

Wetland and Stream Assessment Report Factoria Recycling and Transfer Station Replacement Project

Final January 2012

This page intentionally left blank.

WETLAND AND STREAM ASSESSMENT REPORT **FACTORIA RECYCLING AND TRANSFER STATION REPLACEMENT PROJECT**

Final January 2012

Prepared by:

HDR Engineering, Inc. 601 Union St., Suite 700 Seattle, WA 98101 (206) 826-4700 www.hdrinc.com

Prepared for:



🚺 King County

Department of Natural Resources and Parks Solid Waste Division King Street Center, Suite 701 201 S. Jackson St. Seattle, WA 98104-3855 206-296-296-4466 TTY Relay: 711 www.kingcounty.gov/solidwaste



This page intentionally left blank.

Table of Contents

ACRON	YMS AND ABBREVIATIONS	III
CHAPTE	R 1: INTRODUCTION	1
1.1	Background	1
	Proposed Facility Improvements	2
1.2	Project Setting	6
CHAPTE	R 2: METHODS	7
2.1	Review of Existing Information	7
2.2	Field Investigation	8
	Wetlands	8
	Streams	11
CHAPTE	R 3: RESULTS	13
3.1	Wetlands within the Project Area	13
	Wetland Functions	17
	Wetlands	
3.2	Streams and Other Drainage Features in the Project Area	24
	Streams	24
	Drainage Features	31
CHAPTE	R 4: PROJECT EFFECTS	35
4.1	Wetlands	35
	Permanent Impacts	35
	Temporary Impacts	
4.2	Wetland Buffers	36
4.3	Streams	41
	Permanent Impacts	41
	Temporary Impacts	41
4.4	Stream Buffers	41
4.5	Drainage Features	41
CHAPTE	R 5: MITIGATION	43
5.1	Mitigation Sequence	43
	Avoidance and Minimization	43
	Compensatory Mitigation	44
	Elements of Mitigation Plan	44

List of Tables

Table 1.	Wetland Rating System for the City of Bellevue	. 10
Table 2.	Summary of the Water Typing System for the City of Bellevue	.12
Table 3.	Wetland Size, Rating, Classification, and Buffer Width for Wetlands in the Project Area	. 14
Table 4.	Summary of Streams in the Project Area	.25
Table 5.	Summary of Ditches in the Project Area	. 31
Table 6.	Summary of Permanent Wetland Impacts in Project Area	.35

List of Figures

Figure 1.	Project Vicinity Map	.3
Figure 2.	Wetlands and Streams in the Project Area	15
Figure 3.	Stream Typing in the Project Area	27
Figure 4.	Wetlands and Stream Impacts	39

List of Appendices

- Appendix A: Wetland Delineation Methodology
- Appendix B: Wetland Data Sheets
- Appendix C: Wetland and Stream Photographs
- Appendix D: Ecology Rating Forms

Acronyms and Abbreviations

BLA	Boundary Line Adjustment
CHRLF	Cedar Hills Regional Landfill
CMP	corrugated metal pipe
DBH	diameter at breast height
Ecology	Washington State Department of Ecology
Factoria RTS	Factoria Recycling and Transfer Station Replacement Project
GPS	global positioning system
HDR	HDR Engineering, Inc.
HGM	hydrogeomorphic
HHW	household hazardous waste
KCSWD	King County Department of Natural Resources and Parks, Solid Waste Division
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOS	Level of Service
LUC	Land Use Code
ОНШМ	Ordinary High Water Mark
PEM	palustrine emergent
PFO	palustrine forested
PSE	Puget Sound Energy
PSS	palustrine, scrub-shrub
RCW	Revised Code of Washington

RPW	Relatively Permanent Water
USACE	U.S. Army Corps of Engineers
USDA NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WRIA	Water Resource Inventory Area

Chapter 1: Introduction

This report presents the methods and findings of wetland and stream delineations for the Factoria Recycling and Transfer Station (Factoria RTS) Replacement Project. It also identifies impacts to wetlands and streams that are expected to result from the project and presents a compensatory mitigation strategy to address those impacts. The report was prepared by HDR Engineering, Inc. (HDR) biologists, and is intended to provide documentation for local, state, and federal permitting activities required for the project.

1.1 Background

The King County Department of Natural Resources and Parks, Solid Waste Division (KCSWD) is conducting the design and engineering for the replacement of the Factoria Transfer Station, a solid waste transfer facility owned and operated by KCSWD. The existing Factoria Transfer Station, located at 13800 Southeast (SE) 32nd Street in Bellevue (see Figure 1), is one of eight King County transfer stations where waste is collected and transferred into large tractor-trailers. Commercial haulers as well as business and residential self-haul customers use the transfer station. The Factoria Transfer Station was constructed in the 1960s and is nearing the end of its useful life. The facility needs to be replaced because the capacity of the existing facility has been exceeded, current roof height is too low for some modern garbage hauler equipment, and it does not meet the level of service (LOS) criteria established by KCSWD for transfer Stations. It is anticipated that the regional landfill that receives waste from the Factoria Transfer Station will continue to accept waste until approximately 2019. After that time, it is expected that waste will be exported to an out-of-county or out-of-state landfill.

Currently, the site is accessed from SE 32nd Street by all customers and the facility transfer haulers. In the future, facility transfer haulers would use a new driveway entrance from SE 30th Street for ingress to and egress from the facility, while all self-haul and commercial customers would continue to use the SE 32nd Street for ingress to and egress from the facility. Thus, the updated Factoria RTS layout would separate the facility transfer hauler traffic trips from the commercial and self-haul vehicles. In addition, the updated Factoria RTS layout would provide separate drives for the commercial and self-haul entrances to the facility. This would limit the commercial and self-hauler vehicle interaction on-site.

The Factoria RTS will be replaced with an improved facility designed to accommodate the growing demands of local and regional population growth. At the same time, operational improvements would be provided for enhanced compaction of solid waste to reduce the number of facility transfer hauler trips to and from the site. The number of facility transfer hauler trips would initially be reduced after the compaction improvements were completed; however, as the tonnage of waste processed increases in the future, the number of transfer hauler trips would slightly increase.

Proposed Facility Improvements

The proposed Factoria RTS (see Figure 1, Project Vicinity Map) would be situated on an approximately 8.7-acres (multiple parcels) constrained by steep topography, wetlands, streams, and a large utility corridor easement occupied by British Petroleum (BP)/Olympic Pipeline and Puget Sound Energy (PSE) distribution lines and PSE overhead power lines. The transfer station operation and household hazardous waste (HHW) collection would be contained within one large building on the site. Southeast 32nd Street dead-ends at the Factoria RTS entrance, where a small scalehouse is located to weigh vehicles upon entering and exiting the site. KCSWD intends to maintain operation of the existing transfer station during construction of its replacement on adjacent property. To help facilitate that goal, King County purchased adjacent property northwest of the site that contains two warehouse buildings (Figure 1). With the incorporation of property assumed through the boundary line adjustment (BLA), the size of the new Factoria RTS site would total approximately 16 acres.





This page intentionally left blank.

Major features considered for the Factoria RTS are also summarized below:

- Transfer station building featuring a flat floor
- Recycling area focused on items not taken curbside
- Future second compactor
- Household Hazardous Waste (HHW) facility
- Single story administration building
- Retaining walls (temporary and permanent)
- Transfer trailer chassis storage yard
- Space on the floor for three days worth of emergency waste storage
- Scalehouse improvements; reuse existing scale plaza and scalehouse facilities (one inbound and one outbound scale) and construct new exterior facade
- Equipment maintenance and storage area
- Fueling facility hot load area
- Utility services (water, storm and sanitary sewer, electrical, standby generator, telephone, fire protection, security, and data systems)
- Perimeter fencing, lighting, and signage
- Separated traffic circulation and access (internal road network, SE 32nd Street, SE 30th Street)
- Vehicle parking (visitor, administration building, helper, staff)
- Sustainable design features (Leadership in Energy and Environmental Design [LEED], Salmon-Safe, and Low Impact Development [LID])
- Natural resources mitigation (unavoidable impacts to critical areas would be mitigated as required by federal, state, and local requirements)

The new transfer building would be centrally located on the site. The recycling area and HHW building would be on the east side of the transfer building; the customer entrance, scale plaza, and access roads would be to the south; and the container chassis storage yard would be in the northwest corner. The administrative building would be on the south side of the transfer

building. The wetland and stream located in the northeast corner of the site will be preserved and enhanced as part of the project.

1.2 Project Setting

The transfer station is located within the City of Bellevue, Washington in Section 10, Township 24 North, and Range 5 East. The existing facility is located in the light industrial area between SE 30th Street and SE 32nd Street.

The project site is centered at latitude 47° 34' 54.54" North and longitude 122° 9' 34.79" West. Topography of the site generally slopes down from southeast to northwest. Surface elevation in the project area ranges from 65 feet to 206 feet above mean sea level (King County 2010).

Chapter 2: Methods

Wetlands and streams were identified through a two-step process. HDR biologists first reviewed existing documents, including soil surveys, wetland and stream inventories, aerial photographs, and other reports that concern wetlands and streams in the project vicinity. After this review, HDR biologists completed a thorough field investigation of the project area. The field review included verification of some of the findings derived by earlier studies and modification of the earlier studies to confirm existing conditions as well as delineation and classification of new streams and wetlands.

Wetlands and streams outside the project area were not formally delineated; these areas were assessed based on characteristics visible from public rights-of-way and on information obtained from existing documents and studies, maps, and aerial photographs.

2.1 Review of Existing Information

Existing documents reviewed for this wetland and stream study included the following:

- Soil Survey of King County Area (Snyder et al. 1973)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory Web site (USFWS 2010)
- City of Bellevue Sensitive Areas Notebook (City of Bellevue 1987)
- Bellevue Critical Areas Updated Wetland Inventory (City of Bellevue 2003b)
- Bellevue Critical Areas Updated Stream Inventory (City of Bellevue 2003a)
- Washington State Department of Fish and Wildlife (WDFW) Priority Habitat and Species List (WDFW 2010a)
- WDFW (2010b) SalmonScape Web site
- Washington State Department of Natural Resources (WDNR) Natural Heritage Information Request Self-Service System (WDNR 2010)
- A Catalog of Washington Streams and Salmon Utilization, Volume 1, Puget Sound (Williams et al. 1975)
- King County Factoria Transfer Station Wetland Delineation Report (Jones and Stokes 1991)

- Factoria Transfer/Recycling Station: Draft Environmental Impact Statement (City of Bellevue 1993)
- Stream Study of an Unnamed Tributary of East Creek at 13440 S.E. 30th Street Bellevue, WA 98005 (J.S. Jones and Associates 2005)
- Wetland Assessment of the H.D. Fowler Site (J.S. Jones and Associates 2004)
- A&M Auto East Creek Tributary Rehabilitation Project Critical Areas Report (David Evans and Associates 2008)
- Report of Wetland Delineation and Assessment, and Restoration Plan for Repair of milepost 101.8 Erosion Feature: Olympic Pipe Line Company (GeoEngineers 2001)
- Draft Factoria Transfer Station Wetland and Stream Delineation Report (Herrera Environmental Consultants 2007)
- Stormwater/Utility As-built documentation
- Aerial photography of the project area (King County 1934 and 2009)
- Site topographic survey (King County 2010)

These documents provide background information on the soils, hydrology, land use, and wetlands and streams in the project area.

2.2 Field Investigation

Field investigation consisted of an initial field reconnaissance followed by more detailed verification/delineation of wetlands and streams in the project area. HDR biologists conducted the field investigation on January 22, February 5, March 5, and March 23, 2010. Multiple site visits were also conducted between January and July 2011.

Wetlands

For some of the wetlands, HDR biologists field-verified wetland boundaries previously flagged and delineated by Herrera Environmental Consultants (2007). HDR biologists evaluated these boundaries using survey data from the previous delineation; these data were downloaded onto a hand-held, differentially-corrected global positioning system (GPS) device (a Trimble Geo XT 2005). This device is capable of being located within one-meter accuracy of the actual location, so finding previous flags was feasible using this device. HDR biologists used the GPS device to navigate to flag locations along the boundary of each identified wetland and in most locations, the actual plastic flagging was observed. HDR biologists then determined whether this surveyed boundary accurately reflected current field conditions, and if the previous work would satisfy current delineation requirements. Formal data plots were collected in each previously identified wetlands to reflect current field conditions, and photographs were taken of the wetlands.

HDR biologists marked newly delineated wetlands in the field with sequentially-numbered plastic flagging tape and recorded boundaries and wetland data plot locations with the Geo XT GPS device. These new boundaries were later surveyed by professional surveyors in December 2010. The resulting data were incorporated into project base maps. HDR biologists delineated newly identified wetlands using the three parameter methods described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), as updated by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (Western Mountains, Valleys and Coast Region (USACE 2010). A detailed description of the field methods used in this study is provided in Appendix A. Wetland boundaries outside the project area were approximated using aerial photographs and professional judgment based on the field reconnaissance.

The City of Bellevue requires that wetlands be rated using the state wetland rating system as described in *Washington State Wetland Rating System for Western Washington – Revised*, Washington State Department of Ecology (Ecology) Publication # 04-06-025 (Hruby 2004). Using this system, wetlands were rated in the field by using the Wetlands Rating Field Data Form provided with the rating system manual (Appendix D). Table 1 lists the rating criteria for the City of Bellevue. A detailed analysis of wetland functions is not included in this report; however, a brief description of wetland functions is provided in the general description for each wetland.

Regulatory		Category		
Agency		=	=	IV
Washington State Department of Ecology ^a	 Category I wetlands: Represent a unique or rare wetland type; or Are more sensitive to disturbance than most wetlands; or Are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or Provide a high level of functions. Specific wetlands that meet the Category I criteria include: 1. Relatively undisturbed estuarine wetlands over one acre in size; or Nettands identified by the Washington Nettands identified by the Washington Natural Heritage Program/NDNR as high quality relatively undisturbed wetlands; and Wetlands that support state-listed threatened or endangered plants; 3. Bogs; 4. Mature and old-growth forested wetlands over one acre in size; 5. Wetlands in coastal lagoons; and 6. Wetlands that perform many functions very well, as indicated by a score of 70 or more points out of 100 on the wetland rating form. 	Category II wetlands are difficult, though not impossible, to replace, and provide high levels of some functions. Specific wetlands that meet the Category II criteria include: 1. Estuarine wetlands less than one acre in size, or disturbed estuarine wetlands larger than one acre; 2. Interdunal wetlands greater than one acre; and 3. Wetlands scoring between 51 and 69 points out of 100 on the wetland rating form.	Category III wetlands provide a moderate level of functions. Specific wetlands that meet the Category III criteria include: 1. Wetlands scoring between 30 and 50 points out of 100 on the wetland rating form; and 2. Interdunal wetlands between 0.1 acre and 1.0 acre in size.	Category IV wetlands have the lowest levels of functions and are heavily disturbed. Specific wetlands that meet the Category IV criteria include: 1. Wetlands scoring less than 30 points out of 100 on the wetland rating form.
City of Bellevue ^b	Category I wetlands: 1. Represent a unique or rare wetland type; or 2. Are more sensitive to disturbance than most wetlands; or 3. Are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4. Provide a high level of functions.	Category II wetlands: 1. Wetlands scoring between 51-69 points (out of 100) on the questions related to the functions.	Category III wetlands: 1. Wetlands with a moderate level of functions (scores between 30 -50 points).	Category IV wetlands: 1. Wetlands larger than 2,500 square feet. 2. Wetlands with a low level of functions (scores less than 30 points) and are often heavily disturbed.

Table 1. Wetland Rating System for the City of Bellevue

^a Hruby (2004) ^b Bellevue Land Use Code (LUC 20.25H.095.B)

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

10

Streams

The City of Bellevue defines a stream as an aquatic area where surface water produces a channel, not including a wholly artificial channel, unless the artificial channel is:

- 1. Used by salmonids; or
- 2. Used to convey a stream that occurred naturally before construction of the artificial channel (LUC 20.25H.075).

Similar to the procedure used for wetland boundaries, HDR biologists field-verified stream boundaries previously flagged and delineated by Herrera Environmental (2007). HDR biologists evaluated these boundaries using survey data from the previous delineation; these data were downloaded onto the Trimble Geo XT 2005 GPS device. HDR biologists then determined whether flagging was still in place and whether this surveyed boundary accurately reflected current field conditions and satisfied current delineation requirements.

In July 2011, HDR biologists also visually assessed the drainage features in the project area to determine if they would meet the definitions of a stream described in the City of Bellevue Land Use Code (LUC). The basic characteristics of the channels and surface water present were recorded with respect to fish habitat, which included the size of the channel, general riparian vegetation, and type of substrate. The wetted and bankfull width and water depth were recorded at sites along stream 0263 where the ordinary high water mark (OHWM) was delineated. Ditch A was visually assessed along its length within the project area, and the width and depth were measured in two locations. Photographs were also taken and are presented in Appendix C.

