by J. Madriz, L. Hoffmann, and M. McGratl	<u>h</u> Trained by Ecology? <u>Yes</u> Date of training <u>09/2015</u>
HGM Class used for rating Slope	Wetland has multiple HGM classes? Y x N
NOTE: Form is not complete without the Source of base aerial photo/map Goo	figures requested (figures can be combined). gle Earth (2015)

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 ap	propriate ratings	
Site Potential	L	M	L	
Landscape Potential	L	L	Н	
Value	Н	М	М	TOTAL
Score Based on Ratings	5	5	6	16

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 5 = M,M,L 5 = M,M,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	1	
Old Growth Forest	ı	
Coastal Lagoon	I II	
Interdunal	I II III IV	
None of the above	N/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	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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 (can be added to another figure)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

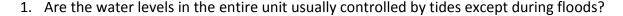
Slope Wetlands

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

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.



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?
 - __x_The wetland is on a slope (slope can be very gradual),
 - <u>x</u> 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,
 - __x_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.

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

SLOPE WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
S 1.0. Does the site have the potential to improve water quality?	
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)	
Slope is 1% or less points = 3	2
Slope is > 1%-2% points = 2	
Slope is > 2%-5% points = 1	
Slope is greater than 5% points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0	0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.	
Dense, uncut, herbaceous plants > 90% of the wetland area points = 6	3
Dense, uncut, herbaceous plants > ½ of area points = 3	
Dense, woody, plants > ½ of area points = 2	
Dense, uncut, herbaceous plants > 1/4 of area points = 1	
Does not meet any of the criteria above for plants points = 0	
Total for S 1 Add the points in the boxes above	5

Rating of Site Potential If score is: ___12 = H ____6-11 = M ___x _0-5 = L

Record the rating on the first page

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

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

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	4

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

Record the rating on the first page

SLOPE WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and si	tream eros	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?		
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points ap for the description that best fits conditions in the wetland. Stems of plants should be thick enough (us		
in), or dense enough, to remain erect during surface flows.	-	1
Dense, uncut, rigid plants cover > 90% of the area of the wetland	points = 1	
All other conditions	points = 0	

Rating of Site Potential If score is: $x_1 = M = 0 = L$

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the	site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that g surface runoff?	enerate excess Yes = 1 No = 0	0

Rating of Landscape Potential If score is: $_{1} = M _{2} = M$

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or	
natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	1
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	
Total for S 6 Add the points in the boxes above	1

Rating of Value If score is: 2-4 = H $x_1 = M$ 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 X Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 0 x Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft². 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 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats 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

H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m	,
over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m)	'
	0
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered	
where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are	
permanently or seasonally inundated (structures for egg-laying by amphibians)	
Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of	
strata)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = Mx0-6 = L	on the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat 28 + [(% moderate and low intensity land uses)/2] 10.5 = 38.5%	6
If total accessible habitat is:	
$>$ $^{1}/_{3}$ (33.3%) of 1 km Polygon points = 3	з 3
20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 2	
1	
< 10% of 1 km Polygon points = 0	,
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	,
Calculate: % undisturbed habitat 65 + [(% moderate and low intensity land uses)/2] 10.5 = 70.5 9	
Undisturbed habitat > 50% of Polygon points = 3	1 3
Undisturbed habitat 10-50% and in 1-3 patches points = 2	
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0)
H 2.3. Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (-2	0
≤ 50% of 1 km Polygon is high intensity points = 0)
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: x 4-6 = H 1-3 = M < 1 = L Record the rating	on the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	•
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	<u>)</u>
 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 X 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 = Hx 1 = M0 = L Record the rating	on the first page

WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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).
- <u>X</u> **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.
- X 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.

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands 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 Yes –Go to SC 1.1 No= Not an estuarine wetland	
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? Yes = Category I No - Go to SC 1.2	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 Spartina, 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 un-	Cat. I
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II	Cat. II
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV	Cat. I
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV	
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? Yes = Category I No = Not a WHCV	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. 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? 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 ten of a lake or pond? 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? Yes = Is a Category I bog No = Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 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? Yes = Is a Category I bog No = Is not a bog	Cat. I

SC 4.0. Forested Wetlands	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/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. Mature forests (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). 	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
 The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon 	Cat. I
SC 5.1. Does the wetland meet all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	Cat. II
mowed grassland. — The wetland is larger than $^1/_{10}$ ac (4350 ft ²) Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:	
 Long Beach Peninsula: Lands west of SR 103 Grayland-Westport: Lands west of SR 105 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = not an interdunal wetland for rating 	Cat I
for the three aspects of function)? SC 6.1. 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)? Yes = Category I No – Go to SC 6.2 SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	Cat. II
Yes = Category II No – Go to SC 6.3 SC 6.3. 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? Yes = Category III No = Category IV	Cat. III
ico cutegory iii iiio - cutegory iii	Cat. IV
Category of wetland based on Special Characteristics	N/A

Wetland name or number M

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Cowardin Vegetation Class Division

Occasionally Flooded or Inundated

Saturated Only

SS Scrub/shrub Seasonally Flooded or Inundated

EM Emergent

Permanently Flowing Stream

FO Forested

Aerial photo from Google Earth™.

S 3.1 - Dense, uncut, **rigid** vegetation > 1/2 area of wetland.

S 2. - Residential, urban areas, or golf courses are within 150 ft. upslope of the wetland.

Wetland J

H 1.1/H 1.4 - Emergent, scrub-shrub. Low interspersion.

H 1.2 - Occasionally flooded, saturated only.

S 1.3 - Dense, uncut, herbaceous plants > 1/2 of the wetland area.

S 4.1 - All other conditions.

S 2.1 - > 10% of the area within 150 ft. on the uphill side of the wetland in land uses that generate pollutan

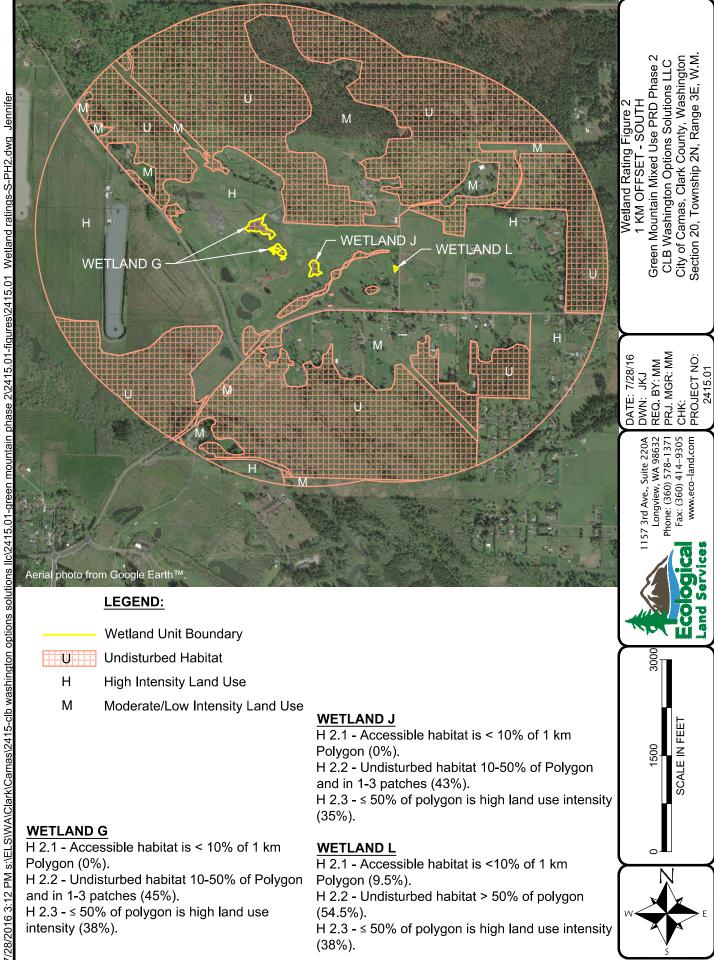
S 1.3 - Dense, uncut, herbaceous plants > 1/2 of the wetland area.