Streams identified in the project area were classified according to the stream definitions and typing systems detailed in LUC 20.25H.075. Stream classifications within the City of Bellevue are based on the state's stream typing system (WAC 222-16-030) with some minor differences. Criteria for this typing system are described in Table 2. Buffer widths were assigned to streams based on their classification. Buffer widths for the project area were based on the river reach designation presented in LUC 20.25H.075.C. Fish presence was determined through the review of previous studies, interviews with the City of Bellevue staff, an assessment of the available habitat, and the hydrologic condition of all identified surface waters.

Table 2.	Summary of the	Water Typing System	for the City of Bellevue
----------	----------------	---------------------	--------------------------

Stream Type	Definition ^a			
S	All waters, other than shoreline critical areas designated under LUC 20.25E.017, within their bankfull width, as inventoried as "shorelines of the state" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW including periodically inundated areas of their associated wetlands.			
F	All segments of waters that are not Type S waters and that contain fish or fish habitat, including waters diverted for use by a federal, state, or tribal fish hatchery from the point of diversion for 1,500 feet or the entire tributary if the tributary is highly significant for protection of downstream water quality.			
N	All segments of waters that are not Type S or Type F waters and that are physically connected to a Type S or F waters by an above ground channel system, stream or wetland.			
0	All segments of waters that are not Type S, F, or N waters and that are not physically connected to Type S, F, or N waters by an above ground channel system, stream, or wetland.			

^a Definitions are summarized from Bellevue Land Use Code 20.25H.075B and WAC 222-16-030.

The Washington State Department of Natural Resources (DNR) does not include a Type O and further divides the Type N streams into two sub-categories, Np and Ns. Type Np (Non-Fish Perennial) refers to streams that have flow year round, but do not meat the criteria of a fish bearing or Type F stream. Type Ns (Non-Fish Seasonal) refers to streams that are non fish bearing and do not have flow during at least some part of the year.

Chapter 3: Results

Presence of wetlands and streams in the study area have been identified and classified based on the methods described in the previous chapter. Our findings on streams and wetlands were submitted to U.S. Army Corps of Engineers (USACE) on June 7, 2010 for a jurisdictional determination. On September 15, 2010, USACE issued a preliminary jurisdictional determination indicating that all streams and wetlands that have been identified on the project site have been delineated correctly and that these resources fall under USACE jurisdiction under the Clean Water Act. This determination also includes two of the ditches identified in the project area. Descriptions of wetlands, streams, and other drainage features are included in the following section.

3.1 Wetlands within the Project Area

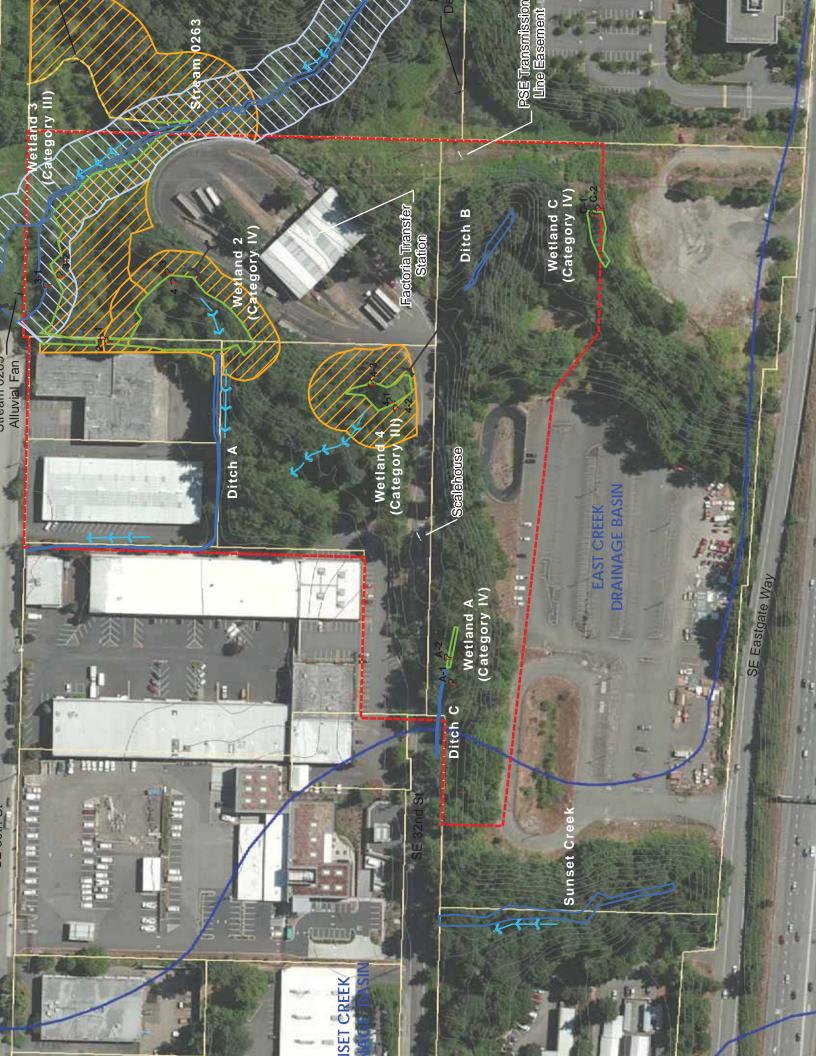
HDR biologists verified the extent and location of four previously-identified wetlands in the project area and delineated one additional wetland. Wetlands were distinguished from adjoining uplands by the presence of indicators for wetland hydrology, hydric soils, and hydrophytic vegetation. Wetland delineation data sheets are provided in Appendix B, and photographs are provided in Appendix C.

While flags were missing in some locations, HDR biologists found a sufficient number of flags to determine the accuracy of the previous delineation. The previous delineation appears to be correct for most of the previously delineated wetlands, with regard to the location and extent of wetland boundaries. The locations of wetlands, streams, and data plots are shown in Figure 2. Table 3 summarizes the size, rating, and classification of wetlands found in the project area.

Wetland Name	Delineated Area (overall wetland size) ^a	Hydrogeomorphic (HGM) Classification	Cowardin Classification ^c	Score for Water Quality	Score for Hydrologic Functions	Score for Habitat Functions	Total Score for Functions	Wetland Rating City of Bellevue ^b	Buffer Width ^b
2	0.38 acre	Slope	OJd/SSd	4	9	15	25	2	40
3	0.96 acre (1.8 acre)	Slope	PEM/PSS/PFO	6	16	23	45	Ш	110
4	0.06 acre	Slope	SSd	14	8	10	32	Ш	60
А	0.01 acre	Depressional	SSd	9	2	9	17	2	P/N/a d
С	0.04 acre	Depressional	PFO	10	7	6	26	1/	⊳ N/A d

Table 3. Wetland Size, Rating, Classification, and Buffer Width for Wetlands in the Project Area

^a Overall wetland size is the total area of wetland delineated or estimated based on aerial photograph interpretation and field reconnaissance. Area of delineated portions of the wetlands is based on the survey data. ^b Wetland ratings and buffer widths are based on City of Bellevue LUC 20.25H.095. ^c Cowardin et al. (1979). All wetlands are palustrine. PSS = palustrine, scrub-shrub; PFO = palustrine forested; PEM = palustrine emergent. ^d The City of Bellevue does not require buffer for Category IV wetlands less than 2,500 square feet (Bellevue LUC 20.25H.095C).



This page intentionally left blank.

Wetland Functions

Using Ecology's Wetland Rating form for Western Washington, scores were calculated for each of three types of services that wetlands generally provide: water quality improvement functions, hydrologic support functions, and wetland-dependent habitat functions.

Wetlands in the project area are slope or depressional wetlands that are fed by groundwater discharge, subsurface interflow, and surface flow from off-site areas. Wetlands evaluated with the project area received low to moderate scores for water quality, hydrologic, and habitat functions. This is reflected in the overall ratings of these wetlands, nearly all of which are Category III to Category IV. None of the wetlands on-site met the criteria for wetlands needing special protection (Hruby 2004). Details regarding the individual wetlands are provided in Section 3.2, and general functions that existing wetlands provide are divided by their hydrogeomorphic classification and discussed in the following paragraphs.

Slope

Three wetlands were identified as slope wetlands in the project area. Slope wetlands in the project area are associated with hillsides and stream valley walls, and they generally provide water quality and hydrologic function at relatively low levels (scores less than 20 points in these categories) due to the vegetation types and topographic structure of the slope wetlands. All slope wetlands in the project area have low potential to provide floodwater detention and water quality improvement even though they occur within a landscape with multiple pollution generating sources. These nonpoint sources from surround areas provide opportunities for the wetlands to perform these functions.

The low to moderate habitat scores of slope wetlands in the project area reflect the limited habitat features and the poorly-developed vegetation strata, as well as low to moderate interspersion between vegetation communities within the wetlands. Wetland 3 scored higher than the other two slope wetlands because of its size, higher diverse structural conditions (alder snags), and its association with Stream 0263, as well as its landscape position in terms of its proximity to other wetlands and habitat types.

Depressional

Depressional wetlands in the project area are formed in topographic depressions where water accumulates. Two depressional wetlands were identified in the project area, and they are both small, highly disturbed, and perform water quality, hydrologic, and habitat functions at low levels.

No outlets were found in Wetland C, whereas Wetland A discharges via a culvert at the east end of the wetland. Both wetlands areas have low potential to provide water quality and hydrologic functions due to their size, landscape positions, and physical characteristics. These functions include denitrification, trapping of sediments, and floodwater detention. The presence of surrounding pollutant sources provides opportunity for Wetland A to perform water quality functions, but there are no opportunities present for Wetland C.

Depressional wetlands in the project area also provide low habitat functions due to limited habitat features and vegetation strata, low species diversity, and low interspersion between vegetation communities within the wetlands. These wetlands have limited opportunity to provide wildlife habitat support because they are not well connected to other habitat types.

Wetlands

Wetland 2 Palustrine scrub-shrub/forested Category IV 0.38 acre in project area/0.38 acre overall

Description

Wetland 2 is a slope wetland located on a moderate to steep slope northwest of the existing transfer station (Figure 2). Wetland 2 is down slope from a paved driveway (SE 32nd Street) to the west, and is approximately 120 feet wide and 200 feet long.

Vegetation

Wetland 2 is comprised of palustrine scrub-shrub and forested broad-leaved deciduous habitat types (Cowardin et al. 1979). The forest community in Wetland 2 includes black cottonwood and red alder with an understory of salmonberry, Himalayan blackberry, vine maple (*Acer circinatum*), Pacific willow (*Salix lasiandra*), English ivy (*Hedera helix*), and trailing blackberry (*Rubus ursinus*). The scrub-shrub community in Wetland 2 is dominated by salmonberry, Himalayan blackberry, and reed canarygrass (*Phalaris arundinacea*). The presence of these species meets the wetland vegetation criteria.

<u>Soils</u>

Soils in Wetland 2 are mapped as Urban Land (Snyder et al. 1973). The typical soil profile observed within 18 inches of the soil surface consists of dark gray (10YR 4/1) loam or sandy loam over at least 13 inches of olive gray (5Y 4/2) sandy loam or gray to dark gray (10YR 4/1 to 10YR 5/1) gravelly sandy loam with redoximorphic features. The soils in Wetland 2 meet the hydric soil indicators for Depleted Matrix.

<u>Hydrology</u>

No primary hydrology indicators were observed at the data plots during the site visit, but waterstained leaves and drainage patterns indicate that wetland hydrology is present at the sample plot locations. Surface flow was observed throughout the wetland. Two main drainages in the wetland are formed on the hillside. Stream 0263 flows northwest out of the project area and eventually joins East Creek. The other drainages flow west and discharge into Ditch A and a stormwater catch basin near the southeast corner of the warehouse building. A culvert is located approximately 40 feet southeast of Data Plot SP-3; the culvert appears to convey runoff from the existing transfer station. At the culvert location, a very low flow of water was observed flowing down the hillside and disappearing into the ground. No distinct drainage channel is present in this area. Based on the biologists' observations, runoff from the transfer station and seeps from the hillside appear to be the primary sources of wetland hydrology for Wetland 2.

Wetland Rating and Buffer Width

Wetland 2 is rated as Category IV in the Ecology's rating system (see Table 1), with a low score for water quality function (4/24 points), a low score for hydrologic function (6/16 points), and a moderate score for habitat function (15/36 points). Wetland 2 has low potential to provide water quality functions and hydrologic functions because Wetland 2 has limited potential to trap sediments and pollutants due to its steeply-sloped configuration and lack of dense vegetation. Surrounding urban land use provides opportunity for Wetland 2 to perform water quality functions and hydrologic functions. Wetland 2 also has some potential and opportunity to provide habitat functions because it has some habitat diversity and has connectivity to other habitat types. Category IV wetlands that are over 2,500 square feet in the City of Bellevue require 40-foot buffers.

Buffer Conditions

The vegetated buffer of Wetland 2 is mainly comprised of sword fern, English ivy, reed canarygrass, Himalayan blackberry, and salmonberry with some black cottonwood, red alder, and big-leaf maple (*Acer macrophyllum*) trees. Buffer soils consist of dark gray (10YR 4/1) gravelly sandy loam over at least 13 inches of dark grayish brown (2.5Y 4/2) gravelly sandy loam. No redoximorphic features were observed in the soil profile. There were no primary or secondary indicators of wetland hydrology.

Wetland 3

Palustrine emergent/scrub-shrub/forested Category III 0.96 acre in project area/1.8 acres overall

Description

Wetland 3 is a slope wetland located at the north end of the project area and east of SE 30th Street. Wetland 3 continues to extend north outside the project area and is likely to extend up to the PSE facility and its private driveway located at the east end of SE 30th Street. The PSE transmission line easement is located east of the project area, running north-to-south, and two underground fuel pipelines owned by the Olympic Pipeline Company cross Wetland 3 within the easement. Stream 0263 also runs through Wetland 3.

Vegetation

Wetland 3 is comprised of palustrine emergent persistent, scrub-shrub, and forested broadleaved deciduous habitat types (Cowardin et al. 1979). The forest community in Wetland 3 is located at the southern and eastern ends of the wetland boundary, and it is comprised of red alder, vine maple, salmonberry, piggy-back plant (*Tolmiea menziesii*), and reed canarygrass. Himalayan blackberry, wax currant (*Ribes divaricatum*), trailing blackberry, false lily-of-the-valley (*Maianthemum dilatatum*), lady fern (*Athyrium filix-femina*), skunk cabbage (*Lysichiton americanum*), and giant horsetail are also present in smaller quantities. The scrub-shrub community in Wetland 3 is primarily located along Stream 0263 and the PSE driveway at the end of SE 30th Street. Dominant vegetation in the scrub-shrub community includes Pacific willow (*Salix lasiandra*), Himalayan blackberry, and reed canarygrass. However, some willows that were located within the PSE transmission line easement had been recently cleared. The emergent community in Wetland 3 is primarily located within the PSE transmission line easement and is comprised of reed canarygrass, soft rush (*Juncus effusus*), common cattail (*Typha latifolia*), and small-fruited bulrush (*Scirpus microcarpus*). The presence of these species meets the wetland vegetation criteria.

<u>Soils</u>

Soils in Wetland 3 are mapped as Urban Land and Everett gravelly sandy loams (Snyder et al. 1973). Soils in Wetland 3 consist of at least 11 inches of very dark gray (10YR 3/1) sandy loam over at least 7 inches of dark grayish brown (2.5Y 4/2) gravelly sandy loam. No redoximorphic features were observed in the soil profile. Sulfidic odor was present within 11 inches of the soil profile; therefore, soils in Wetland 3 meet the hydric soil indicators for hydrogen sulfide.

<u>Hydrology</u>

Primary indicators of hydrology include surface water present near the sample plot location, saturated soils present at the surface, and free water at 9 inches below the surface. Seeps from the hillside appear to be the primary source of wetland hydrology for Wetland 3.

Wetland Rating and Buffer Width

Wetland 3 is rated as a Category III wetland in the Ecology rating system, with a low score for water quality (6/24 points), a high score for hydrologic function (16/16 points), and a moderate score for habitat function (23/36 points). Wetland 3 has low potential to provide water quality functions and hydrologic functions due to its limited potential to trap sediments and pollutants. Surrounding urban land use provides opportunity for Wetland 3 to perform water quality functions and hydrologic functions. Wetland 3 also provides high habitat functions because it has moderate habitat diversity and interspersion, and because of its connection to other habitat types located nearby. In the City of Bellevue, Category III wetlands with 20 to 28 habitat points require 110-foot buffers.

Buffer Conditions

The vegetated buffer of Wetland 3 is comprised of beaked hazelnut (*Corylus cornuta*), vine maple (*Acer circinatum*), Pacific breeding heart (*Dicentra formosa*), and sword fern. Buffer soils consist of very dark gray (10YR 3/1) loam over at least 7 inches of very dark grayish brown (10YR 3/2) gravelly sandy loam with no redoximorphic features. There were no primary or secondary indicators of wetland hydrology.

Wetland 4

Palustrine scrub-shrub Category III 0.06 acre in project area/0.06 acre overall

Description

Wetland 4 is a slope wetland located immediately north of SE 32nd Street and west of the existing transfer station (Figure 2). It is located on a gently-sloped hillside that slopes down from a paved driveway (SE 32nd Street) to the north. A concrete foundation and an abandoned house are located adjacent to Wetland 4. Wetland 4 is approximately 40 feet wide and 100 feet long.

Vegetation

Wetland 4 is a palustrine scrub-shrub wetland (Cowardin et al. 1979) and is primarily dominated by English ivy (*Hedera helixa*). The other species observed in Wetland 4 include salmonberry, vine maple, Himalayan blackberry, ornamental viburnum (*Vivurnum spp.*), giant horsetail, and lady fern. English ivy appears to be rooted outside of the wetland; however it has successfully established throughout the wetland and acts as an aggressive invasive plant by dominating the ground and preventing other plants to grow. Based on the local topography and the presence of hydric soil and wetland hydrology, the vegetation community still meets the wetland vegetation criteria for the problematic hydrophytic vegetation, particularly under the aggressive invasive plants criteria. (USACE 2010).

<u>Soils</u>

The observed soils in Wetland 4 generally consist of 10 inches of dark reddish gray (2.5YR 4/1) fine sandy loam over at least 8 inches of greenish gray (10G 6/1) fine sandy loam or at least 30 inches of gray (5Y 5/1) sandy loam with redoximorphic features. The soils in Wetland 4 meet the hydric soil indicators for Loamy Gleyed Matrix or Depleted Matrix.

<u>Hydrology</u>

Primary indicators of hydrology include surface water present near the sample plot location, saturated soils, and free water present at the surface. A buried culvert is located at the northeast corner of Wetland 4; however, no water was observed at either end of the culvert during the field investigation. Seeps from the hillside along SE 32nd Street and surface water

runoff from the surrounding pavements appear to be the primary sources of hydrology for Wetland 4. Surface water from Wetland 4 drains northwest along a shallow swale approximately 70 feet before infiltrating into the ground.

Wetland Rating and Buffer Width

Wetland 4 is rated as a Category III wetland in the Ecology rating system, with moderate scores for water quality (14/24 points) and hydrologic functions (8/16 points), and a low score for habitat function (10/36 points). Wetland 4 has some potential to provide water quality functions and hydrologic functions because it can trap sediments and pollutants due to its topography and dense vegetation. Surrounding urban land use also provides opportunity for Wetland 4 to perform a water quality function, but Wetland 4 does not provide opportunities for hydrologic functions because there are no surface water connections to drainage ways. Wetland 4 has limited habitat functions due to low habitat diversity and interspersion, and limited connection to other habitat types nearby. The City of Bellevue requires a 60-foot-wide buffer for Category III wetlands that receive less than 20 habitat points.

Buffer Conditions

The vegetated buffer of Wetland 4 is comprised of big-leaf maple, rose (*Rosa* spp.), snowberry, Himalayan blackberry, and English ivy. The upper horizon of buffer soils is very dark grayish brown (10YR 3/2) gravelly sandy loam over a mixture of dark grayish brown (10YR 3/2) and brown (10YR 4/3) gravelly sandy loam with no redoximorphic features. There were no primary or secondary indicators of wetland hydrology.

Wetland A

Palustrine scrub-shrub Category IV 0.01 acre in project area/0.01 acre overall

Description

Wetland A is a depressional wetland located south of SE 32nd Street, approximately 150 feet southwest of the existing scalehouse (Figure 2). Wetland A is a linear feature approximately 5 feet wide and 70 feet long located in a topographic depression. A 12-inch-diameter corrugated metal pipe (CMP) culvert is situated at the east end of the wetland and appears to drain water from Wetland A to an underground stormwater conveyance system.

Vegetation

Wetland A is a palustrine scrub-shrub wetland that is dominated by Himalayan blackberry and English ivy. Plant communities observed in Wetland A are considered problematic because the area lacks hydrophytic vegetation and is dominated by invasive species. These plant communities have successfully established throughout the area and act as aggressive invasive plants (USACE 2010); however, based on the observation of nearby wetlands with similar topographic settings and the growth habit of Himalayan blackberry and English ivy in nearby

wetlands, presence of hydrophytic vegetation was assumed in Wetland A if invasive species were not prevalent.

<u>Soils</u>

Soils in Wetland A are mapped as Urban Land (Snyder et al. 1973). The observed soils in Wetland A consist of 8 inches of very dark gray (2.5Y 3/1) sandy loam over at least 7 inches of dark gray (2.5Y 4/1) sandy loam with redoximorphic features. The soils in Wetland A meet the hydric soil indicators for Depleted Matrix.

<u>Hydrology</u>

Primary indicators of hydrology include free water present at 7 inches below the surface and saturated soils at 11 inches below the surface. No surface water was observed at the sample plot location or at the culvert. Runoff from SE 32nd Street, slopes to the south, and direct precipitation appear to be the primary sources of hydrology for Wetland A.

Wetland Rating and Buffer Width

Wetland A is rated as a Category IV wetland in the Ecology rating system, with low scores for water quality (6/32 points), hydrologic (5/32 points), and habitat (6/36 points) functions. Wetland A has low potential to provide water quality and hydrologic functions due to its limited potential to trap sediments and pollutants. Surrounding urban land use also provides opportunity for Wetland A to perform some water quality functions, but Wetland A does not provide opportunities for hydrologic functions because there are no surface water connections to drainage ways. Wetland A has limited habitat functions due to low habitat diversity and interspersion, and limited connection to other habitat types located nearby. The City of Bellevue does not require buffers for Category IV wetlands that are smaller than 2,500 square feet.

Wetland C Palustrine forested Category IV 0.04 acre in project area/0.04 acre overall

Description

Wetland C is a depressional wetland located approximately 80 feet west of the PSE transmission line easement and at the southern limit of the project area. It is approximately 20 feet wide and 90 feet long in a topographic depression located between an abandoned logging road and a hill slope. No outlets or surface water inflows were observed in Wetland C during the field investigation.

Vegetation

Wetland C is a palustrine forested wetland (Cowardin et al. 1979). Vegetation in Wetland C mainly consists of red alder, black cottonwood, Himalayan blackberry, and soft rush. Japanese

knotweed (*Polygonus cuspidatum*), bentgrass (*Agrostis spp.*), giant horsetail, and fringed willowherb (*Epilobium ciliatum*) are also present in smaller quantities. The presence of these species meets the wetland vegetation criteria.

<u>Soils</u>

Soils in Wetland C are mapped as Pits and Everett gravelly sandy loam (Snyder et al. 1973). The observed soils in Wetland C consist of 12 inches of greenish gray (5GY 5/1) silty clay loam over at least 6 inches of greenish gray to grayish brown (5GY 5/1 to 2.5Y 5/2) silty clay loam. Redoximorphic features were observed throughout the soil profile. The soils in Wetland C meet the hydric soil indicators for Loamy Gleyed Matrix.

<u>Hydrology</u>

Primary indicators of hydrology include surface water present near the sample plot location, saturated soils present at the surface, and free water at 8 inches below the surface. Primary sources of hydrology for Wetland C appear to be runoff from the abandoned logging road and from the gravel pad immediately upslope of the wetland, and direct precipitation.

Wetland Rating and Buffer Width

Wetland C is rated as a Category IV wetland in the Ecology rating system, with low scores for water quality (10/32 points), hydrologic (7/32 points), and habitat (9/36 points) functions. Wetland C has some potential to provide water quality and hydrologic functions because it can trap sediments and pollutants. A gravel pad located upslope of the wetland is not currently used, and no other pollutant sources were observed near Wetland C; therefore, Wetland C does not provide opportunities for water quality functions. Furthermore, Wetland C does not provide opportunities for hydrologic functions because there are no surface water connections to drainage ways. Wetland C has limited habitat functions due to low habitat diversity and interspersion, and limited connection to other habitat types nearby. The City of Bellevue does not require buffers for Category IV wetlands that are smaller than 2,500 square feet.

3.2 Streams and Other Drainage Features in the Project Area

Streams

The project area is located in the Mercer Slough/Kelsey Creek basin of the Cedar–Sammamish Watershed (Water Resource Inventory Area [WRIA] 8). The Kelsey Creek basin consists of 9 drainage basins with more than 19 miles of streams, encompassing 10,870 acres (Kerwin 2001) and is located north of I-90. The project site is located within the East Creek drainage basin. In general, the East Creek drainage basin is characterized as a highly urbanized watershed with a high level of impervious surface area. Due to increase in impervious surface area associated with development in the basin, stream hydrology of East Creek has been altered by changes in peak flows, down-cutting, and scouring that result from the change in flow and dissociation of the stream from functioning floodplain areas.

East Creek is a tributary to Richards Creek, and contains coho salmon in its lower reaches and cutthroat trout throughout the basin (City of Bellevue 2003a). Cutthroat trout were observed in the creek just west of the project area during surveys conducted by the Watershed Company in 2001 (Watershed Company 2009). Channel modifications by culverts or other passage barriers and fine sediments are considered limiting factors for salmonid production in this basin (City of Bellevue 2003a).

Stream 0263, a tributary to East Creek, is the only stream located within the project area. This stream conveys water past the project site then through a culvert under the PSE access road at the east end of 30th street and then into East Creek. Table 4 summarizes the size, rating, and classification of Stream 0263 in the project area, and Figure 3 shows the location of Stream 0263. Photographs of this stream are provided in Appendix C. Within the project area, the upstream portion of Stream 0263 from the PSE access road is mapped by the City of Bellevue (Watershed Company 2009) as a Type N (non fish bearing) stream. The City of Bellevue requires a 50-foot-wide buffer for a Type N stream. Downstream of the project area below a culvert under the PSE access road (Figure 3) the stream is classified as Type F due to the presence of juvenile cutthroat trout found here (Watershed Company 2009).

Stream Name	Tributary to	Stream Type ^a	Buffer Width ^a	USACE Jurisdiction ^b	Average Width in Project Area (ft) ^c	Approximate Length in Project Area (ft) ^c
Stream 0263	East Creek	Ν	50	RPW	3	280

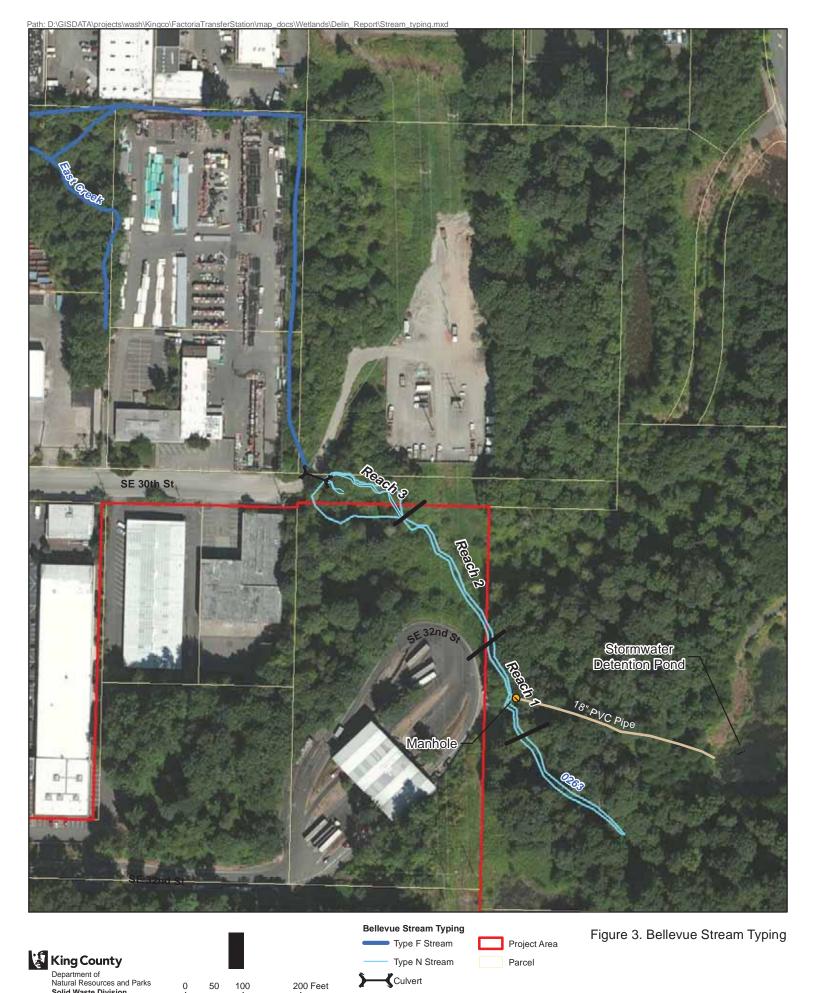
Table 4. Summary of Streams in the Project Area

^a Bellevue Land Use Code 20.25H.075

^b RPW = Relatively Permanent Water

^cAverage width and approximate length were determined based on existing survey data and field observations. The width reflects the channelized portion only.

This page intentionally left blank.



Culvert 200 Feet 50 100 18-inch PVC Pipe

Solid Waste Division

Factoria Recycling and Transfer Station Replacement Project | Bellevue, Washington

This page intentionally left blank.

Stream 0263

Stream 0263 is located in the East Creek drainage basin of the Mercer Slough/Kelsey Creek basin. The size of the East Creek drainage basin is approximately 462 acres with an approximately 8,900 feet of an open channel. This drainage basin is primarily developed by mixed residential, commercial, and industrial uses, resulting in 48 percent for total impervious surface area (City of Bellevue 2003a). The project is located in the southwestern portion of the East Creek drainage basin. According to the City of Bellevue's East Creek sub-basin map (City of Bellevue 2002a); Stream 0263 originates at an outfall structure west of 139th Avenue SE, approximately 600 feet east of the existing facility. It flows northwesterly for approximately 300 feet through the northeast corner of the project area, crossing the PSE transmission line easement (Figure 3).

The riparian and channel characteristics of stream 0263 within the project area can be divided into three general reaches (Figure 3). The main demarcation between them is the transmission line corridor. Upstream of this corridor the stream is channelized through a forested riparian corridor. Under the transmissions lines, the stream flows down a series of stepped small pools and short runs. Downstream of the transmission line corridor, the stream fans out into numerous, very shallow channels that weave through heavy shrub and grass cover down a slope.

In the upstream reach to the east of the facility, the stream flows through deciduous forest cover before emerging by the PSE pipeline. The stream is well shaded by the forest cover, and the understory is fairly open immediately above the stream. This section of the stream is characterized by a shallow, incised channel downstream of an overflowing manhole (see photo 27 in Appendix C), and a smaller, less incised channel upstream of the manhole. Water from the manhole is a discharge from an underground pipe that conveys water from a nearby stormwater retention pond (Figure 3), and it contributes to surface water flows in the stream. The banks in the channel downstream of the manhole were steep and 18 to 24 inches high, while upstream of the manhole the stream was much less incised with bank heights of 10 to 12 inches. The depth of the stream during the time of the site visit was only 2 to 3 inches in the section below the manhole. Although very shallow, the predominant stream habitat in this area consisted of shallow riffles. Upstream of the manhole there was significantly less water and the stream was only about 1 inch in depth. The wetted width of the channel ranged from 17 to 48 inches, with an average width of 28 inches. The predominant substrate in this reach consisted of rounded gravel that ranged in size from 1 to 6 inches in diameter, with most areas embedded less than 25% with fines. A slope measurement was taken within the lower section of this reach where the understorey was more open allowing for a line of sight for the clinometer and was recorded at 9%.

Downstream of the forested area, the stream emerges from the forest cover and flows northeast under the transmission line corridor and is referred to as reach 2 (Figure 3; Photo 29 in Appendix C). This portion of the stream is heavily covered with blackberry bushes and reed canarygrass with no overstory trees. The stream channel throughout this reach consists of a series of cascades and a waterfall. Each set of cascades drops approximately 3 to 4 feet in height with the uppermost consisting of a single waterfall of about 4 feet in height. The heights of these falls precludes upstream movement of all but the largest salmonids such as steelhead, Chinook and coho which are capable of passing these heights (Bjorn and Reiser 1991), but are not present in this stream. The small size of this stream also precludes its use by fish of adequate size to successfully move upstream over these cascades. The channel in this reach is very heavily overgrown with overarching vegetation close to the water surface, which also makes leaping over the falls extremely difficult.

The wetted channel width ranged from 24 to 50 inches wide with an average of 43 inches. The banks were generally steep, heavily vegetated, and ranged in height from 5 to 21 inches, with the highest banks at the downstream end of the reach down the hill from the powerline corridor. The water in the channel at the time of the site visit ranged from 2 to 9 inches in depth with an average of 4 inches. The predominant substrate through this reach consisted of gravel ranging in size from <1 inch to 5 inches in diameter embedded with few fines. The upper portion of this reach upstream of where it drops down the cascades on the hillside had a slope of 11% as sighted using a clinometer.

The third 'reach' of stream 0263 within the project area consists of a sloping hillside where the stream flow spreads out over multiple, poorly defined channels under dense vegetation. The hillside is covered with dense shrub cover of Himalayan blackberry bushes and reed canarygrass being predominant. This dense vegetation and lack of sustained flows seems to prevent channel formation. The stream water flows through many poorly defined channels throughout the base of these plants and "fans out" through the wetland down the hillside. Based on multiple visits to the site during wetland assessments, the main flows through this reach can shift in location over time. The area within which these flows are contained is bounded on each side by forest cover where the ground is at higher elevation and tend to follow the delineated wetland boundary for wetland 3 (Figure 2). These flows through this wetland area are very shallow at about 1 to 2 inches deep, and the lack of defined channels creates a passage barrier to fish.