S 4.1 - All other conditions.

S 2.1 - > 10% of the area within 150 ft. on the uphill side of the wetland in land uses that generate pollutants. S 5.1 - > 25% of the area within 150 ft. upslope of wetland in land uses or cover that generate excess surface runoff.

Wetland Rating Figure 1
150' OFFSET - SOUTH
Green Mountain Mixed Use PRD Phase 2
CLB Washington Options Solutions LLC
City of Camas, Clark County, Washington
Section 20, Township 2N, Range 3E, W.M.





WETLAND G

H 2.1 - Accessible habitat is < 10% of 1 km Polygon (0%).

H 2.2 - Undisturbed habitat 10-50% of Polygon and in 1-3 patches (45%).

H 2.3 - ≤ 50% of polygon is high land use intensity (38%).

WETLAND L

H 2.1 - Accessible habitat is <10% of 1 km Polygon (9.5%).

H 2.2 - Undisturbed habitat > 50% of polygon (54.5%).

H 2.3 - ≤ 50% of polygon is high land use intensity (38%).



Wetland B (2004 Rating System)

- H 1.1/H 1.4 Scrub-shrub, forested, forested has 3 out of 5 strata. Moderate interspersion.
- H 1.2 Seasonally flooded, occasionally flooded, saturated only.
- S 1.3 Dense, ungrazed, herbaceous vegetation > 90% of wetland area.
- S 3.1 Dense, uncut, **rigid** vegetation > 1/2 area of wetland.
- S 2. Residential, urban areas, or golf courses are within 150 ft. upslope of the wetland.

Wetland D (2004 Rating System)

- H 1.1/H 1.4 Emergent and scrub-shrub. Moderate interspersion.
- H 1.2 Seasonally flooded, occasionally flooded, saturated only.
- D 1.1/D 3.1 Wetland has an intermittently flowing, OR highly constricted, permanently flowing outlet.
- D 2. Residential, urban areas, or golf courses are within 150 ft. upslope of the wetland.
- D 3.2 Marks are at least 0.5 ft. to <2 ft. from surface or bottom of outlet

Wetland M

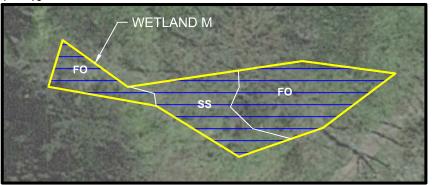
- H 1.1/H 1.4 Scrub-shrub, forested. Low interspersion.
- H 1.2 Saturated only.
- S 1.3 Dense, uncut, herbaceous plants > 1/2 of the wetland area.
- S 4.1 Dense, uncut, **rigid** plants cover > 90% of the area of the wetland.
- S 2.1 < 10% of the area within 150 ft. on the uphill side of the wetland in land uses that generate pollutants.
- S 5.1 < 25% of the area within 150 ft. upslope of wetland in land uses or cover that generate excess surface runoff.

Wetland O (2004 Rating System)

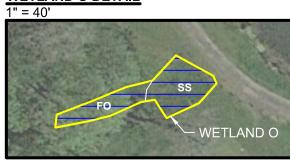
- H 1.1/H 1.4 Forested. No interspersion.
- H 1.2 Seasonally flooded and saturated only.
- S 1.3 Dense, ungrazed, herbaceous vegetation > 90% of wetland area.
- S 3.1 More than 3/4 of area is grazed, mowed, tilled or vegetation is not rigid
- S 2. Residential, urban areas, or golf courses are within 150 ft. upslope of the wetland.

WETLAND M DETAIL





WETLAND O DETAIL



Green Mountain Mixed Use PRD Phase 2 CLB Washington Options Solutions LLC City of Camas, Clark County, Washington Section 20, Township 2N, Range 3E, W.M.

Aerial photo from Google Earth™.

Wetland Unit Boundary Accessible Habitat U **Undisturbed Habitat** High Intensity Land Use Η Μ Moderate/Low Intensity Land Use Contributing Basin

WETLAND B

7/28/2016 2:56 PM s:\ELS\WA\Clark\Camas\2415-clb washington options solutions IIc\2415.01-green mountain phase 2\2415.01-figures\2415.01 Wetland ratings-N-PH2.dwg Jennifer

H 2.1 - Accessible habitat is 20-33% of 1 km Polygon (28%).

H 2.2 - Undisturbed habitat 10-50% of Polygon and in 1-3 patches (35%).

H 2.3 - ≤ 50% of polygon is high land use intensity (35%).

WETLAND D

D4.3 - Area of contributing basin is 10 to 100 times

D 5.3 - < 25% of the contributing basin is covered with intensive human land uses.

H 2.1 - Accessible habitat is $> \frac{1}{3}$ of 1 km Polygon (45.5%).

H 2.2 - Undisturbed habitat > 50% of Polygon.

H 2.3 - ≤ 50% of polygon is high land use intensity (38%).

WETLAND M

H 2.1 - Accessible habitat is $> \frac{1}{3}$ of 1 km Polygon (38.5%).

H 2.2 - Undisturbed habitat > 50% of Polygon.

H 2.3 - ≤ 50% of polygon is high land use intensity (38%).

WETLAND O

H 2.1 - Accessible habitat is < 10% of 1 km Polygon (9%).

H 2.2 - Undisturbed habitat is 10-50% and in > 3 patches.

H 2.3 - ≤ 50% of polygon is high land use intensity (48%).

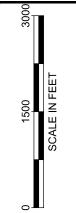
City of Camas, Clark County, Washington Section 20, Township 2N, Range 3E, W.M Green Mountain Mixed Use PRD Phase CLB Washington Options Solutions LLC KM OFFSET - NORTH Wetland Rating Figure 4

DATE: 7/28/16 REQ. BY: MM DWN: JKJ

PROJECT NO: CHK: Phone: (360) 578-1371 Fax: (360) 414-9305 www.eco-land.com 1157 3rd Ave., Suite 220A

2415.0′







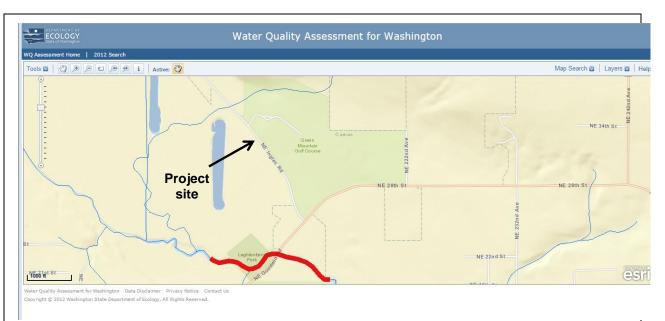


Figure 5a: The wetland unit is in a basin or subbasin where an aquatic resource is on the 303(d) list.