Under the PSE access road, Stream 0263 flows through an 18-inch CMP culvert. The stream is channelized by buildings and parking lots to the west and runs north for approximately 600 feet. The stream channel is approximately 3 to 7 feet wide, and its substrate is mainly dominated by silt. According to the adjacent property owner, the stream overflows during heavy precipitations and periodically floods his adjacent property (Fowler 2010). The stream at this reach is located at the toe of steep hillslope with the channel transitioning into a lower gradient channel. This change in gradient and development associated with hydromodification in the surrounding areas are likely the cause of sediment accumulation and periodical flooding at this reach.

Within the project area, the lack of defined stream channels and shallow flows on the densely vegetated hillside, as described above, precludes fish passage to the project area. This concurs with the classification of Stream 0263 upstream of the culvert under the PSE access road as non-fish bearing by the City of Bellevue, and no salmon species are documented to occur within the project area (WDFW 2010a, 2010b; City of Bellevue 1993, 2002a). Under the state typing system, this section of the stream is classified as Type Np, to indicate that the stream is non-fish bearing and is perennial. The stream above the hillside is channelized, but is too shallow to sustain its use by fish. Downstream of the PSE access road, cutthroat trout were found and this portion of the stream is classified as Type F (Watershed Company 2009). Stream 0263 then flows into East Creek, which is located well outside the project area (Figure 3). The downstream portion of East Creek was determined to contain fish including cutthroat trout and coho salmon (Watershed Company 2009).

Drainage Features

There are three ditches located in the project area: Ditch A, Ditch B, and Ditch C. Ditches A and B are considered jurisdictional based on the USACE's jurisdictional determination. Ditch C is considered non-jurisdictional due to lack of a well defined channel and surface water during multiple site visits. General characteristics of these ditches are summarized in Table 5 and described below.

Name	Approximate Length (feet)	Approximate Width (feet)	Approximate Depth (feet)	Source	Discharge Location	Jurisdictional Determination
Ditch A	604	4	<1	Stormwater runoff from the transfer station	Stormwater conveyance system located on SE 30 th Street	Jurisdictional
Ditch B	133	2	1	No surface water has been observed	Wetland 4	Jurisdictional
Ditch C	150	2	<1	Stormwater runoff from SE 32 nd Street	Wetland A	Non- jurisdictional

 Table 5. Summary of Ditches in the Project Area

Ditch A

Ditch A is referred to as Stream A in the *Draft Factoria Transfer Station Wetland and Stream Delineation Report* (Herrera Environmental Consultants 2007). However, this classification was not supported by field observations by HDR. The portion of the channel that conveys water northward along the west edge of the project area (Figure 2) is a completely artificial channel

and contains no viable fish habitat. No fish species are known to occur in Ditch A (WDFW 2010a, 2010b; City of Bellevue 1993).

A review of the survey conducted of the existing facility reveals that stormwater runoff from the site is currently collected by a conveyance system, and the collected stormwater is discharged through a 12-inch-diameter CMP at the west end of the existing facility, which flows into Ditch A after flowing through Wetland 2 (Figure 2). Ditch A flows approximately 300 feet west and then turns 90 degrees to the north at the west end of the project area. Ditch A then flows north for approximately 300 feet where it drops approximately 4 feet over a rock wall before it enters the storm drainage system along SE 30th Street (see photos in Appendix C).

The west flowing portion of the channel is shallow and swampy and contains stagnant water and an accumulation of organic debris. The channel in this section is approximately 30 to 40 inches wide and less than 1 foot deep. Reed canarygrass, water-cress (*Rorippa* spp.), giant horsetail, and lady fern grow in the channel within this reach. As it turns north toward SE 30th Street, the channel is contained in a half-cut CMP and lined with riprap on both sides of the channel (photo 21 in Appendix C). The channel is approximately 3 feet wide with less than a foot deep of water flowing through a 3-foot deep rock lined artificial channel.

Ornamental trees are located along the parking lot immediately adjacent to the channel, and these trees are approximately 2-inch to 12-inch diameter at breast height (DBH) and 25 feet to 40 feet tall. No bedrock or gravel beds were observed in the channel.

Based on these characteristics, Ditch A is considered an artificial channel that conveys stormwater from the existing facility and does not contain fish habitat. As a result, Ditch A does not meet the definition of a stream described in Bellevue's LUC. Because Ditch A is not considered a stream, it is not regulated by the City of Bellevue and does not have a prescribed buffer.

Ditch B

Ditch B is referred as Stream B in the *Draft Factoria Transfer Station Wetland and Stream Delineation Report* (Herrera Environmental Consultants 2007). Ditch B is located south of the existing transfer facility. The channel is approximately 2 feet wide, but no surface water was observed in the channel during multiple site visits in January, February, and March 2010 and in March, April, and May 2011. The channel appears to be abandoned and is vegetated with Himalayan blackberry. A buried culvert is located south of SE 32nd Street; however, no surface water was observed at the culvert. No bedrock or gravels were observed in the channel.

Field investigations and the literature research indicate that Ditch B does not contain fish or fish habitat and not convey surface water under existing conditions. Therefore, Ditch B is not

classified as a stream and is not regulated by the City of Bellevue. No buffer widths are required for Ditch B.

Ditch C

Ditch C is approximately 2 feet wide and less than 1 foot deep. The ditch runs approximately 150 feet from west to east along SE 32nd Street and likely discharges into Wetland A, which drains into a 12-inch culvert. No surface water flow was observed in the ditch during multiple site visits, and the ditch is likely to only convey stormwater runoff from SE 32nd Street. No bedrock or gravels were observed in the channel. Ditch C does not contain fish or fish habitat. As a result, Ditch C is not classified as a stream and is not regulated by the City of Bellevue. No buffer widths are required for Ditch C.

Chapter 4: Project Effects

The Factoria RTS design will avoid or minimize impacts to wetlands, streams, and buffers wherever feasible. However, total avoidance will not be possible due to the location of the project and the constraints associated with design guidelines and the existing terrain. Impacts are expected to result from construction of the new transfer station and its associated facilities as well as from roadway improvements.

This chapter addresses project effects to wetlands, streams, and their buffers identified in the project area. Project effects addressed in this chapter include permanent and temporary impacts. Impacts to wetlands, streams, and buffers were assessed by overlaying the proposed design onto project base maps showing wetland, stream, and buffer locations. Impact areas were identified as the area of intersection between the proposed design and the base maps. Areas where wetland and stream buffers overlap and would be affected by the proposed project were calculated as wetland impacts.

4.1 Wetlands

Permanent Impacts

Proposed construction activities would result in permanent fill in Wetland 2, Wetland 4, and Wetland A. This fill would be required due to expansion of the existing facility and roadway. The proposed project is anticipated to widen SE 32nd Street, west of the existing scale house, which would result in filling Wetland A. The proposed project entirely avoids impacts to Wetland 3 and Wetland C through site-specific design techniques and by shifting the proposed facility to the west. Permanent wetland impacts are shown in Table 5 and Figure 4.

Wetland Name	Wetland Impact Area (acres)
Wetland 2	0.38
Wetland 4	0.06
Wetland A	0.01
Total	0.45

Table 7. Summary of Permanent Wetland Impacts in Project Area

Wetland 2, Wetland 4, and Wetland A

Unavoidable impacts to Wetland 2, Wetland 4, and Wetland A would result in a loss of 0.45 acre of wetland area. Permanent impacts include filling of wetlands, altering wetland soils and topography, and clearing wetland vegetation. Filling and topographic alteration of wetlands would result in the elimination or reduction of the affected wetlands' ability to store surface water for hydrologic and water quality functions, or the ability to provide habitat for wetland-dependent wildlife. The removal of wetland vegetation would eliminate or reduce affected wetlands' capability to remove sediments from water, as well as overall ability to support habitat for wetland-dependent wildlife.

Based on field investigation and the wetland rating forms completed for each area, these affected areas are unlikely to provide direct water quality treatment functions because they do not trap and settle-out sediments and they are not dominated by herbaceous vegetation. They also provide very limited support to downstream hydrology because they have little capacity to store surface water. Wetlands 2 and 4 occur on a slope that is characterized by the presence of trees, and the vegetation does not impede surface flows. Wetland A is a small depressional wetland with no surface water connection. It lacks hydrophytic vegetation and is dominated by invasive species. However, these wetlands provide some level of wetland habitat, mostly for terrestrial species, and mostly to birds. Habitat functions are limited by the abundance of invasive or non-native plant species, the industrial nature of the site, and the lack of biodiversity in the area.

Temporary Impacts

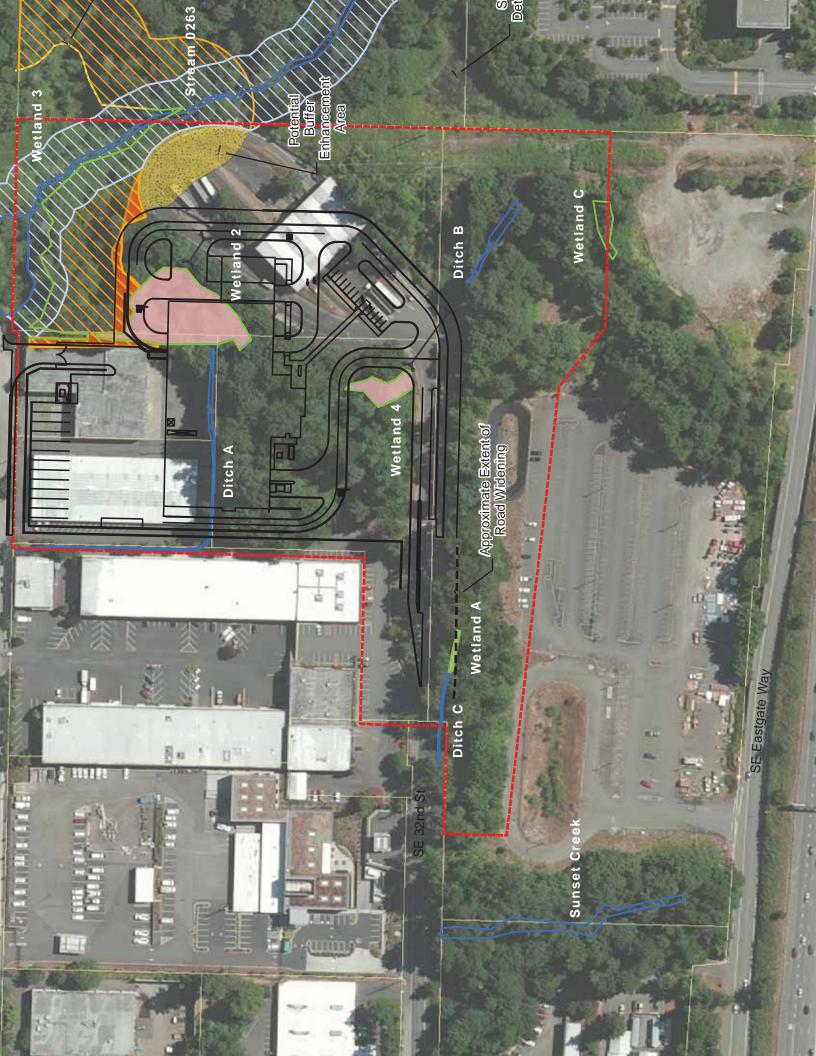
Construction of the Factoria RTS may result in temporary impacts to Wetland 3 from construction-related activities in the immediate vicinity of the work area including, but not limited to, clearing, grading, and filling. It is anticipated that temporary impacts to Wetland 3 will be minimal and limited to short-term. Wetland 3 and Stream 0263 are the focus of the mitigation concepts developed for this project. Ground disturbance activities associated with the mitigation would also temporarily affect Wetland 3. All temporary impact areas will be restored to pre-existing grades and revegetated with appropriate native trees and shrubs.

4.2 Wetland Buffers

The project is expected to result in impacts to a portion of the vegetated buffer of Wetland 3. These activities would affect approximately 0.15 acre of the buffer of Wetland 3 (Figure 4).

Temporary buffer impacts would occur where the construction work is extended beyond the permanent footprint of the project. Temporary buffer impacts would mostly result from vegetation removal in southwestern portion of the buffer of Wetland 3. The temporary removal of vegetation in portions of the wetland buffer would cause a minor and temporary decrease in general habitat support and native plant species support. Revegetating disturbed areas with native woody vegetation would result in a long-term increase in plant species diversity and

general habitat support. The removal of portions of the existing Factoria RTS could also expand the vegetated buffer of Wetland 3 following construction (Figure 4). Existing concrete roadway and fill pads could be removed and planted to alleviate the encroachment onto Wetland 3 from the proposed facility.



4.3 Streams

Permanent Impacts

Construction of the proposed project would not directly or indirectly affect Stream 0263. No inwater work would occur as a part of the project, and changes in flow and water quality are not expected to occur from this project because a) stormwater runoff from the facility does not currently drain into Stream 0263; b) proposed stormwater treatment included in the design will improve overall water quality affecting East Creek. The project is proposed to include stormwater treatment and detention features to collect, convey, treat, and detain stormwater runoff. These features include rain gardens, bioretention swales, and a detention vault. After treatment and detention, the stormwater runoff will be discharged into the existing conveyance system in SE 30th Street. There is currently no water quality treatment under existing conditions in the project area.

Temporary Impacts

Construction activities associated with mitigation for wetland impacts may occur within or directly adjacent to streams; however, these impacts are expected to be minimal and limited to short-term construction activities. Best management practices and temporary erosion control measures would also be implemented to minimize this risk during construction.

4.4 Stream Buffers

No permanent impacts to stream buffers would occur as a result of the proposed project. However, the proposed project could temporarily affect portions of the stream buffer by clearing riparian vegetation during construction, which would be primarily associated with proposed mitigation activities. These areas are dominated with invasive species and would be revegetated with native woody vegetation following construction. Revegetating disturbed areas with native woody vegetation would result in a long-term increase in plant species diversity and general habitat support.

4.5 Drainage Features

Ditch A and a portion of Ditch B will be filled permanently as a result of expansion of the paved surface area. Conveyance and biofiltration are the primary functions that these ditches provide. These functions would be mitigated onsite by construction of the stormwater treatment and detention system. The proposed system would provide additional water quality treatment that is not currently provided by the ditches.

Chapter 5: Mitigation

Compensatory mitigation would be provided for all impacts, consistent with the requirements of the City of Bellevue's LUC and appropriate federal and state regulations. To meet the project's needs for compensatory mitigation, a few mitigation strategies have been discussed as a part of the project. These strategies are described in the *Mitigation Options Report* (HDR 2010).

5.1 Mitigation Sequence

Federal, state, and City of Bellevue (LUC 20.25H.215) regulations require that mitigation efforts follow this prescribed sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of an action;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
- C. Performing the following types of mitigation (listed in order of preference):
 - 1. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - 2. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
 - 3. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments.
- D. Monitoring the hazard or other required mitigation and taking remedial action when necessary.

Avoidance and Minimization

The project will be designed to avoid or minimize impacts to wetlands, streams, and buffers wherever feasible. Project impacts to wetlands and streams will be avoided or minimized using the following design/construction methods:

• Multiple design revisions were made for this project to limit disturbance to Wetland 3 and Stream 0263, the most highly-functioning natural resources in the project area. The entire facility was shifted to the west, and a retaining wall was designed along the hillside to limit the amount of fill, resulting in a reduction in impacts to wetlands and wetland buffers.

- Construction impacts will be confined to the minimum area necessary to complete the project.
- To the extent practicable, work will be performed during the dry season in wetland areas to limit potential sedimentation effects and interruptions in surface and subsurface flows.
- Construction equipment would not operate within OHWM of Stream 0263 without authorization from WDFW.
- Exposed soils will be stabilized with a vegetative cover or other erosion control treatment immediately following construction. Landscaping in compliance with City of Bellevue standards would be installed to control erosion once the facility is functional.
- Temporary disturbed areas by construction activities will be revegetated with native vegetation within one year or one growing season after construction is complete.
- During construction, erosion control BMPs would be employed. The BMPs include use of mulch, silt barriers, containment systems, interim stormwater controls, cover measures (straw or plastic), and stream bypasses, as well as reseeding of areas temporarily disturbed by construction. In addition, existing vegetation would be preserved to the extent practicable.
- Oil, fuels, or chemicals will not be discharged to surface waters or onto land where there is a potential for reentry into surface waters.

Compensatory Mitigation

Compensatory mitigation will be provided for permanent and temporary wetland, stream, and buffer impacts for this project, consistent with the requirements of the City of Bellevue LUC and appropriate federal and state regulations. A detailed mitigation plan will be provided in the final Critical Areas Report, which will include goals and performance standards, a monitoring plan, and a contingency plan.

Elements of Mitigation Plan

The purpose of the mitigation plan is to first compensate for those functions provided by the impacted wetlands. Currently, the proposed mitigation area is located within the Stream 0263 corridor in the northeast corner of the site. The proposed mitigation is located on-site and on an adjacent parcel, upstream of the project area, and is intended to provide the following objectives:

• Improve wetland habitat diversity by creating evergreen canopy, open water, emergent, scrub-shrub, and riparian habitat that would provide nesting habitat for amphibians and songbirds and enhance habitat corridor functions.

- Improve riparian habitat by removing invasive species and planting native trees and understory in the stream buffer.
- Improve riparian habitat functions by increasing riparian buffer area and improving riparian and wetland buffer conditions by installing native plants and habitat features, such a logs and large woody debris.
- Increase plant species diversity by planting native tree, shrub, and herbaceous species and providing habitat for native emergent plant species.
- Lessen ongoing watershed deficiencies by trapping and managing sediment loads prior to discharge into a wetland and stabilizing streambed that has been affected by stormwater peak flows.
- Provide better long-term protection of existing infrastructure such as the existing petroleum pipeline crossing of Stream 0263 that currently requires ongoing maintenance.
- Dedicate long-term protection and maintenance by providing sediment management and native growth protection easement.

More details and specific design criteria on the mitigation plan will be determined during final design and will be provided in the Critical Areas Report.

Chapter 6: References

- Bellevue, City of. 1987. City of Bellevue. Sensitive Areas Notebook. Bellevue, Washington. April 1987.
- Bellevue, City of. 1993. Factoria Transfer/Recycling Station: Draft Environmental Impact Statement. City of Bellevue Design and Development Department. May 1993.
- Bellevue, City of. 2002a. East Creek Drainage Basin Map. Bellevue, Washington. <u>http://www.ci.bellevue.wa.us/pdf/IT/eastcreek3.pdf</u>. February 2002.
- Bellevue, City of. 2003a. Bellevue Critical Areas Updated Stream Inventory. 2003a. City of Bellevue, Planning and County Development. Bellevue, Washington. March 2003.
- Bellevue, City of. 2003b. Bellevue Critical Areas Updated Wetland Inventory. 2003b. City of Bellevue, Planning and Community Development. Bellevue, Washington. March 2003.
- Bjornn, T.C., and D.W. Reiser. 1991. Habitat Requirements of Salmonids in Streams. In:
 W.R. Meehan, ed. Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. American Fisheries Society Special Publication. 19:83-138.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Government Printing Office, Washington, D.C.
- David Evans and Associates, Inc. 2008. A&M Auto East Creek Tributary Rehabilitation Project Critical Areas Report. Bellevue, Washington. August 2008.
- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station. Vicksburg, Mississippi.
- Fowler, H. 2010. Personal communication between Harold Fowler, H.D. Fowler Company, and Mike Witter and Karissa Kawamoto, HDR. Multiple communications in January and March 2010.
- GeoEngineers 2001. Report of Wetland Delineation and Assessment, and Restoration Plan for Repair of milepost 101.8 Erosion Feature: Olympic Pipe Line Company. Bellevue, Washington. December 2001.
- HDR Engineering, Inc. 2010. Wetland Mitigation Options Report. Factoria Recycling and Transfer Station. Bellevue, Washington. October 2010.
- Herrera Environmental Consultants. 2007. Draft Wetland and Stream Delineation Report. Factoria Transfer Station. Bellevue, Washington. March 2007.

- Hitchcock, C.L. and A. Cronquist. 1973. *Flora of the Pacific Northwest*. University of Washington Press. Seattle, Washington.
- Hruby, T. 2004. Washington State Wetlands Rating System for Western Washington Revised. August 2004, with 2008 revisions. Washington State Department of Ecology Publication No. 04-06-025.
- Jones and Stokes Associates. 1991. Wetland Delineation Report: King County Factoria Transfer Station. Bellevue, Washington. October 1991.
- J.S. Jones and Associates, Inc. 2004. Wetland Assessment of the H.D. Fowler Site. Tax Parcels 545330-0150 and 545330-0151. 13440 S.E. 30th Street Bellevue, WA 98005. Prepared for Harold Fowler, H.D. Fowler Company 13440 S.E. 30th Street Bellevue, WA 98005. December 22, 2004.
- J.S. Jones and Associates, Inc. 2005. Stream Study of an Unnamed Tributary of East Creek at 13440 S.E. 30th Street. Bellevue, WA 98005. Prepared for Harold Fowler, H.D. Fowler Company 13440 S.E. 30th Street Bellevue, WA 98005. January 21, 2005.
- Kerwin, J. 2001. Salmon and Steelhead Habitat Limiting Factors Report for the Cedar-Sammamish Basin (Water Resource Inventory Area 8). Washington Conservation Commission. Olympia, Washington.
- King County. 1934. Aerial photographs from iMap. King County spatial information interactive mapping [online]. King County, Seattle, WA. Available from: http://www.kingcounty.gov/operations/gis/Maps/iMAP.aspx
- King County. 2009. Aerial photographs from iMap. King County spatial information interactive mapping [online]. King County, Seattle, WA. Available from: http://www.kingcounty.gov/operations/gis/Maps/iMAP.aspx
- King County. 2010. Site topographic survey. King County Department of Transportation: Road Services Division, Survey and Mapping.
- Snyder, D. E., P.S. Gale, and R.F. Pringle. 1973. *Soil Survey of King County Area, Washington*. U.S. Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources and Washington State University, Agriculture Research Center. <u>http://soildatamart.nrcs.usda.gov/Manuscripts/WA633/0/wa633_text.pdf</u>.
- USACE (U.S. Army Corps of Engineers). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region. ERDC/EL TR-10-3. May 2010. http://www.usace.army.mil/CECW/Documents/cecwo/reg/west_mt_finalsupp.pdf.

- USDA, NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2004. The PLANTS Database, Version 3.5 (<u>http://plants.usda.gov</u>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- USDA, NRCS. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. G.W. Hurt and L.M. Vasilas (eds.). USDA,NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- USFWS (U.S. Fish and Wildlife Service). 2010. National Wetland Inventory. Wetlands Online Mapper. <u>http://wetlandsfws.er.usgs.gov/wtlnds/launch.html</u>. Accessed March 26, 2010.
- WDFW (Washington State Department of Fish and Wildlife). 2010a. Priority Habitats and Species map and report for Section 10, Township 24 North, Range 5 East. March 5, 2010.
- WDFW (Washington State Department of Fish and Wildlife). 2010b. SalmonScape. http://wdfw.wa.gov/mapping/salmonscape. Accessed March 28, 2010.
- WDNR (Washington Department of Natural Resources). 2010. Natural Heritage Information Request Self-Service System. <u>www.dnr.wa.gov/Publications/amp_nh_trs.pdf</u>. March 28, 2010.
- Watershed Company. 2009. City of Bellevue Stream Typing Inventory: Final Report. Prepared for the City of Bellevue, Washington. May 2009.
- Williams, R.W., R. Laramie, and J.J. Ames. 1975. *A Catalog of Washington Streams and Salmon Utilization, Volume 1, Puget Sound*. Washington Department of Fisheries, I& E Division, Olympia, Washington. November 1975.

Appendix A – Wetland Delineation Methodology

Wetlands are defined as areas saturated or inundated by surface or groundwater at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. The methods used to delineate the on-site wetlands conform to methods described in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Western Mountains, Valleys, and Coast Region (USACE 2010).

To be considered a wetland, an area must have hydrophytic vegetation, hydric soils, and wetland hydrology. HDR Engineering, Inc. staff collected data on these parameters in areas representative of typical site conditions. Staff collected additional data in associated uplands as needed to confirm wetland and stream boundaries. Delineated wetland boundaries and wetland data plot locations in the project area were surveyed by a professional surveyor.

Vegetation

The dominant plants and their wetland indicator status were evaluated to determine if the vegetation was hydrophytic. Hydrophytic vegetation is defined as vegetation adapted to wetland conditions. To meet the hydrophytic vegetation criterion, more than 50 percent of the dominant plants in each stratum must be Facultative, Facultative Wetland, or Obligate, based on the wetland indicator category assigned to each plant species by USFWS (Reed 1997, or current approved list). Table A-1 lists the definitions of the indicator categories.

Wetland Indicator Category	Symbol	Definition
Obligate Wetland Plants	OBL	Plants that almost always (> 99% of the time) occur in wetlands, but which may rarely (< 1% of the time) occur in non-wetlands.
Facultative Wetland Plants	FACW	Plants that often (67 to 99% of the time) occur in wetlands, but sometimes (1 to 33% of the time) occur in non-wetlands.
Facultative Plants	FAC	Plants with a similar likelihood (34 to 66% of the time) of occurring in both wetlands and non-wetlands.
Facultative Upland Plants	FACU	Plants that sometimes (1 to 33% of the time) occur in wetlands, but occur more often (67 to 99% of the time) in non-wetlands.
Upland Plants	UPL	Plants that rarely (< 1% of the time) occur in wetlands, and almost always (> 99% of the time) occur in non-wetlands.

Table A-1. Definitions of Wetland Plant Indicator Categories used to Determine thePresence of Hydrophytic Vegetation

Source: Reed (1997).

HDR biologists identified all plants to species. Scientific and common plant names follow currently accepted nomenclature. Most names are consistent with *Flora of the Pacific Northwest* (Hitchcock and Cronquist 1973) and the PLANTS Database (USDA NRCS 2004). During the field investigation, staff observed and recorded the dominant plant species on data sheets for each data plot.

Soils

Generally, an area must contain hydric soils to be a wetland. Hydric soil forms when soils are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (12 inches). Biological activities in saturated soil result in reduced oxygen concentrations and organisms turn to anaerobic processes for metabolism. Over time, anaerobic biological processes result in certain soil color patterns, which are used as indicators of hydric soil. Typically, low-chroma colors are formed in the soil matrix, and bright-colored redoximorphic features form within the matrix. Other important hydric soil indicators include organic matter accumulations in the surface horizon, reduced sulfur odors, and organic matter staining in the subsurface (USDA NRCS 2010).

HDR Engineering, Inc. staff examined soils by excavating sample pits to a depth of 20 inches to observe soil profiles, colors, and textures. In some case, a shallower soil pit was adequate to document hydric soil indicators. Munsell color charts (Munsell Color 2009) were used to describe soil colors.

Hydrology

HDR Engineering, Inc. staff examined the area for evidence of hydrology. Wetland hydrology criteria were considered to be satisfied if it appeared that the soil was seasonally inundated or saturated to the surface for a consecutive number of days greater than or equal to 12.5 percent of the growing season (USACE 2010). The growing season generally begins when the soil reaches a temperature of 41 degrees Fahrenheit in the zone of root penetration or when certain indicators of plant biological activity are evident (USACE 2010). The growing season in the project area can be approximated using the long-term climatological data reported in WETS tables available from the USDA NRCS National Water and Climate Center (2002). Using the WETS table for the nearest station (Kent, Washington), the growing season was approximated to be from March 8 through November 11 (304 days).

Wetland hydrology indicators are divided into two categories – primary and secondary indicators (USACE 2010). Primary indicators of hydrology include surface inundation, high water table, and saturated soils. The presence of one primary indicator is sufficient to conclude that wetland hydrology is present. In the absence of a primary indicator, observation of two or more secondary indicators is required to conclude that wetland hydrology is present. Secondary indicators of hydrology include drainage patterns, water-stained leaves, and geomorphic setting (USACE 2010).

References

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1, Environmental Laboratory, Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi.

- Hitchcock, C.L. and A. Cronquist. 1973. *Flora of the Pacific Northwest*. University of Washington Press, Seattle, Washington.
- Munsell Color. 2009. Munsell soil color charts.
- Pojar, J. and A. MacKinnon. 1994. *Plants of the Pacific Northwest Coast*. Lone Pine Publishing, Redmond, Washington.
- Reed, P.B., Jr. 1997. *Revision of the national list of plant species that occur in wetlands*. U.S. Department of Interior, Fish and Wildlife Service. Washington, D.C.
- USACE (U.S. Army Corps of Engineers). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region. ERDC/EL TR-10-3. May 2010. http://www.usace.army.mil/CECW/Documents/cecwo/reg/west_mt_finalsupp.pdf.
- USDA, NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2002. Climate Information for King County in the State of Washington. <u>http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/wa/53033.txt</u>. Created March 30, 2010.
- USDA, NRCS. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. G.W. Hurt and L.M. Vasilas (eds.). USDA,NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- USDA, NRCS (U.S. Department of Agriculture, Natural Resources Conservation Service). 2004. The PLANTS Database, Version 3.5 (<u>http://plants.usda.gov</u>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Appendix B – Wetland Data Sheets

licant/Owner:	King County			5	State:	WA	Sar	npling Point	: SF	P-1 (UPL)	
stigator(s):	Danielski/Dalzell				Section	, Township, I	Range:		10/T24N/R5	э́Е	
dform (hillslope	e, terrace, etc):		Local relief (concave, con	vex, none):			Slope (%)	c		
region (LRR):		А	Lat:	47.583337	Long:	-122.158	996	Datum	:	NAD83	
Map Unit Nam	e:	Urba	an Land			NWI C	lassification				
climatic/hydrolo	ogic conditions on th	e site typical for this tim	e of year?	Yes X	No	(If no, explai	n in Remark	s)		
Vegetation	Soil	Or Hydrology	si	gnificantly dis	turbed? A	re "Normal C	Circumstanc	es" present?	? Yes X	No	_
Vegetation	Soil	Or Hydrology	N	aturally proble	matic? (If ne	eded, explai	in any answe	ers in Rema	rks)	-	
		ich site map showi		ig point loc	ations, trai	nsects, im	portant re	atures, et	С.		
	ation Present? Yes		10 <u>x</u>	ls f	he Sampled	Δrea		Vac	Na	N N	
ric Soil Present			10 x 10		hin a Wetlan			Yes	_ NO	<u> </u>	
and Hydrology			lo <u>x</u>								
arks: Tv	wo out of three criter	ia are absent; therefore	the sample p	lot is not with	in a wetland.						
т	he cample plot is loc	ated less than 10 feet s	outh of the br	undary of the	west arm of	Wetland 3					
	- Use scientific n			Junuary of the	west ann or						
Stratum	Plot size:	Absolute	Dominant	Indicator	Domin	ance Test w	orksheet:				
		% Cover	Species?	Status							
			·		Num	ber of Domin	ant Species				
							-		4	(A)	
						are OBL, FA		·	I	(A)	
					-	Number of [
						ies Across A			2	(B)	
		0	= Total Cove	er		ent of Domin					
					That	are OBL, FA	CW, or FAC		50%	(A/B))
ling/Shrub Stra	tum Plot size:				Preval	ence Index v	worksheet:				
Rubus procei	rus	30	Y	FACU		Total % Cov	ver of:		Multiply	by:	
Rubus specta	abilis	5	N	FAC		Species			0		-
				1710	_	N Species	30		60		-
					_	Species	5		15		-
					_	-			_		-
					_	J Species	30	x4 =	120		_
		35	= Total Cove	er		Species	<u>C</u> F	x5 =	0 195		- (D)
Stratum	Diet Size:					mn Totals: alence Index	65 - P/A -	(A)	3.00		_(B)
	Plot Size:				FIEV		- D/A -		3.00		-
Phalaris arun	dinacea	30	Y	FACW	_						
					Hydrop	phytic Veget	ation Indica	ators:			
					_ _	[Dominance ⁻	۲est is >50%	6		
					_ _	x F	Prevalence	rest is ≤ 3.0	1		
						1	Morphologic	al Adaptatio	ns (Provide	supporting	
							data in Rem	arks or on a	a separate sl	neet)	
						١	Netland Nor	1-Vascular F	'lants ¹		
					- -	F	Problematic	Hydrophitic	Vegetation ¹	(explain)	
					1 Indicat	tors of hydric			-	()	
						esent, unless of			jy must		
			- Total Or		-						
			= Total Cove	51							
ody Vine Stratu	m Plot Size:					Hydroph	nytic vegeta	tion preser	it?		
					-		Yes	5	No_x		
		0	= Total Cove	er	-					-	
are Ground in I	Herb Stratum	70									

Area does not meet hydrophytic vegetation criteria based on prevalence test alone since hydric soil/hydro not present.