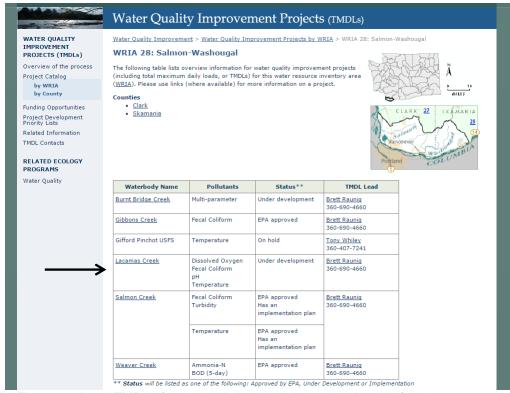


Figure 5b: There are listed TMDLs for the basin in which the wetland unit is found.



1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371

Fax: (360) 414-9305

DATE: 3/21/2016

DWN: JM PRJ. MGR: MM PROJ.#: 2048.01 Wetland Rating Figure 5 303(d) LISTED WATERS AND TMDLS FOR WRIA Green Mountain PRD Green Mountain Land, LLC City of Camas, Washington

Appendix C

Wetland Rating Forms for Western Washington (2004 Rating System)

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Name of wetland (if known): Wetland B Date of site visit: Oct. 2013 Rated by A. Aberle Trained by Ecology? YesX No_____ Date of Training: Oct. 2006 SECTION: 20 TOWNSHIP: 2N_RANGE: 3E Is S/T/R in Appendix D? Yes X_No__ Map of wetland unit: Figure Estimated size 4.48 acres DRAFT SUMMARY OF RATING Category based on FUNCTIONS provided by wetland I II III X IV Score for Water Quality Functions 14 Category I = Score >= 70Category II = Score 51-69 Score for Hydrologic Functions 5 Category III = Score 30-50 Score for Habitat Functions 21 Category IV = Score < 30 **TOTAL Score for functions** 40 Category based on SPECIAL CHARACTERISTICS of wetland I II Does not Apply **X** III Final Category (choose the "highest" category from above)

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	X
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	

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

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

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. Does the wetland contain individuals of Priority species listed by the WDFW for the state?		X
SP4. Does the wetland have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

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

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

Comments Formal priority and habitat species request has been completed.

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland usually controlled by tides (i.e. except during floods)?
\square NO – go to 2 \square YES – the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
 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 wetland meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4
 4. Does the wetland meet all of the following criteria? ☐ The wetland is on a slope (slope can be very gradual), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks(depressions are usually <3ft diameter and less than 1 foot deep).
\square NO - go to 5 \square YES – The wetland class is Slope
Comments

Wetland name or number: Wetland B

5.	Does the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river The overbank flooding occurs at least once every two years.
	NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding. NO - go to 6 YES – The wetland class is Riverine
6.	Is the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year. <i>This means that any outlet, if present, is higher than the interior of the wetland</i> . NO – go to 7 YES – The wetland class is Depressional
7.	Is the wetland 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 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 your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

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

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

S	Slope Wetlands	Points (only 1 score			
	WATER QUALITY FUNCTIONS - Indicators that wetland unit functions to				
	improve water quality				
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)			
S	S 1.1 Characteristics of average slope of wetland:				
3	Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft				
	horizontal distance)points = 3				
	Slope is $1\% - 2\%$ points = 2	1			
	Slope is $2\% - 5\%$ points = 1	1			
	Slope is greater than 5% points = 0				
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay organic(use NRCS				
3	definitions)				
	YES = 3 points $NO = 0$ points	0			
S	S 1.3 Characteristics of the vegetation in the wetland that traps sediments and pollutants:	Figure			
	Choose the points appropriate for the description that best fits the vegetation in the				
	wetland. Dense vegetation means you have trouble seeing the soil surface. (<75%				
	cover), and uncut means not grazed or mowed and plants are higher than 6 inches.				
	Dense, ungrazed, herbaceous vegetation $> 90\%$ of wetland area points $= 6$				
	Dense, ungrazed, herbaceous vegetation $> \frac{1}{2}$ of area points $= 3$				
	Dense, woody vegetation $> \frac{1}{2}$ of area points = 2				
	Dense, ungrazed, herbaceous vegetation $> \frac{1}{4}$ of area points $= 1$				
	Does not meet any of the criteria above for vegetation points = 0				
_	Aerial photo or map with vegetation polygons				
S	Total for S 1 Add the points in the boxes above	7			
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)			
	Answer YES if you know or believe there are pollutants in groundwater or surface water				
	coming into the wetland that would otherwise reduce water quality in streams, lakes or				
	groundwater downgradient from the wetland? Note which of the following conditions				
	provide the sources of pollutants A unit may have pollutants coming form several				
	sources, but any single source would qualify as opportunity				
	Grazing in the wetland or within 150 ft				
	Untreated stormwater discharges to wetland				
	Tilled fields or orchards within 150 feet of wetland				
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland				
	☐ Other NO multiplier is 1	<u>2</u>			
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2				
J	Add score to table on p. 1	14			

S	Slope Wetlands	Points	
	HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to reduce flooding and stream erosion	(only 1 score per box)	
S	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually> 1/8 in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers >90% of area of the wetland. Dense, uncut, rigid vegetation >1/2 area of wetland Dense, uncut, rigid vegetation >1/4 area of wetland points = 1	3	
	More than 3/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0		
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2	
S	Add the points in the boxes above	5	
S	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply.</i> Wetland has surface runoff that drains to a river or stream that has flooding		
	problems Other	multiplier	
	Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam.) YES multiplier is 2 NO multiplier is 1	<u>1</u>	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1		

These questions apply to wetlands of all HGM classes			Points	
HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat				
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?				
H 1.1 Vegetation structure (see p. 72)			Figure	
Check the types of vegetation classes present (a acre or more than 10% of the area if unit is so Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30% co	maller than 2.5 acres. 0% cover)	Size threshold for each class is 1/4		
If the unit has a forested class check if:				
Forested areas have 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)				
that each cover 20% within the forested p	• 0			
Add the number of vegetation types that qualif		points = 4		
	4 types or more 3 types	points = 4 points = 2		
Map of Cowardin vegetation classes	2 types	points = 2 points = 1		
	1 type	points = 1 $points = 0$		
H 1.2 Hydroperiods (see p. 73)	71	•	Figure	
Check the types of water regimes (hydroperiod cover more than 10% of the wetland or ½ acress Permanently flooded or inundated Seasonally flooded or inundated Saturated only Permanently flowing stream or river in, or Seasonally flowing stream or river in, or Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	4 or more types 3 types 2 types or adjacent to, the wetlan	description of hydroperiods.) present points = 3 present points = 2 present points = 1	2	
H 1.3 Richness of Plant Species (see p. 75) Count the number of plant species in the wetla species can be combined to meet the size thres You do not have to name the species. Do not include Eurasian Milfoil, reed canary If you counted: List species below if you want to:	hold.)		2	