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

epth	Matrix		R	edox Fea	tures					
nches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 4/1	100					gravelly sandy loam			
6-20+	2.5Y 4/2	100					gravelly sandy loam			
ype: C=Cond	centration, D=Depletio	n, RM=Redu	ced Matrix, CS	=Covered	or Coated	Sand Gra	ains. ² Location:	PL=Pore Lining, M=N	latrix.	
c Soil Indica	tors: (Applicable to	all LRRs, un	less otherwise	e noted.) I	ndicators	for Prob	olematic Hydric So	oils ³ :		
stosol (A1)			Sandy Redox ((S5)		_	2 cm Muck (A1	0) (LRR B)		
stic Epipedor	n (A2)		Stripped Matrix	(S6)		_	Red Parent Ma	terial (TF2)		
ack Histic (A3	3)		Loamy Mucky	Mineral (F	1)(except N	MLRA1)	Other (Explain	in Remarks)		
/drogen Sulfic	de (A4)		Loamy Gleyed	Matrix (F2)					
epleted Below	v Dark Surface (A11)	Х	Depleted Matri	x (F3)				phytic vegetation and		
nick Dark Sur	face (A12)		Redox Dark Su	urface (F6)				present, unless disturl	ped or	
andy Mucky M	/lineral (S1)		Depleted Dark	Surface (F	7)		problematic.			
andy Gleyed I	Matrix (S4)		Redox Depres	sions (F8)						
ictive Layer	r (if present):									
/pe:										
epth (inches)):						Hydric Soil P	resent?	Yes x	No
arks:										
3 meets hydr	ric soil criteria.									
ROLOGY										
, ,	y Indicators:							_		
•	(minimum of 1 require							Secondary Indicators		. ,
urface Water	()		Water-Stained		,			Water-Stained Le		(MLRA 1,2,4A, and 4B)
gh Water Tat			(except MLRA		na 46)			Drainage Pattern	. ,	
aturation (A3)			Salt Crust (B1					Dry-Season Wate	. ,	
ater Marks (E	,		Aquatic Inverte					Saturation Visible	on Aerial	
ediment Depo			Hydrogen Sulfi					Imagery (C9)		
ift Deposits (I	B3)		Oxidized Rhizo	spheres a	long Living	g Roots (C3)	Geomorphic Posi	tion (D2)	
gal Mat or Cr			Presence of R					Shallow Aquitard	(D3)	
on Deposits (E	35)		Recent Iron Re	eduction in	Tilled Soil	s (C6)		FAC-Neutral Test		
urface Soil Cr	acks (B6)		Stunted or Stre	essed Plan	ts (D1) (LF	RR A)		Raised Ant Moun	ds (D6) (LRR	A)
undation Visit	ble on Aerial Imagery	(B7)	Other (Explain	in Remark	s)			Frost-Heave Hum	nmocks (D7)	
parsely Veget	ated Concave Surface	e (B8)								
Observatio	ns:									
ce Water Pro	esent? Yes	No x	Depth	(inches):			Wetland Hy	drology Present?	Yes	No x
r Table Pres	ent? Yes	No x	Depth	(inches):	>20	C				
ation Presen	nt? Yes	No x	Depth	(inches):	>20	C				
des capillary	r fringe)			-						
ribe Recorde	ed Data (stream gaug	ne monitorir	a well serial r	photos pr	evious ins	nections	s) if available:			
		je, monitorii	iy well, actial j	510t05, pr		pections				
arks:										
	licators of hydrology	in late winte	r/early arowing	season	No secor	ndarv ind	licators			
	sale of the division of gy			,						

Project/Site:	Factoria Transfer	Station		City/Cour	nty: Bellevue/King	Sampling Date	2/5	5/2010
Applicant/Owner:	King County			Sta	ate: WA	Sampling Point	t: SP-	-2 (WL)
Investigator(s):	Danielski/Dalzell				Section, Township, R	ange:	10/T24N/R5E	
Landform (hillslope	, terrace, etc):	Floodplain	Local relief	(concave, conve	ex, none): Non	e Slope (%)): ~	~ 0%
Subregion (LRR):		A	Lat:	47.583316	Long: -122.1590	18 Datum	n: N	AD83
Soil Map Unit Nam	e:	Ur	ban Land		NWI Cla	assification:	PSS	
Are climatic/hydrolo	ogic conditions on th	he site typical for this til	me of year?	Yes X	No (If	no, explain in Remark	(s)	
Are Vegetation	Soil	Or Hydrology	s	ignificantly distu	rbed? Are "Normal Ci	rcumstances" present	? Yes X	No
Are Vegetation	Soil	Or Hydrology	1	laturally problem	natic? (If needed, explain	any answers in Rema	rks)	
		ach site map show	ving sampli	ng point locat	tions, transects, imp	ortant features, et	с.	
Hydrophytic Vegeta	ation Present? Yes	X	No 0					
Hydric Soil Present	-	X	No 0		e Sampled Area n a Wetland?	Yes X	No	
Wetland Hydrology	Present? Yes	X	No 0	with				
Tr 1.	ne sample plot is lo	-			imately 20 feet east from	the warehouse buildin	ng and 10 feet	south from SP-
		names of plants.						
Tree Stratum	Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	orksheet:		
		% Cover	Species	Olaldo				
1					Number of Domina			
2					That are OBL, FAC	CW, or FAC:	2	(A)
3					Total Number of D	ominant		
4					Species Across Al	I Strata:	3	(B)
		0	= Total Cov	ver	Percent of Domina	ant Species		
					That are OBL, FAC	CW, or FAC:	67%	(A/B)
Sapling/Shrub Stra	tum Plot size:				Prevalence Index w	orksheet:		
1 Rubus specta		50	Y	FAC	Total % Cove	er of	Multiply b	v.
2 Rubus procer	ามร	50	Y	FACU	OBL Species	x1 =	0	<u>.</u>
3				-17(00	FACW Species	10 x2 =	20	
					FAC Species	50 x3 =	150	<u> </u>
4							200	
5					FACU Species		0	<u> </u>
		100	= Total Cov	ver	UPL Species Column Totals:	x5 =	370	(D)
Herb Stratum	Plot Size:				Prevalence Index :		3.36	(B)
1 Phalaris arun			V				3.30	<u> </u>
-	unacea	10	Y	FACW	-			
2					Hydrophytic Vegeta			
3					<u> </u>	ominance Test is >50%	%	
4					Pi	revalence Test is ≤ 3.0) ¹	
5						orphological Adaptatio		
6					d	ata in Remarks or on a	a separate she	eet)
7					W	etland Non-Vascular F	Plants ¹	
8					 Pi	roblematic Hydrophitic	Vegetation ¹ (e	explain)
9					· [oil and wetland hydrolog		
10						sturbed or problematic.	, , , , , , , , , , , , , , , , , , , ,	
11								
		10	= Total Cov	ver	-			
			_					
Woody Vine Stratu	m Plot Size:				Hydrophy	tic vegetation preser/	nt?	
1					.			
2					_	Yes X	No	
		0	= Total Cov	ver			_	
% Bare Ground in I	Herb Stratum							
Remarks: Do	ominant test indicat	es that hydrophytic veg	etation is pres	sent at the samp	le plot.			

WETLAND DETERMINATIONA DATA FORM - Western Mountains, Valleys and Coast Region

Color (moist) % Color (moist) % Type1 Loc² Texture Remarks 0-5 10YR 4/1 100 - - - - GSL	Depth	ion: (Describe to tl Matrix	-		Redox Fea				-				
0-5 10/YR 4/1 00 GSL 5-18+ 10/YR 5/1 40 GSL Type: GSL Type: GSL GSL Type: GSL GSL GSL GSL		-				4	Loc ²	Texture		Remarks			
5-18+ 10/TR 4/1 40 7.5 YR 4/6 20 C M GSL 10/TS 5/1 40	0-5												
Image: Interpret in the second statute of the second stat				7.5YR 4/6	20	С							
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered of Coaled Sand Grain, *Location: PL=Pree Lining, M=Matrix, Hydric Soll Inflactaors: (Applicable to all LRRs, unless otherwise noted.) Inflactaors for Problematic Hydric Solls?: ************************************													
hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll *: Histic Epipedin (A2) Standy Radox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Standy Radox (S5) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Wineral (F1) (xecept MLRA1) Other (Explain in Remarks) Hydrogn Sulface (A1) Depleted Matrix (F3) ************************************		- <u> </u>				·							
hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll *: Histic Epipedin (A2) Standy Radox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Standy Radox (S5) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Wineral (F1) (xecept MLRA1) Other (Explain in Remarks) Hydrogn Sulface (A1) Depleted Matrix (F3) ************************************		- <u> </u>				·							
hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll *: Histic Epipedin (A2) Standy Radox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Standy Radox (S5) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Wineral (F1) (xecept MLRA1) Other (Explain in Remarks) Hydrogn Sulface (A1) Depleted Matrix (F3) ************************************						·							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll?: Histic Epipedin (A2) Standy Redox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Loamy Mucky Mineral (F1)(score) MLRA1) Cherr (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1)(score) MLRA1) Other (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1) Pepleted Matrix (F2) Basch Mucky Mineral (S1) Depleted Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Piptic Soil Present? Yes X No Permarks: F3 meets hydric soil criteria. Hydric Soil Present? Yes X No Surface Water (A1) I required: check all that apply) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) MULRA 1.2.4A, Surface Water (A1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Saturation Visible on Aerial Imagery (C2) Surface Water (A13) Aquatic Invertebrates (B13)						·							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll?: Histic Epipedin (A2) Standy Redox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Loamy Mucky Mineral (F1)(score) MLRA1) Cherr (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1)(score) MLRA1) Other (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1) Pepleted Matrix (F2) Basch Mucky Mineral (S1) Depleted Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Piptic Soil Present? Yes X No Permarks: F3 meets hydric soil criteria. Hydric Soil Present? Yes X No Surface Water (A1) I required: check all that apply) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) MULRA 1.2.4A, Surface Water (A1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Saturation Visible on Aerial Imagery (C2) Surface Water (A13) Aquatic Invertebrates (B13)		·		·		·							
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soll?: Histic Epipedin (A2) Standy Redox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Loamy Mucky Mineral (F1)(score) MLRA1) Cherr (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1)(score) MLRA1) Other (Explain in Remarks) Hydrogn Sulfide (A4) Loamy Mucky Mineral (F1) Pepleted Matrix (F2) Basch Mucky Mineral (S1) Depleted Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Sandy Mucky Mineral (S1) Redox Dark Surface (F0) Problematic. Piptic Soil Present? Yes X No Permarks: F3 meets hydric soil criteria. Hydric Soil Present? Yes X No Surface Water (A1) I required: check all that apply) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B9) MULRA 1.2.4A, Surface Water (A1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Saturation Visible on Aerial Imagery (C2) Surface Water (A13) Aquatic Invertebrates (B13)	¹ Type: C=Cor	ncentration. D=Deplet	ion. RM=Re	educed Matrix. CS	=Covered	d or Coated	Sand Gr	ains. ² Location	PL=Pore Lining, M=	Matrix.			
Histosol (A1)													
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1 (except MLRA1) Other (Explain in Remarks) Hydrogon Sulfidie (A4) Loamy Mucky Mineral (F1) Depleted Matrix (F2) Depleted Dark Surface (A11) X Depleted Matrix (F2) Indicators of hydrophylic vegetation and welland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) Problematic. Type: Depthet Matrix (S4) Redox Dark Surface (F7) Sandy Voleyed Matrix (S4) Redox Depressions (F8) Hydroic Soil Present? Yes	-		o an Erris,		,	malcators							
Elack Histic (A3) Loamy Mixedy Mineral (F1)(except MLRA1) Other (Explain in Remarks) Hydrogen Suffice (A11) X Depleted Mark (F2) ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Mark (F3) ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Type: Pethod Mark (F1) Depth (incres): Hydric Soil Present? Yes X Wetland Hydrology Indicators: Primary Indicators (Initianum of 1 required: check all that apply) Surface Wrater Table (A2) (except MLRA 1,2,4A, and 4B) X High Water Table (A2) Saturation (Value) X saturation (K3) Saturation Value) Yeare Marks (B1) Oxidated Rhizospheres along Living Roots (C3) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Maga Mator Cust (B4) Presence of Reduced Ion (C4) Saturation Value on Aerial Sturate Or Nease (B6) Sturate Or Nease (B6) Sturate Or Nease (B7)		on (A2)	_				-						
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) *indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Depleted Balow Dark Surface (A11) X Depleted Dark Surface (F7) *indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soil Present? Yes X No Restrictive Layer (if present): Type:			_										
□ Depleted Below Dark Surface (A11) X Depleted Matrix (F3) Productors of Mytorpolyce vegetation and wetland hytorology must be present, unless disturbed or problematic. Sandy Mucky Mmeral (S1) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Sandy Mucky Mmeral (S1) Depleted Dark Surface (F7) Redox Depressions (F8) Restrictive Layer (If present): Type: Hydro coll Present? Yes X No Remarks: F3 meets hydric soil critteria. Hydro coll Critteria. Secondary Indicators (2 or more required) Surface Water (A1)			_						in itemarks)				
Thick Dark Surface (A12) Redox Dark Surface (F6) hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depieted Dark Surface (F7) no Restrictive Layer (If present): Type: hydrology must be present, unless disturbed or problematic. Type: Depited Dark Surface (F7) No no Remarks: F3 meets hydric soil criteria. Hydric Soil Present? Yes X No Primary Indicators (Iminuum of 1 required: check all that apply) Secondary Indicators (2 or more required) Water-Stained Leaves (B9)			· –			2)	:	³ Indicators of bydr	onhytic vegetation and	wetland			
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes _ X _ No _ Remarks: F3 meets hydric soil oriteria. Hydric Soil Present? Yes _ X _ No _ Brinds Indicators (inlineum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) WiteR 1.2.4A, and 4B) Y High Water Table (A2) (except MLRA 1.2.4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B2) Hydrogen Sutified Odor (C1) Imagery (C9) Genorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Fact-Neutral Test (D5) Surface Water Present? Yes X No Depth (inches): G* Surface Kiele Present? Yes X No Depth (inches): G* Surface Kiele Present? Yes X No Depth (inches): G* Surface Kiele Present? Yes X No <td> ·</td> <td></td> <td>, –</td> <td></td> <td></td> <td>:)</td> <td></td> <td></td> <td></td> <td></td> <td></td>	·		, –			:)							
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes X <no< td=""> Remarks: F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MIRA 1.2.4A, and 4B) Dry-Season Water Table (C2) Sufface Water (A1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Sufface S0il Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) FAC-Mutral Test (D5) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Sufface S0il Cracks (B6) Stauted on Stiessed Plants (D1) (LRR A) Raised Ant Mondo (D6) (LRR A) Iron Deposits (B5) Recent Iron Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Perth (inches): No Field Observations: No Depth (inches): G*</no<>			-										
Restrictive Layer (if present):	_ ` `		-										
Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (Ininimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (MLRA 1.2,4A, and 4B) X High Water Table (A2) (except MLRA 1.2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3)		i Matrix (34)	-	Redux Depres	SIULIS (FO))							
Type: Depth (inches): Hydric Soil Present? Yes X No Remarks: F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (Ininimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (MLRA 1.2,4A, and 4B) X High Water Table (A2) (except MLRA 1.2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3)	Restrictive Lave	er (if present).					<u> </u>						
Depth (inches): Hydric Soil Present? Yes X No Remarks: F3 meets hydric soil criteria. F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1,2,4A, and 4B) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) Water Stained Leaves (B9) (MLRA 1,2,4A, and 4B) X Saturation (A3)	-												
Remarks: F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1.2.4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitar (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Sturation Present? Yes X No Bield Observations: Surface Water Present? Yes X No Saturation Present? Yes X No Depth (inches): G* (includes capillary fringe) Depth (inches): G* Meetand Hydrology Present? <td></td> <td>e).</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Hydric Soil P</td> <td>resent?</td> <td>Yes V</td> <td>No</td>		e).						Hydric Soil P	resent?	Yes V	No		
F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Sufface Water (A1) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Dry-Season Water Table (C2) X Saturation (A3)	Deptil (inches							Hydric Soli P	Cocinci				
F3 meets hydric soil criteria. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Sufface Water (A1) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Dry-Season Water Table (C2) X Saturation (A3)	Remarks [.]												
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (ininimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Satit Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B3) Oxid/zed Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Afgal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Metand Hydrology Present? Yes X No Depth (inches): <u>6"</u> Mater Table Present? Yes X No Depth (inches): <u>6"</u> Metand Hydrology Present? Yes X No No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe		luis seil suitsuis											
Wetland Hydrology Indicators: Secondary Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Imagery (C9) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Orift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced ron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): 6" Water Table Present? Yes No Depth (inches): 6" Surface Surface Bailey Fresent? Yes No Depth (inches): 6" Innudation Visible on Aerial Depth (inches): 6" Frest-Heave H	F3 meets nyc	aric soli criteria.											
Wetland Hydrology Indicators: Secondary Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Imagery (C9) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Orift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced ron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): 6" Water Table Present? Yes No Depth (inches): 6" Surface Surface Bailey Fresent? Yes No Depth (inches): 6" Innudation Visible on Aerial Depth (inches): 6" Frest-Heave H													
Wetland Hydrology Indicators: Secondary Indicators: Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Imagery (C9) Orifit Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Iron Deposits (B5) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D5) (LRR A) Surface Water Present? Yes No Depth (inches): M/A Water Table Present? Yes No Depth (inches): 6" Gurdace Water Present? Yes No Depth (inches): 6" Surface Soil Present? Yes No Depth (inches): 6" Inundation Present? Yes No Depth (inches):		_											
Primary Indicators (minimum of 1 required: check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3)													
Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1,2,4A, A, A	-												
X High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Saturation Present? Yes X No Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Depth (inches): 6" 6" Metand Hydrology Present? Yes X No Deptrible Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Saturation Present? Yes X <td>Primary Indicators</td> <td>s (minimum of 1 requi</td> <td>red: check a</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Primary Indicators	s (minimum of 1 requi	red: check a										
X Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Imagery (C9) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Saturation Present? Yes No Mater Table Present? Yes No Depth (inches): 6" Saturation Present? Yes No Depth (inches): 6" Saturation Present? Yes No Depth (inches): 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:			-		,	,					(MLRA 1,2,4A, and 4E		
Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): N/A Wetland Hydrology Present? Yes_X No_ Saturation Present? Yes_X No_ Depth (inches): 6" G" Saturation Present? Yes_X No_ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks: Saturation Present Prese	X High Water Ta	able (A2)		(except MLRA	A 1,2,4A, a	and 4B)			Drainage Patter	ns (B10)			
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Surface Water Present? Yes No Z Depth (inches): N/A Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	X Saturation (A3	3)	_	Salt Crust (B1	1)				Dry-Season Wa	ter Table (C2)			
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Sturface Water Present? Yes No Z Depth (inches): N/A Water Table Present? Yes X No	Water Marks ((B1)	_	Aquatic Inverte	ebrates (B	13)				e on Aerial			
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Test Max And	Sediment Dep	oosits (B2)	_	Hydrogen Sulf	ide Odor ((C1)			Imagery (C9)				
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Vestar Present? Yes No Surface Water Present? Yes No Depth (inches): N/A Wetland Hydrology Present? Yes X No Saturation Present? Yes X No Depth (inches): 6" 6" C Cincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Drift Deposits	(B3)	_	Oxidized Rhize	ospheres a	along Living	g Roots (C3)	Geomorphic Pos	sition (D2)			
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Surface Water Present? Yes No Sufface Water Present? Yes No Depth (inches): N/A Water Table Present? Yes X Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" Gincludes capillary fringe) Depth (inches): 6" 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:	Algal Mat or C	crust (B4)	_	Presence of R	educed Iro	on (C4)			Shallow Aquitare	d (D3)			
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Vestand Hydrology Present? Surface Water Present? Yes No Depth (inches): N/A Water Table Present? Yes X Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" Gincludes capillary fringe) Depth (inches): 6" 6" 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:	Iron Deposits	(B5)	_	Recent Iron Re	eduction ir	n Tilled Soil	ls (C6)		FAC-Neutral Tes	st (D5)			
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): N/A Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" Includes capillary fringe) Depth (inches): 6"	Surface Soil C	Cracks (B6)	_	Stunted or Stre	essed Pla	nts (D1) (Ll	RR A)		Raised Ant Mou	nds (D6) (LRR A	()		
Field Observations: No_X Depth (inches): N/A Wetland Hydrology Present? Yes_X No_ Water Table Present? Yes_X No_ Depth (inches): 6"	Inundation Vis	sible on Aerial Imager	y (B7)	Other (Explain	in Remar	ks)			Frost-Heave Hu	mmocks (D7)			
Surface Water Present? Yes No X Depth (inches): N/A Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Depth (inches): 6" 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:	Sparsely Vege	etated Concave Surfa	ce (B8)										
Surface Water Present? Yes No X Depth (inches): N/A Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Depth (inches): 6" 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:													
Surface Water Present? Yes No X Depth (inches): N/A Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Depth (inches): 6" 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Field Observation	ons:											
Water Table Present? Yes X No Depth (inches): 6" Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Depth (inches): 6" 6" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:			No	X Denth	(inches).	NI/Z	4	Wetland Hy	drology Present?	Yes X	No		
Saturation Present? Yes X No Depth (inches): 6" (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:								Houand Hy	a biogy i resent?	103 /			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:					(1101105).	0							
Remarks:		,											
	Describe Record	led Data (stream gau	uge, monito	oring well, aerial	photos, pi	revious ins	pections), if available:					
A2 and A3 meet wetland hydrology criteria.	Remarks:												
	A2 and A3 m	eet wetland hydrolog	gy criteria.										

US Army Corps of Engineers

WETLAND DETERMINATIONA DATA FORM - Western Mountains, Valleys and Coast Region

Project/Site:	Factoria Transfer Stati	on		City/County:	Bellevue/King	Sampling Date:	: 2/5/2010
Applicant/Owner:	King County			State	WA	Sampling Point	: SP-3 (UPL)
Investigator(s):	Danielski/Dalzell				Section, Township, R	Range:	10/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillslope	Local relief (concave, convex,	none): Nor	ne Slope (%):	: >5%
Subregion (LRR):	A	۱	Lat:	47.583055	Long: -122.158	56 Datum:	: NAD83
Soil Map Unit Name	e:	Urb	an Land		NWI CI	assification:	
Are climatic/hydrolo	ogic conditions on the si	te typical for this tim	e of year?	Yes X	No (l	f no, explain in Remark	s)
Are Vegetation	Soil	Or Hydrology	si	gnificantly disturbe	d? Are "Normal C	ircumstances" present?	Yes X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemati	c? (If needed, explain	n any answers in Remar	ˈks)
		oite men ekewi		a naint la satia	na trancata imu	artent factures at	-
Hydrophytic Vegeta	FINDINGS – Attach	-	ng sampin lo X	g point locatio	ns, transects, imp	ortant features, etc	<i>.</i>
Hydric Soil Present			No X	Is the S	ampled Area	Yes	No X
Wetland Hydrology			No X		Wetland?	103	
wedana riyarology			<u> </u>				
Remarks: Th	nree criteria are absent;	therefore the sampl	e plot is not w	vithin a wetland.			
Tł	ne sample plot is located	approximately 5 fe	et east of the	boundary of Wetla	and 2		
	Use scientific nam			,			
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test wo	orksheet:	
		% Cover	Species?	Status			
1 Populus bals	amifera	30	Y	FAC	Number of Domina	ant Species	
2 Alnus rubra		10	N	FAC	That are OBL, FA	CW, or FAC:	2 (A)
3 Acer macroph	hyllum		Y	FACU	Total Number of D	Dominant	
4	-				Species Across A	Il Strata	6 (B)
-		60	= Total Cove		Percent of Domina		(5)
				51	That are OBL, FA	•	33% (A/B)
							(12)
Sapling/Shrub Stra					Prevalence Index w	/orksheet:	
1 Acer circinatu	um	15	Y	FAC	Total % Cove	er of:	Multiply by:
2 Rubus specta	abilis	5	N	FAC	OBL Species	x1 =	0
3 Rubus procer	rus	50	Y	FACU	FACW Species	x2 =	0
4					FAC Species	60 x3 =	180
5					FACU Species	190 x4 =	760
		70	= Total Cove	er	UPL Species	x5 =	0
					Column Totals:	250 (A)	940 (B)
Herb Stratum	Plot Size:				Prevalence Index	= B/A	3.76
1 POLYSTICH	UM MUNITUM (KAULF	- <u>40</u>	Y	FACU			
2					Hydrophytic Vegeta	ation Indicators:	
3						ominance Test is >50%	6
							1
4						revalence Test is ≤ 3.0	
5						lorphological Adaptation data in Remarks or on a	
6						Vetland Non-Vascular P	. ,
7							
8					P	roblematic Hydrophitic	Vegetation ¹ (explain)
9					¹ Indicators of hydric s	soil and wetland hydrolog	y must
10					be present, unless d	isturbed or problematic.	
11							
		40	= Total Cove	er			
Woody Vine Stratu	m Plot Size:				Hydrophy	ytic vegetation presen	it?
1 Hedera helix			X	NII		,	
			<u>Y</u>	NI			
2 RUBUS URS	INUS CHAM. & SCHL		N Total Cavr	FACU		Yes	No <u>X</u>
% Para Crawsti	Horb Strature	80	 Total Cove 	er			
% Bare Ground in I							
Remarks: Do	ominant test indicates th	iat nydrophytic vege	tation is abse	ent at the sample p	IOT.		

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Histosol (A1)	
7-20+ 2.5Y 4/3 100	Remarks
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Locat Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Muck Histic Epiped Matrix (SS) 2 cm Muck Histic Epiped Matrix (SA) Loamy Mucky Mineral (F1)(except MLRA1) Other (Expl) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Plantix (F3) Depleted Below Dark Surface (A12) Red Parent Problematic (F5) Sandy Mucky Mineral (S1) Depleted Dark Surface (F6) hydrology must problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depletid Dark Surface (F6) hydrology must problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soil Restrictive Layer (if present): Type: Hydric Soil hydrology must problematic. Surface Water (A1) Water-Stained Leaves (B9) Hydric Soil Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Matrix (F1) Surface Matrix (F1) Surface (S11) Surface (S12) Hydric Soil Surface Water (A1) Geveet MLRA 1,2,4A, and 4B) Saturation (A3) Saturation (A3) Saturat	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators for hydrology music Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators of the hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F6) hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Problematic. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Remarks: No hydric soil indicators were observed at the sample plot. Hydrology music. Wetland Hydrology Indicators: except MLRA 1,2,4A, and 4B) Saturation (A3) Saturation (A3) Saturation in Tilled Soils (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduced Iron (C4) Iron Deposits (B3) Suntad	Damp in spots, not saturated
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Sandy Redox (S5) 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Other (Explit) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydrology must problematic. Restrictive Layer (if present): Type: Depth (inches): Mydrology Indicators Hydric Soil Remarks: No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (B2) Hydrology Indicators: Primary Indicators (B2) Hydrology Sufface Q41) Water K4(B1) <ld>Saturation (A3) Saturation (A3) Saturation (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4)</ld>	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Sandy Redox (S5) 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Other (Explit) Depleted Below Dark Surface (A11) Depleted Matrix (F2) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydrology must problematic. Restrictive Layer (if present): Type: Depth (inches): Mydrology Indicators Hydric Soil Remarks: No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (B2) Hydrology Indicators: Primary Indicators (B2) Hydrology Sufface Q41) Water K4(B1) <ld>Saturation (A3) Saturation (A3) Saturation (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4)</ld>	<u> </u>
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators for hydrology music Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators of the hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F6) hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Problematic. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Remarks: No hydric soil indicators were observed at the sample plot. Hydrology music. Wetland Hydrology Indicators: except MLRA 1,2,4A, and 4B) Saturation (A3) Saturation (A3) Saturation in Tilled Soils (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduced Iron (C4) Iron Deposits (B3) Suntad	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators for hydrology music Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators of the hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F6) hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Problematic. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Sandy Mcky Mineral (S1) Depleted Dark Surface (F7) Hydrology music. Remarks: No hydric soil indicators were observed at the sample plot. Hydrology music. Wetland Hydrology Indicators: except MLRA 1,2,4A, and 4B) Saturation (A3) Saturation (A3) Saturation in Tilled Soils (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduced Iron (C4) Iron Deposits (B3) Suntad	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric 2 cm Muck, Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explicable to all LRS), unless otherwise noted.) Indicators for hydrology music Black Histic (A3) Loamy Mucky Mineral (F1) Other (Explicable to all LRS), unless otherwise noted.) Indicators for hydrology music Thick Dark Surface (A12) Redox Dark Surface (F6) hydrology music Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) poblematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) poblematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydrology music. Remarks: No hydric soil indicators were observed at the sample plot. Hydric Soil HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (B11) Water Atta (A1) Water-Stained Leaves (B9) Saturation (A3) Saturation (A3) Saturation (C4) Saturation (C4) Water Marks (B1) Aquatic Invertebrates (B13) Aduatic Invertebrates (B13) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) </th <th></th>	
	ion: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explination of the problem data surface (A11)) Depleted Below Dark Surface (A12) Redex Dark Surface (F6) 3 Indicators of the hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Redox Dark Surface (F7) Sandy Gleyed Matrix (S4) Restrictive Layer (if present): Type: Pepleted Dark Surface (F7) Pepleted Dark Surface (F7) Remarks: No hydric soil indicators were observed at the sample plot. Hydric Soil HYDROLOGY Wetland Hydrology Indicators: Hydric Soil Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Water-Stained Leaves (B13) Saturation (A3) Satt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial I	
Black Histic (A3) Loamy Mucky Mineral (F1)(except MLRA1) Other (Explander Context) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ³ Indicators of hy hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Hydrology Indicators: Restrictive Layer (if present): Type: Hydrology Indicators: No hydric soil indicators were observed at the sample plot. Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface (B1) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3) Salt Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) 3 Indicators of hy hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (A12) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Presenter (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soi Restrictive Layer (if present): Type: Hydric Soi Depth (inches):	
Depleted Below Dark Surface (A11) Depleted Matrix (F3) ³ Indicators of ht hydrology must problematic. Thick Dark Surface (A12) Redox Dark Surface (F6) Problematic. Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydrology must problematic. Restrictive Layer (if present): Type: Hydric Soi Hydric Soi Depth (inches): Hydrology Indicators Hydric Soi Hydric Soi Remarks: No hydric soil indicators were observed at the sample plot. Hydrology Indicators: Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A4) Presence of Reduced Iron (C4) Iron Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B5) Coxidized Rhizospheres along Living Roots (C3) Saturation (Nisble on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: N	ain in Remarks)
Thick Dark Surface (A12) Redox Dark Surface (F6) hydrology must problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type:	
Inite Dark Suriade (F12) Inited Value Suriade (F0) problematic. Sandy Mucky Mineral (S1) Depleted Dark Suriade (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soi Hydric Soi Depth (inches): Type: Depth (inches): Medox Dark Suriade (F0) Primary Indicators were observed at the sample plot. Hydric Soi Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3) Sati Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) </td <td>ydrophytic vegetation and wetland be present, unless disturbed or</td>	ydrophytic vegetation and wetland be present, unless disturbed or
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Hydric Soi Remarks: No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3) Salt Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Peth (inches): Field Observations: No X Depth (inches): >20" Surface Water Present? Yes No X Depth (inches): >20" Staturation Present? Yes No X Depth (inches): <	
Restrictive Layer (if present): Type: Depth (inches):	
Type:	
Type:	<u> </u>
Depth (inches): Hydric Soi Remarks: No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3)	
Remarks: No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3)	il Present? Yes No X
No hydric soil indicators were observed at the sample plot. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 1 required: check all that apply) Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Sturface Water Present? Yes No X Muater Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Dettections), if available: Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Statial photos, previous inspections), if available:	il Present? Yes <u>No X</u>
Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3) Salt Crust (B11) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Pepth (inches): Field Observations: No X Depth (inches): N/A Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Cincludes capillary fringe) Depth (inches): > 20" > 20"	
High Water Table (A2) (except MLRA 1,2,4A, and 4B) Saturation (A3)	Secondary Indicators (2 or more required)
Saturation (A3)	Water-Stained Leaves (B9) (MLRA 1,2,4A, and 4
Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Sturface Water Present? Field Observations: No X Depth (inches): N/A Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Concludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drainage Patterns (B10)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Surface Water Present? Field Observations: No X Surface Water Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Depth (inches): > 20" (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Dry-Season Water Table (C2)
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Sturface Water Present? Field Observations: No X Depth (inches): N/A Wetland Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Concludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Saturation Visible on Aerial
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Stunted or Stressed Plants (D1) (LRR A) Water Table Present? Yes No X Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" (includes capillary fringe) Depth (inches): > 20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Imagery (C9)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No X Sutration Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Geomorphic Position (D2)
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Minimum Stressed Plants (D1) (LRR A) Field Observations: Surface Water Present? Yes No X Depth (inches): N/A Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" Gincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	FAC-Neutral Test (D5)
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? YesNo XDepth (inches):20" Water Table Present? YesNo XDepth (inches):20" Saturation Present? YesNo XDepth (inches):20" Saturation Present? YesNo XDepth (inches):20" Includes capillary fringe) Depth (inches):20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Raised Ant Mounds (D6) (LRR A)
Field Observations: Surface Water Present? YesNo _X Depth (inches):N/A Wetland Water Table Present? YesNo _X Depth (inches):20" > 20" Saturation Present? YesNo _X Depth (inches):20" > 20" Saturation Present? YesNo _X Depth (inches):> 20" > 20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Frost-Heave Hummocks (D7)
Surface Water Present? Yes No X Depth (inches): N/A Wetland Water Table Present? Yes No X Depth (inches): > 20" No X Saturation Present? Yes No X Depth (inches): > 20" No X Image: No X Depth (inches): > 20" No X Depth (inches): > 20" Image: No X Image: No X Depth (inches): > 20" Image: No X	
Surface Water Present? Yes No X Depth (inches): N/A Wetland Water Table Present? Yes No X Depth (inches): > 20" No X Saturation Present? Yes No X Depth (inches): > 20" No X Image: No X Depth (inches): > 20" No X Depth (inches): > 20" Image: No X Image: No X Depth (inches): > 20" Image: No X	
Water Table Present? Yes No X Depth (inches): > 20" Saturation Present? Yes No X Depth (inches): > 20" (includes capillary fringe) Depth (inches): > 20" > 20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Hydrology Present? Yes No X
Saturation Present? Yes No X Depth (inches): > 20" (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
(includes capillary fringe)	
Pemarke:	
No wetland hydrology indicators were observed at the sample plot.	
No wettand hydrology indicators were observed at the sample plot.	
Note: B horizon was damp in spots but not saturated.	