Total for page <u>6</u>

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

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

Total for page 5_

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see p. 82)	
Whi	ch of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the	
conn	nections do not have to be relatively undisturbed.	
Thes	se are DFW definitions. Check with your local DFW biologist if there are any questions	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Old-growth forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming	
	a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81	
	cm (32 in) dbh or > 200 years of age.	
	Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be	
	less that 100%; 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.	
	Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where grasses	
	and/or forbs form the natural climax plant community.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed	
	of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
	associated with cliffs.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
\boxtimes	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage	
	of the oak component of the stand is 25%.	3
\boxtimes	Urban Natural Open Space: A priority species resides within or is adjacent to the open space and	
	uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting	
	other priority habitats, especially those that would otherwise be isolated; and/or the open space is an	
	isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.	
	Estuary/Estuary-like: Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by	
	land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is	
	at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically	
	increased above that of the open ocean by evaporation. Along some low-energy coastlines there is	
	appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-	
	derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both	
	estuaries and lagoons.	
	Marine/Estuarine Shorelines: Shorelines include the intertidal and subtidal zones of beaches, and	
	may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs,	
	snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and	
	that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion	
	control).	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	If wetland has 1 priority habitat = 1 point No habitats = 0 points Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
	Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. There are no wetlands within ½ mile.	3
H 2 . TOTAL Score -opportunity for providing habitat Add the scores in the column above	
TOTAL for H 1 from page 14	10
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	21

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Check off any criteria that apply to the wetland. Select the appropriate Category (from dropdown menu in Category column) when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
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. YES = Go to SC 1.1 NO	
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?	Cat. I
SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Spartina spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of Spartina in determining the size threshold of 1 acre. At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

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

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

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership	
or WBUO)?	
\square YES = Go to SC 6.1 \square NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR103 	
Grayland-Westport- lands west of SR 105	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre	
or larger?	
\square YES = Category II \square NO go to SC 6.2	
SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Cat.II
between 0.1 and 1 acre,?	
☐ YES = Category III	Cat.III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record	NT/A
on p. 1.	N/A
If you answered NO for all types enter "Not Applicable" on p. 1.	

The wetland has been previously disturbed, therefore, it is not high quality undisturbed wetland. Based on ELS observations on-site, the wetland does not contain state threatened or endangered species.

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Name of wetland (if known): Wetland D Date of site visit: Oct. 2013 Rated by A. Aberle Trained by Ecology? Yes X No Date of Training: Oct. 2006 SECTION: 20 TOWNSHIP: 2N_RANGE: 3E Is S/T/R in Appendix D? Yes X_No__ Map of wetland unit: Figure 2 Estimated size 0.99 acres

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II III _X	IV	
Category I = Score >=70	Score for Water Quality Functions	14
Category II = Score 51-69	Score for Hydrologic Functions	8
Category III = Score 30-50 Category IV = Score < 30	Score for Habitat Functions	18
Category IV = Score \ 50	TOTAL Score for functions	40

Category based on SPECIAL CHARACTERISTICS of wetland

I	II	_ Does not Apply $\underline{\mathbf{X}}$	
Final Catego	ry (choose	e the "highest" category from above)	III

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	X
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	

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

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

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. Does the wetland contain individuals of Priority species listed by the WDFW for the state?		X
SP4. Does the wetland have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

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

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

Comments Formal priority and habitat species request has been completed.

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland usually controlled by tides (i.e. except during floods)?
\square NO – go to 2 \square YES – the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit. NO – go to 3 YES – The wetland class is Flats
If your wetland can be classified as a "Flats" wetland, use the form for Depressional wetlands.
3. Does the wetland meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4
4. Does the wetland meet all of the following criteria? The wetland is on a slope (slope can be very gradual), The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks(depressions are usually <3ft diameter and less than 1 foot deep). NO - go to 5 YES – The wetland class is Slope
Comments

Wetland name or number: Wetland D

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

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

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

D	Depressional and Flats Wetlands WATER QUALITY FUNCTION – Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
D	D 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p.38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) Wetland has an intermittently flowing, OR highly constricted, permanently flowing outlet Wetland has an unconstricted, or slightly constricted, surface outlet (permanently flowing) Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch (if ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure
D	D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS	
	definitions) YES NO points = 4 points = 0 D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest class):	() Figure
D	Wetland has persistent, ungrazed, vegetation $> = 95\%$ of area points $= 5$ Wetland has persistent, ungrazed, vegetation $> = 1/2$ of area points $= 3$ Wetland has persistent, ungrazed vegetation $> = 1/10$ of area points $= 1$	8 <u>B</u>
	Wetland has persistent, ungrazed vegetation $<1/10$ of area points = 0 Map of Cowardin vegetation classes	
D	D1.4 Characteristics of seasonal ponding or inundation. This is the area of the wetland that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs. Area seasonally ponded is > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland points = 4 points = 2	Figure <u>9B</u> 2
	Area seasonally ponded is $< \frac{1}{4}$ total area of wetland points = 0 Map of Hydroperiods	
D	Total for D 1 Add the points in the boxes above	7
D	D 2. Does the wetland have the opportunity to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. ☐ Grazing in the wetland or within 150 ft ☐ Untreated stormwater discharges to wetland ☐ Tilled fields or orchards within 150 ft of wetland ☐ A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging ☐ Residential, urban areas, golf courses are within 150 ft of wetland ☐ Wetland is fed by groundwater high in phosphorus or nitrogen ☐ Other ☐ WYES multiplier is 2 ☐ NO multiplier is 1	multiplier
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2	14
	Add score to table on p. 1	14

\mathbf{D}	Depressional and Flats Wetlands	Points
	HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce	
	flooding and stream degradation	1
	D 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit	Figure
	Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2	
	Unit is flat depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no	2
	obvious natural outlet and/or is a man-made ditch points = 1	
	(If ditch is not permanently flowing treat unit as "intermittently flowing") List has an unconstricted, an eligibility constricted, surfaces outlet (normalization) points = 0.	
Б	Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0 D 3.2 Depth of storage during wet periods	Figure_
D	Estimate the height of ponding above the bottom of the outlet. For units with no outlet	g
	measure from the surface of permanent water or deepest part (if dry).	3
	Marks of ponding are 3 ft or more above the surface or bottom of outlet points $= 7$	
	The wetland is a "headwater" wetland" points = 5	
	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	
	Wetland is flat (yes to Q 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1	
	Marks of ponding less than 0.5 ft points $= 1$	
D	D 3.3 Contribution of wetland to storage in the watershed	Figure
D	Estimate the ratio of the area of upstream basin contributing surface water to the	
	wetland to the area of the wetland unit itself.	3
	The area of the basin is less than 10 times the area of 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 unit is in the FLATS class points = 5	
D	Total for D 3 Add the points in the boxes above	8
D	D 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p.49)
	Answer YES if the wetland is in a location in the watershed where the flood storage, or	
	reduction in water velocity it provides, helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water	
	coming into the wetland is controlled by a structure such as flood gate, tide gate, flap	
	valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is	
	from groundwater in areas where damaging groundwater flooding does not occur.	
	Note which of the following indicators of opportunity apply.	
	Wetland is in a headwater of a river or stream that has flooding problems	
	Wetland drains to a river or stream that has flooding problems	multiplier
	Wetland has no outlet and impounds surface runoff water that might otherwise flow	manipher
	into a river or stream that has flooding problems Other	
	YES multiplier is 2 NO multiplier is 1	<u>1</u>
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4	
	Add score to table on p. 1	8

These questions apply to wetlands of all HGM classes			Points	
HABITAT FUNCTIONS – Indicators that	wetland functions to pro	ovide importa	ant habitat	(only 1 score per box)
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?				
H 1.1 Vegetation structure (see p. 72)				Figure
Check the types of vegetation classes present			ld for each class	
is ½ acre or more than 10% of the area if t	unit is smaller than 2.5 act	res.		
Aquatic bed				
✓ Emergent plants✓ Scrub/shrub (areas where shrubs have >	30% cover)			
Forested (areas where trees have >30%				
If the unit has a forested class check if:	00 (01)			2
Forested areas have 3 out of 5 strata (ca	anopy, sub-canopy, shrubs	, herbaceous,	moss/ground-	_
cover) that each cover 20% within the			C	
Add the number of vegetation types that qua	alify. If you have:			
	4 types or more	points		
Map of Cowardin vegetation classes	3 types	points		
	2 types	points		
II 1 2 Hedge gode (zee g. 72)	1 type	points	= 0	Figure
H 1.2 <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroper	iods) present within the w	etland The w	ater regime has	Figure
to cover more than 10% of the wetland or 4				
hydroperiods.)	racie to counti. (See testi)	or description	, 0,	
Permanently flooded or inundated	4 or more types	present	points = 3	
Seasonally flooded or inundated	· -	present	points = 2	
Occasionally flooded or inundated	2 types	present	points = 1	2
Saturated only				
Permanently flowing stream or river in				
Seasonally flowing stream or river in,	or adjacent to, the wetland	l		
Lake-fringe wetland = 2 points				
Freshwater tidal wetland = 2 points H 1.3 Richness of Plant Species (see p. 75)				
Count the number of plant species in the we	etland that cover at least 10) ft ² (Differen	t natches of the	
same species can be combined to meet the s		one (Bijjeren	i parenes of the	
You do not have to name the species.				
Do not include Eurasian Milfoil, reed can	arygrass, purple loosestrif	^f e, Canadian T	histle.	
If you counted	•	points		
	5 - 19 species	points		
List species below if you want to:	<5 species	points	=0	
				1

Total for page <u>5</u>

H 1.4 Interspersion of habitats (see p. 76) Decide from the diagrams below whether interspersion between Cowardin vagetation classes.	Figure
Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.	2
None = 0 points Low = 1 point Moderate = 2 points	
[riparian braided channels]	
NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes	
H 1.5 Special Habitat Features: (see p. 77) Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column. Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long). Standing snags (diameter at bottom >4 inches) in the wetland Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) Invasive plants cover less than 25% of the wetland area in each stratum of plants Note: The 20% stated in early printings of the manual on page 78 is an error	2
H 1. TOTAL Score – potential for providing habitat Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5	9

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

Total for page 3_

H 2.3 I	Near or adjacent to other priority habitats listed by WDFW (see p. 82)	
Whi	ch of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the	
conn	ections do not have to be relatively undisturbed.	
Thes	se are DFW definitions. Check with your local DFW biologist if there are any questions	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Old-growth forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming	
	a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81	
	cm (32 in) dbh or > 200 years of age.	
	Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be	
	less that 100%; 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.	
	Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where grasses	
	and/or forbs form the natural climax plant community.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed	
	of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
	associated with cliffs.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
\boxtimes	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage	
	of the oak component of the stand is 25%.	3
\boxtimes	Urban Natural Open Space: A priority species resides within or is adjacent to the open space and	
	uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting	
	other priority habitats, especially those that would otherwise be isolated; and/or the open space is an	
	isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.	
	Estuary/Estuary-like: Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by	
	land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is	
	at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically	
	increased above that of the open ocean by evaporation. Along some low-energy coastlines there is	
	appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-	
	derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both	
	estuaries and lagoons.	
	Marine/Estuarine Shorelines: Shorelines include the intertidal and subtidal zones of beaches, and	
	may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs,	
	snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and	
	that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion	
	control).	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
	Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the	
wetland that best fits) (see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some	
boating, but connections should NOT be bisected by paved roads, fill, fields, or other	
development. points = 5	
The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe	
wetlands within $\frac{1}{2}$ mile points = 5	3
There are at least 3 other wetlands within ½ mile, BUT the connections between them are	3
disturbed points = 3	
The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe	
wetlands within $\frac{1}{2}$ mile points = 3	
There is at least 1 wetland within $\frac{1}{2}$ mile. points = 2	
There are no wetlands within $\frac{1}{2}$ mile. points = 0	
H 2. TOTAL Score -opportunity for providing habitat	
Add the scores in the column above	9
TOTAL for H 1 from page 14	
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	18

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type	Category
Check off any criteria that apply to the wetland. Select the appropriate Category (from	
dropdown menu in Category column) when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
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. \square YES = Go to SC 1.1 \square NO	
1125 - 00 to 5C 1.1 \(\sum_{\text{NO}}\)	Cat. I
SC 1.1 Is the wetland within a National Wildlife Refuge, National Park,	Cat. I
National Estuary Reserve, Natural Area Preserve, State Park or Educational,	
Environmental, or Scientific Reserve designated under WAC 332-30-151?	
SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the	
following three conditions? YES = Category I NO = Category II	Cat. I
The wetland is relatively undisturbed (has no diking, ditching, filling,	Cat. II
cultivation, grazing, and has less than 10% cover of non-native plant species. If	D 1
the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of	Dual
the wetland, then the wetland should be given a dual rating (I/II). The area of Spartina would be rated a Category II while the relatively undisturbed upper	rating
marsh with native species would be a Category I. Do not, however, exclude the	I/II
area of Spartina in determining the size threshold of 1 acre.	1/11
At least 34 of the landward edge of the wetland has a 100 ft buffer of shrub,	
forest, or un-grazed or un-mowed grassland.	
The wetland has at least 2 of the following features: tidal channels, depressions	
with open water, or contiguous freshwater wetlands.	

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

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

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership	
or WBUO)?	
\square YES = Go to SC 6.1 \square NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR103 	
 Grayland-Westport- lands west of SR 105 	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre	
or larger?	
\square YES = Category II \square NO go to SC 6.2	
SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Cat.II
between 0.1 and 1 acre,?	
☐ YES = Category III	Cat.III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record	NT/A
on p. 1.	N/A
If you answered NO for all types enter "Not Applicable" on p. 1.	

The wetland has been previously disturbed, therefore, it is not high quality undisturbed wetland. Based on ELS observations on-site, the wetland does not contain state threatened or endangered species.

Ι

II

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Name of wetland (if known): Wetland G Date of site visit: Oct. 2013

Rated by A. Aberle Trained by Ecology? Yes X No Date of Training: Oct. 2006

SECTION: 20 & 21 TOWNSHIP: 2N_RANGE: 3E Is S/T/R in Appendix D? Yes X No__

Map of wetland unit: Figure ___ Estimated size 1.94 acres

DRAFT SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

III X IV

Category I = Score >=70	Score for Water Quality Functions	14
Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Hydrologic Functions	5
	Score for Habitat Functions	16
Category IV = Score \ 30	TOTAL Score for functions	36

Category based on SPECIAL CHARACTERISTICS of wetland

I	II	Does not Apply X

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

III

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	X
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	

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

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

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. Does the wetland contain individuals of Priority species listed by the WDFW for the state?		X
SP4. Does the wetland have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

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

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

Comments Formal priority and habitat species request has been completed.

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland usually controlled by tides (i.e. except during floods)?
\square NO – go to 2 \square YES – the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
 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 wetland meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4
 4. Does the wetland meet all of the following criteria? ☐ The wetland is on a slope (slope can be very gradual), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks(depressions are usually <3ft diameter and less than 1 foot deep). ☐ NO - go to 5 ☐ YES - The wetland class is Slope
The Second Market and the mental of the property of of
Comments

Wetland name or number: Wetland G

The unit	and unit meet all of the following criteria? is in a valley, or stream channel, where it gets inundated by overbank flooding at stream or river
NOTE: The rive	erbank flooding occurs at least once every two years. erine unit can contain depressions that are filled with water when the river is not flooding. YES – The wetland class is Riverine
time of the year. The	pographic depression in which water ponds, or is saturated to the surface, at some nis means that any outlet, if present, is higher than the interior of the wetland. [YES – The wetland class is Depressional]
unit does not pond s groundwater in the a	d in a very flat area with no obvious depression and no overbank flooding. The urface water more than a few inches. The unit seems to be maintained by high area. The wetland may be ditched, but has no obvious natural outlet. YES – The wetland class is Depressional

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

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

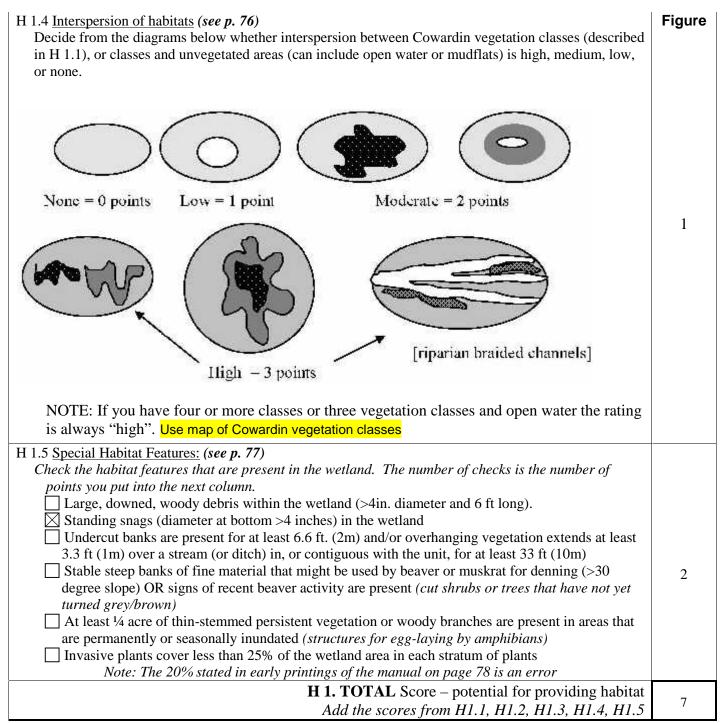
If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

S	Slope Wetlands	Points		
	WATER QUALITY FUNCTIONS - Indicators that wetland unit functions to	(only 1 score per box)		
	improve water quality			
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)		
S	S 1.1 Characteristics of average slope of wetland:			
3	Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft			
	horizontal distance)points = 3			
	Slope is $1\% - 2\%$ points = 2	4		
	Slope is $2\% - 5\%$ points = 1	1		
	Slope is greater than 5% points = 0			
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay organic(<i>use NRCS</i>			
	definitions)			
	YES = 3 points $NO = 0$ points	0		
S	S 1.3 Characteristics of the vegetation in the wetland that traps sediments and pollutants:	Figure		
	Choose the points appropriate for the description that best fits the vegetation in the			
	wetland. Dense vegetation means you have trouble seeing the soil surface. (<75%			
	cover), and uncut means not grazed or mowed and plants are higher than 6 inches.			
	Dense, ungrazed, herbaceous vegetation $> 90\%$ of wetland area points = 6	•		
	Dense, ungrazed, herbaceous vegetation $> \frac{1}{2}$ of area points $= 3$	6		
	Dense, woody vegetation $> \frac{1}{2}$ of area points = 2			
	Dense, ungrazed, herbaceous vegetation $> \frac{1}{4}$ of area points $= 1$			
	Does not meet any of the criteria above for vegetation $points = 0$			
	Aerial photo or map with vegetation polygons			
S	Total for S 1 Add the points in the boxes above	7		
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)		
	Answer YES if you know or believe there are pollutants in groundwater or surface water			
	coming into the wetland that would otherwise reduce water quality in streams, lakes or			
	groundwater downgradient from the wetland? Note which of the following conditions			
	provide the sources of pollutants A unit may have pollutants coming form several			
	sources, but any single source would qualify as opportunity			
	Grazing in the wetland or within 150 ft			
	Untreated stormwater discharges to wetland			
	Tilled fields or orchards within 150 feet of wetland			
	Residential, urban areas, or golf courses are within 150 ft upslope of wetland			
	☐ Other ☐ YES multiplier is 2 ☐ NO multiplier is 1	2		
C	 ✓ YES multiplier is 2	<u>2</u>		
S	Add score to table on p. 1	14		
	Comments			

S	Slope Wetlands	Points
	HYDROLOGIC FUNCTIONS - Indicators that wetland unit functions to	(only 1 score per box)
	reduce flooding and stream erosion	
S	S 3. Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p. 68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually> 1/8 in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers >90% of area of the wetland. Dense, uncut, rigid vegetation >1/2 area of wetland Dense, uncut, rigid vegetation >1/4 area of wetland Dense, uncut, rigid vegetation >1/4 area of wetland More than 3/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0	3
S	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows: The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0	2
S	Add the points in the boxes above	5
S	S 4. Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? <i>Note which of the following conditions apply</i> . Wetland has surface runoff that drains to a river or stream that has flooding	
	problems Other	multiplier
	Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam.) YES multiplier is 2 NO multiplier is 1	<u>2</u>
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	5

These questions apply to wetlands of all HGM classes			Points
HABITAT FUNCTIONS – Indicators that w	vetland functions to pro	ovide important habitat	(only 1 score per box)
H 1. Does the wetland have the potential t	o provide habitat for	many species?	
H 1.1 Vegetation structure (see p. 72)			Figure
Check the types of vegetation classes present (
¹ / ₄ acre or more than 10% of the area if unit ☐ Aquatic bed	is smaller than 2.5 acres	3.	
Emergent plants			
Scrub/shrub (areas where shrubs have >3	30% cover)		
Forested (areas where trees have >30% of	cover)		
If the unit has a forested class check if:			1
Forested areas have 3 out of 5 strata (can		s, herbaceous, moss/ground-cover)	
that each cover 20% within the forested Add the number of vegetation types that qual			
That the humber of vegetation types that qual	4 types or more	points = 4	
Man of Courardin variation along	3 types	points = 2	
Map of Cowardin vegetation classes	2 types	points = 1	
	1 type	points = 0	
H 1.2 Hydroperiods (see p. 73)	1) (11:41		Figure
Check the types of water regimes (hydroperion cover more than 10% of the wetland or 1/4 act			
Permanently flooded or inundated	4 or more types		
Seasonally flooded or inundated	• 1	s present $points = 2$	
Occasionally flooded or inundated	· -	s present points = 1	
Saturated only			2
Permanently flowing stream or river in,	•		
Seasonally flowing stream or river in, or	r adjacent to, the wetland	1	
☐ Lake-fringe wetland = 2 points ☐ Freshwater tidal wetland = 2 points			
H 1.3 Richness of Plant Species (see p. 75)			
Count the number of plant species in the wetl	land that cover at least 10	0 ft ² . (Different patches of the	
same species can be combined to meet the siz		33 1	
You do not have to name the species.			
Do not include Eurasian Milfoil, reed canar			
If you counted:	•	points = 2	
List species below if you want to:	5 - 19 species <5 species	points = 1 points = 0	
List species below if you want to.	<5 species	points = 0	1
			1

Total for page $\underline{4}$



H 2. Does the wetland have the opportunity to provide habitat for many species?)	
H 2.1 <u>Buffers</u> (see p. 80)	Figure
Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."	_
□ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no grazing, no landscaping, no daily human use) □ 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >50% circumference. □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. □ 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. □ 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water Points = 3 ■ 1 buffer does not meet any of the three criteria above □ No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. □ No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing or lawns are OK □ Heavy grazing in buffer. □ Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference	2
 Vegetated buriers are <2m wide (0.0it) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) □ Buffer does not meet any of the criteria above. Points = 0 Points = 1 Aerial photo showing buffers	
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).	1

Total for page 3_

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see p. 82)	
Whi	ch of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the	
conn	nections do not have to be relatively undisturbed.	
Thes	se are DFW definitions. Check with your local DFW biologist if there are any questions	
	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Old-growth forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming	
	a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81	
	cm (32 in) dbh or > 200 years of age.	
	Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be	
	less that 100%; 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.	
	Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where grasses	
	and/or forbs form the natural climax plant community.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed	
	of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
	associated with cliffs.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
\boxtimes	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage	
	of the oak component of the stand is 25%.	3
\boxtimes	Urban Natural Open Space: A priority species resides within or is adjacent to the open space and	
	uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting	
	other priority habitats, especially those that would otherwise be isolated; and/or the open space is an	
	isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.	
	Estuary/Estuary-like: Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by	
	land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is	
	at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically	
	increased above that of the open ocean by evaporation. Along some low-energy coastlines there is	
	appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-	
	derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both	
	estuaries and lagoons.	
	Marine/Estuarine Shorelines: Shorelines include the intertidal and subtidal zones of beaches, and	
	may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs,	
	snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and	
	that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion	
	control).	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
	Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are	
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile There is at least 1 wetland within ½ mile. There are no wetlands within ½ mile. There are no wetlands within ½ mile.	3
H 2 . TOTAL Score -opportunity for providing habitat <i>Add the scores in the column above</i>	7
TOTAL for H 1 from page 14	9
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	16

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type	Category
Check off any criteria that apply to the wetland. Select the appropriate Category (from	
dropdown menu in Category column) when the appropriate criteria are met.	
SC 1.0 Estuarine wetlands (see p. 86)	
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.	
CC 1.1 In the morth of a side in a National Will 11'S D. S N. C 1 D. 1	Cat. I
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? YES = Category I NO go to SC 1.2	
SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the	
following three conditions? YES = Category I NO = Category II	Cat. I
The wetland is relatively undisturbed (has no diking, ditching, filling,	Cat. II
cultivation, grazing, and has less than 10% cover of non-native plant species. If	
the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of	Dual
the wetland, then the wetland should be given a dual rating (I/II). The area of	rating
Spartina would be rated a Category II while the relatively undisturbed upper	-
marsh with native species would be a Category I. Do not, however, exclude the	I/II
area of Spartina in determining the size threshold of 1 acre.	
At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub,	
forest, or un-grazed or un-mowed grassland.	
The wetland has at least 2 of the following features: tidal channels, depressions	
with open water, or contiguous freshwater wetlands.	

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

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

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership	
or WBUO)?	
\square YES = Go to SC 6.1 \square NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR103 	
 Grayland-Westport- lands west of SR 105 	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre	
or larger?	
\square YES = Category II \square NO go to SC 6.2	
SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Cat.II
between 0.1 and 1 acre,?	
YES = Category III	Cat.III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record	NT/A
on p. 1.	N/A
If you answered NO for all types enter "Not Applicable" on p. 1.	

The wetland has been previously disturbed, therefore, it is not high quality undisturbed wetland. Based on ELS observations on-site, the wetland does not contain state threatened or endangered species.

WETLAND RATING FORM - WESTERN WASHINGTON

Version 2 – Updated July 2006 to increase accuracy and reproducibility among users Name of wetland (if known): Wetland O Date of site visit: Oct. 2013 Rated by A. Aberle Trained by Ecology? Yes X No Date of Training: Oct. 2006 SECTION: 20 TOWNSHIP: 2N_RANGE: 3E Is S/T/R in Appendix D? Yes X No___ Map of wetland unit: Figure __ Estimated size <u>0.02 acres</u> DRAFT SUMMARY OF RATING Category based on FUNCTIONS provided by wetland I II III IV X Score for Water Quality Functions 12 Category I = Score >= 70Category II = Score 51-69 Score for Hydrologic Functions 1 Category III = Score 30-50 Score for Habitat Functions 13 Category IV = Score < 30 **TOTAL Score for functions 26** Category based on SPECIAL CHARACTERISTICS of wetland I II Does not Apply **X** IV Final Category (choose the "highest" category from above)

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Estuarine		Depressional	
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	X
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	X	Check if unit has multiple HGM classes present	

Comments

1

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

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

Check List for Wetlands That Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)? For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. Does the wetland contain individuals of Priority species listed by the WDFW for the state?		X
SP4. Does the wetland have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

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

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

Comments Formal priority and habitat species request has been completed.

Classification of Wetland Units in Western Washington

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

1. Are the water levels in the wetland usually controlled by tides (i.e. except during floods)?
\square NO – go to 2 \square YES – the wetland class is Tidal Fringe
If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – Freshwater Tidal Fringe NO – Saltwater Tidal Fringe (Estuarine)
If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).
 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 wetland meet both of the following criteria? The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) at least 20 acres (8 ha) in size; At least 30% of the open water area is deeper than 6.6 ft (2 m)?
NO – go to 4
 4. Does the wetland meet all of the following criteria? ☐ The wetland is on a slope (slope can be very gradual), ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. ☐ The water leaves the wetland without being impounded? NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks(depressions are usually <3ft diameter and less than 1 foot deep). ☐ NO - go to 5 ☐ YES - The wetland class is Slope
Comments

Wetland name or number: Wetland O

5. Do	bes the entire wetland unit meet all of the following criteria? The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river The overbank flooding occurs at least once every two years. NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
	NO - go to 6 YES – The wetland class is Riverine the wetland in a topographic depression in which water ponds, or is saturated to the surface, at some me of 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
uı	the wetland located in a very flat area with no obvious depression and no overbank flooding. The nit does not pond surface water more than a few inches. The unit seems to be maintained by high coundwater 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 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 your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

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

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

S	Slope Wetlands	Points (only 1 score
	WATER QUALITY FUNCTIONS - Indicators that wetland unit functions to improve water quality	per box)
S	S 1. Does the wetland have the <u>potential</u> to improve water quality?	(see p. 64)
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance)	0
\mathbf{S}	S 1.2 The soil 2 inches below the surface (or duff layer) is clay organic(use NRCS	
	definitions) YES = 3 points NO = 0 points	0
S	S 1.3 Characteristics of the vegetation in the wetland that traps sediments and pollutants:	Figure
	Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface. ($<75\%$ cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, ungrazed, herbaceous vegetation $> 90\%$ of wetland area points = 6 Dense, ungrazed, herbaceous vegetation $> \frac{1}{2}$ of area points = 2 Dense, ungrazed, herbaceous vegetation $> \frac{1}{2}$ of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	6
S	Total for S 1 Add the points in the boxes above	6
S	S 2. Does the wetland have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants A unit may have pollutants coming form several sources, but any single source would qualify as opportunity.</i> Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland	(see p. 67)
	☐ Tilled fields or orchards within 150 feet of wetland ☐ Residential, urban areas, or golf courses are within 150 ft upslope of wetland ☐ Other ☐ YES multiplier is 2 ☐ NO multiplier is 1	multiplier $\underline{2}$
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2	
J	Add score to table on p. 1	12

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

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

Total for page $\underline{1}$

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

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

Total for page 3_

H 2.3	Near or adjacent to other priority habitats listed by WDFW (see p. 82)	
Whi	ch of the following priority habitats are within 330ft (100m) of the wetland? (NOTE: the	
conn	nections do not have to be relatively undisturbed.	
Thes	se are DFW definitions. Check with your local DFW biologist if there are any questions	
\boxtimes	Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both	
	aquatic and terrestrial ecosystems which mutually influence each other.	
	Aspen Stands: Pure or mixed stands of aspen greater than 0.8 ha (2 acres).	
	Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
	Old-growth forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming	
	a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81	
	cm (32 in) dbh or > 200 years of age.	
	Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be	
	less that 100%; 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.	
	Prairies: Relatively undisturbed areas (as indicated by dominance of native plants) where grasses	
	and/or forbs form the natural climax plant community.	
	Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed	
	of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be	
	associated with cliffs.	
	Caves: A naturally occurring cavity, recess, void, or system of interconnected passages	
	Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage	
	of the oak component of the stand is 25%.	3
\boxtimes	Urban Natural Open Space: A priority species resides within or is adjacent to the open space and	
	uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting	
	other priority habitats, especially those that would otherwise be isolated; and/or the open space is an	
	isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.	
	Estuary/Estuary-like: Deepwater tidal habitats and adjacent tidal wetlands, usually semi-enclosed by	
	land but with open, partly obstructed or sporadic access to the open ocean, and in which ocean water is	
	at least occasionally diluted by freshwater runoff from the land. The salinity may be periodically	
	increased above that of the open ocean by evaporation. Along some low-energy coastlines there is	
	appreciable dilution of sea water. Estuarine habitat extends upstream and landward to where ocean-	
	derived salts measure less than 0.5ppt. during the period of average annual low flow. Includes both	
	estuaries and lagoons.	
	Marine/Estuarine Shorelines: Shorelines include the intertidal and subtidal zones of beaches, and	
	may also include the backshore and adjacent components of the terrestrial landscape (e.g., cliffs,	
	snags, mature trees, dunes, meadows) that are important to shoreline associated fish and wildlife and	
	that contribute to shoreline function (e.g., sand/rock/log recruitment, nutrient contribution, erosion	
	control).	
	If wetland has 3 or more priority habitats = 4 points	
	If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points	
	Note: All vegetated wetlands are by definition a priority habitat but are not included in this list.	
	Nearby wetlands are addressed in question H 2.4)	

H 2.4 Wetland Landscape (choose the one description of the landscape around the wetland that best fits) (see p. 84)	
There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 3 There is at least 1 wetland within ½ mile.	3
There are no wetlands within $\frac{1}{2}$ mile. points = 0	
H 2 . TOTAL Score -opportunity for providing habitat <i>Add the scores in the column above</i>	9
TOTAL for H 1 from page 14	4
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	13

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

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

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

SC 4.0 Forested Wetlands (see p. 90)	
Does the wetland have at least 1 acre of forest that meets one of these criteria for the	
Department of Fish and Wildlife's forests as priority habitats? If you answer yes you	
will still <u>need</u> to rate the wetland based on its functions.	
Old-growth forests: (west of Cascade crest) Stands of at least two tree species,	
forming a multi-layered canopy with occasional small openings; with at least 8	
trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter	
at breast height (dbh) of 32 inches (81 cm) or more.	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
☐ Mature forests: (west of the Cascade Crest) Stands where the largest trees are	
80 - 200 years old OR have average diameters (dbh) exceeding 21 inches	
(53cm); crown cover may be less that 100%; decay, decadence, numbers of	
snags, and quantity of large downed material is generally less than that found in	
old-growth.	~ ·
	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
The wetland lies in a depression adjacent to marine waters that is wholly or partially	
separated from marine waters by sandbanks, gravel banks, shingle, or, less	
frequently, rocks	
The lagoon in which the wetland is located contains surface water that is saline or	
brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs	
to be measured near the bottom)	
\square YES = Go to SC 5.1 NO \boxtimes not a wetland in a coastal lagoon	
SC 5.1 Does the wetland meet all of the following three conditions?	
The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation,	
grazing), and has less than 20% cover of invasive plant species (see list of invasive	
species on p. 74). At least ³ / ₄ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or	
un-grazed or un-mowed grassland.	
The wetland is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	

SC 6.0 Interdunal Wetlands (see p. 93)	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership	
or WBUO)?	
\square YES = Go to SC 6.1 \square NO not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula – lands west of SR103 	
 Grayland-Westport- lands west of SR 105 	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre	
or larger?	
\square YES = Category II \square NO go to SC 6.2	
SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is	Cat.II
between 0.1 and 1 acre,?	
\square YES = Category III	Cat.III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record	NT/A
on p. 1.	N/A
If you answered NO for all types enter "Not Applicable" on p. 1.	

The wetland has been previously disturbed, therefore, it is not high quality undisturbed wetland. Based on ELS observations on-site, the wetland does not contain state threatened or endangered species.

Appendix D

Historic Aerial Photos Figure D-1 Wetland G Historic Aerials