Project/Site:	Factoria Transfer Sta	tion		City/County:	Bellevue/King	Sampling Date:	2/5/2010
Applicant/Owner:	King County			State	WA	Sampling Point:	SP-4 (WL)
Investigator(s):	Danielski/Dalzell				Section, Township, Ra	ange:	10/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillslope	Local relief	(concave, convex,	none): None	e Slope (%):	>5%
Subregion (LRR):		A	Lat:	47.583029	Long: -122.15862	2 Datum:	NAD83
Soil Map Unit Name	e:	Urba	an Land		NWI Cla	ssification:	PFO
Are climatic/hydrolo	ogic conditions on the s	site typical for this tim	e of year?	Yes X	No (If	no, explain in Remarks	3)
Are Vegetation	Soil	Or Hydrology	si	gnificantly disturbe	d? Are "Normal Cir	cumstances" present?	Yes X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemati	c? (If needed, explain	any answers in Remarl	ks)
				ng point locatio	ns, transects, impo	ortant features, etc	
Hydrophytic Vegeta			lo	la tha S	ampled Area		
Hydric Soil Present			lo		ampled Area I Wetland?	Yes X	No
Wetland Hydrology	Present? Yes	<u>X</u> N	lo				
Remarks: Al	I three criteria are met;	therefore the sample	e plot is withir	n a wetland.			
Т	a comple plot is least	d in Watland 2 appr	ovimataly 20	fact coutburget from	m SD2 10 fact waat fro	m the wetland boundar	n /
	Use scientific nar		UXIMALETY 20	leet southwest ho	n SP3, 10 feet west fro		у.
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test wor	rkshoot.	
<u>ince outduni</u>		% Cover	Species?	Status			
1 Populus bals	amifera	60	Y	FAC	Number of Domina	nt Spacias	
					Number of Dominal		
2 Alnus rubra		30	Y	FAC	That are OBL, FAC	· · · · · · · · · · · · · · · · · · ·	(A)
3					Total Number of Do	ominant	
4					Species Across All	Strata:	5 (B)
		90	= Total Cov	er	Percent of Dominar		
					That are OBL, FAC	W, or FAC:	80% (A/B)
Sapling/Shrub Strat	tum Plot size:				Prevalence Index wo	orksheet:	
1 Acer circinatu			N	FAC	Total % Cover	r of:	Multiply by:
2 Rubus specta	abilis	60	Y	FAC	OBL Species	x1 =	0
3 Rubus procer		10	 N	FACU	FACW Species	20 x2 =	40
4 Salix lasiandr			Y	FACW	FAC Species	160 x3 =	480
-	a	20	<u> </u>	FACW	FACU Species	90 x4 =	360
5			- Tatal Cau		· -		0
		100	= Total Cove	er	UPL Species Column Totals:	x5 = 270 (A)	880 (B)
Herb Stratum	Plot Size:				Prevalence Index =		3.26 (B)
	1100 0126.						3.20
1							
2					Hydrophytic Vegetat		
3					<u> </u>	minance Test is >50%	
4					Pre	evalence Test is $\leq 3.0^{1}$	
5						orphological Adaptation	
6						ata in Remarks or on a	. ,
7					We	etland Non-Vascular Pl	ants ¹
8					Pro	oblematic Hydrophitic \	/egetation ¹ (explain)
9					¹ Indicators of hydric sc	oil and wetland hydrology	/ must
10					be present, unless dis	sturbed or problematic.	
11							
		0	= Total Cov	er			
Maadu Mars Ota 1					I to days 1	41	
Woody Vine Stratu	m Plot Size:				Hydrophyt	tic vegetation present	17
1 Hedera helix		70	Y	NI			
2 RUBUS URS	INUS CHAM. & SCH		N	FACU		Yes X	No
		80	 Total Cove 	er			
% Bare Ground in H							
Remarks: Do	ominant test indicates	that hydrophytic vege	tation is pres	ent at the sample p	plot.		

Depth	Matrix		R	Redox Fea						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 4/1	100					Loam			
6-20+	5Y 4/2	85	10YR 4/6	15	С	Μ	Sandy Loam	Charcoal present	t in the profile	
					—					
	ators: (Applicable to							PL=Pore Lining, M=N	latrix.	
Histosol (A1)	ators. (Applicable t		Sandy Redox (,	mulcator	5101110	2 cm Muck (A10			
Histic Epipedo	n (Δ2)		Stripped Matrix				Red Parent Mate			
			Loamy Mucky	. ,						
Black Histic (A						IVILKAT)	Other (Explain in	r Remarks)		
Hydrogen Sulfi			Loamy Gleyed		2)		31			
_	w Dark Surface (A11)	X Depleted Matri					ohytic vegetation and voresent, unless disturb		
Thick Dark Su	. ,		Redox Dark Su				problematic.			
Sandy Mucky			Depleted Dark	,	,					
Sandy Gleyed	Matrix (S4)		Redox Depres	sions (F8)						
estrictive Laye	er (if present):									
Туре:										
Depth (inches	3):						Hydric Soil Pro	esent?	Yes X	No
emarks:										
F3 meets the	hydric soil criteria.									
Note: Sulfidic	odor in the bottom	of the B h	orizon							
Note: Guildio										
IYDROLOGY										
Vetland Hydrolog	gy Indicators:									
rimary Indicators	(minimum of 1 requi	red: check	c all that apply)					Secondary Indicators	(2 or more required)
Surface Water	· (A1)		Water-Stained	Leaves (E	39)		_	X Water-Stained Le	aves (B9) (ML	RA 1,2,4A, and
High Water Ta	ible (A2)		(except MLRA	1,2,4A, a	and 4B)			X Drainage Patterns	s (B10)	
Saturation (A3))		Salt Crust (B1	1)			-	Dry-Season Wate	r Table (C2)	
Water Marks (I	B1)		Aquatic Inverte		13)		-	Saturation Visible		
Sediment Dep	osits (B2)		Hydrogen Sulfi		,		-	Imagery (C9)		
Drift Deposits (Oxidized Rhizo			na Roots i	(C3)	Geomorphic Posit	tion (D2)	
Algal Mat or Cr			Presence of R		-	.g		Shallow Aquitard		
Iron Deposits (. ,		Recent Iron Re		· · /	nils (C6)	-	FAC-Neutral Test		
Surface Soil C			Stunted or Stre				-	Raised Ant Mound		
_	ible on Aerial Imager	(P7)	Other (Explain		. , .		-	Frost-Heave Hum		
	tated Concave Surfa			III Keman	K5)		-	FIOSt-Heave Hum		
ield Observatio	ons:									
urface Water Pr	resent? Yes	No	X Depth	(inches):	N/	/A	Wetland Hyd	drology Present?	Yes X	No
Vater Table Pres	sent? Yes	_		(inches):	> 2	20"				
aturation Prese		-		(inches):	> 2					
ncludes capillar						-				
escribe Recorde	ed Data (stream gau	uge, moni	toring well, aerial p	ohotos, pr	evious in	spection	s), if available:			
Remarks:										
	not the wetland bur	Irology of		nlot in I-	optod na	or the da-	inogo wow coore f	rom the billeide area	rovimatoly 20 fa-t	oouth from
the sample pl	,	nology cr	iteria. The sample	plot is iod	cated nea	ar the dra	image way, seeps t	rom the hillside, app	ioximately 20 feet	south from
are sumple pr	ot.									

Project/Site:	Factoria Transfer S	Station			City/Co	unty:	Bellevue/King	Sampling D	Date: 3/23/2010
Applicant/Owner:	King County				S	state:	WA	Sampling P	Point: SP3-1
Investigator(s):	Danielski/Dalzell					Sect	ion, Township, Ra	ange:	10/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillsic	le	Local relief	(concave, conv	vex, none)): None	e Slope	(%): ~5%
Subregion (LRR):		А		Lat:	47.58359	Long	g: -122.15865	56 Da	atum: NAD83
Soil Map Unit Name	e:		Urba	an Land			NWI Cla	ssification:	
Are climatic/hydrolo	ogic conditions on th	e site typica	al for this tim	e of year?	Yes X	N	lo (If	no, explain in Ren	narks)
Are Vegetation	Soil	Or	Hydrology	si	gnificantly dist	urbed?	Are "Normal Cir	rcumstances" pres	sent? Yes X No
Are Vegetation	Soil	Or	Hydrology	N	aturally proble	matic? (If	needed, explain	any answers in Re	emarks)
									- 1 -
	FINDINGS – Atta		•		ig point loca	ations, t	ransects, impo	ortant features	, etc.
Hydrophytic Vegeta		X X		10	ls ti	he Sample	ed Area	Vee	V No
Hydric Soil Present Wetland Hydrology	_	x		10 <u> </u>		nin a Wet		Yes	<u>X</u> No
wettand rightology		~	1	···					
Remarks: Al	I three criteria are m	et; therefor	e the sample	e plot is withir	n a wetland.				
N	ote: SP 3-1 is in Wet	land 3 and	vrovimately 3	feet lower in	elevation and	annrovim	ately 15 feet north	h from SP 3-2	
	Use scientific n				cicvation and	approxim			
Tree Stratum	Plot size:		Absolute	Dominant	Indicator	Don	ninance Test wo	rksheet:	
			% Cover	Species?	Status				
1 Alnus rubra			30	Y	FAC	N	umber of Domina	nt Species	
1			50			-			F (A)
2		·					hat are OBL, FAC		5 (A)
3		·				- T	otal Number of Do	ominant	
4						S	pecies Across All	Strata:	5 (B)
			30	= Total Cove	er	P	ercent of Dominar	nt Species	
						TI	hat are OBL, FAC	W, or FAC:	100% (A/B)
Sapling/Shrub Stra	tum Plot size:					Pre	valence Index wo	orksheet:	
1 Acer circinatu			40	Y	FAC		Total % Cover	r of	Multiply by:
2 Rubus specta		·	15	 Y	FAC		BL Species	10 x1 =	10
· · · · ·						-	ACW Species	27 x2 =	54
3 Rubus procer		·	5	N	FACU	-	· -		
4 Ribes divarica		·	10	<u>N</u>	FAC	-	AC Species	155 x3 =	465
5 RUBUS URS	INUS CHAM. & SC	HLE	3	N	FACU	F/	ACU Species	8 x4 =	32
			73	= Total Cove	er		PL Species	x5 =	0
							olumn Totals:	200 (A)	561 (B)
Herb Stratum	Plot Size:					Pi	revalence Index =	= B/A	2.81
1 Tolmiea menz	ziesii		35	Y	FAC				
2 Phalaris arun	dinacea		20	Y	FACW	Hyd	rophytic Vegetat	tion Indicators:	
3 Maianthemun	n dilatatum		15	Ν	FAC		X Do	ominance Test is >	>50%
4 Athyrium filix-	-femina		10	N	FAC		X Pro	evalence Test is ≤	3.0 ¹
5 Lysichiton ar	nericanum		10	N	OBL	_	Mo	orphological Adapt	tations (Provide supporting
6 Equisetum te	Imateia		7	N	FACW	_			on a separate sheet)
7						_	We	etland Non-Vascul	lar Plants ¹
						-		oblomatic Ludr	hitic Vegetation ¹ (explain)
8		·				-		, ,	o (1)
9		·				_	,	bil and wetland hydr sturbed or problema	0,
10							present, unless die		
11						_			
			97	= Total Cove	er				
Woody Vine Stratu	m Plot Size:						Hydrophy	tic vegetation pre	esent?
1									
		<u> </u>				-		N . N	Ne
2		<u> </u>	0	- Total Origina		-		Yes X	No
% Baro Ground in 1	Harb Stratum	3%	0	 Total Cove 	ei				
% Bare Ground in I			4 in al 1 1	at law-last 1	- 1 - 4 - 4 · · ·				
Remarks: Do	ominant test and pre	valence tes	si indicate th	ai nyarophyti	c vegetation is	present a	it the sample plot.		

Profile Description	: (Describe to	the depth n	eeded to docun	nent the i	ndicator o	or confirm	n the absence of	indicators.)		
Depth	Matri	x	F	Redox Fea	tures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-11	10YR 3/1	100					SL	Sulfidic odor		
11-18+	2.5Y 4/2	100					GSL			
¹ Type: C=Conce	ntration, D=Deple	etion, RM=Re	educed Matrix, CS	=Covered	or Coated	Sand Gra	ains. ² Location:	PL=Pore Lining, M=N	atrix.	
Hydric Soil Indicato	rs: (Applicable	to all LRRs,	unless otherwis	e noted.) I	ndicators	for Prob	lematic Hydric So	ils ³ :		
Histosol (A1)		_	Sandy Redox	(S5)			2 cm Muck (A10) (LRR B)		
Histic Epipedon (A2)	_	Stripped Matrix	x (S6)			Red Parent Mate	erial (TF2)		
Black Histic (A3)			Loamy Mucky	Mineral (F	1)(except N	/LRA1)	Other (Explain ir	n Remarks)		
X Hydrogen Sulfide	(A4)	_	Loamy Gleyed	Matrix (F2	2)					
Depleted Below D	ark Surface (A1	1)	Depleted Matr	ix (F3)				ohytic vegetation and		
Thick Dark Surface	ce (A12)	-	Redox Dark S	urface (F6))			present, unless disturb	ed or	
Sandy Mucky Min	eral (S1)	_	Depleted Dark	Surface (I	-7)	p	roblematic.			
Sandy Gleyed Ma	ıtrix (S4)	-	Redox Depres							
		-								
Restrictive Layer (f present):									
Type:										
Depth (inches):							Hydric Soil Pre	esent?	Yes X	No
							,			
Remarks:										
A4 meets hydric	soil criteria									
714 meets nyane	Son enteria.									
HYDROLOGY Wetland Hydrology	Indicators:									
									(2	
Primary Indicators (m		ured: check a						Secondary Indicators		
X Surface Water (A	,	-	Water-Stained		,		-	Water-Stained Le	. ,	(MLRA 1,2,4A, and 4B
X High Water Table	e (A2)		(except MLRA		na 46)		-	Drainage Patterns		
X Saturation (A3)		-	Salt Crust (B1	1)			-	Dry-Season Wate		
Water Marks (B1)	_	Aquatic Inverte	ebrates (B	13)		-	Saturation Visible	on Aerial	
Sediment Deposi	ts (B2)	_	Hydrogen Sulf	ide Odor (0	C1)		-	Imagery (C9)		
Drift Deposits (B3	6)	_	Oxidized Rhizo	ospheres a	long Living	Roots (C	3)	Geomorphic Posit	ion (D2)	
Algal Mat or Crus	t (B4)	_	Presence of R	educed Iro	n (C4)		_	Shallow Aquitard	(D3)	
Iron Deposits (B5)	_	Recent Iron Re	eduction in	Tilled Soil	s (C6)	_	FAC-Neutral Test	(D5)	
Surface Soil Crac	ks (B6)		Stunted or Stre	essed Plan	ts (D1) (LF	RR A)		Raised Ant Mound	ds (D6) (LRR A	.)
Inundation Visible	on Aerial Image	ry (B7)	Other (Explain	in Remark	(s)		-	Frost-Heave Hum	mocks (D7)	
Sparsely Vegetat	ed Concave Surf	ace (B8)					-			
							1			
Field Observations	:									
Surface Water Pres	ent? Yes	X No	Depth	(inches):	1"		Wetland Hyd	drology Present?	Yes X	No
Water Table Preser	-		Depth	(inches):	9"					
Saturation Present?	Yes	X No	Depth	(inches):	Surfa	се				
(includes capillary fr	-			· · · -						
Describe Describe	Data (-t			abot	ovie 1		if available			
Describe Recorded	Data (stream ga	auge, monito	ring well, aerial j	pnotos, pr	evious ins	pections)	, if available:			
Remarks:										
A1, A2, and A3 r	neet wetlahd hu	droloav crite	ria.							
		arology child								

Project/Site:	Factoria Transfer Statio	n		City/County:	Bellevue/Kir	ng Sampling D	Date: 3/23/2010
Applicant/Owner:	King County			State:	WA	Sampling P	Point: SP 3-2 (UPL)
Investigator(s):	Danielski/Dalzell				Section, Township,	, Range:	10/T24N/R5E
Landform (hillslope	e, terrace, etc):	Hillside	Local relief	(concave, convex, i	none): N	lone Slope	(%): 0%
Subregion (LRR):	A		Lat:	48.583531	Long: -122.15	8593 Da	tum: NAD83
Soil Map Unit Nam	e:	Urb	an Land		NWI	Classification:	
Are climatic/hydrole	ogic conditions on the site	typical for this tin	ne of year?	Yes X	No	(If no, explain in Ren	narks)
Are Vegetation	Soil	Or Hydrology	si	ignificantly disturbe	d? Are "Normal	Circumstances" pres	ent? Yes X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemation	c? (If needed, expla	ain any answers in Re	emarks)
SUMMARY OF	FINDINGS – Attach	site man show	ing samplir	na point locatio	ns transects in	nportant features	etc
Hydrophytic Vegeta		-	No X			iportant routaroo	
Hydric Soil Present	t? Yes	_	No X	Is the Sa	ampled Area	Yes	No X
Wetland Hydrology	Present? Yes	_	No X	within a	Wetland?	-	
Demerke: N	and of the three exiteria a				Hond		
Remarks: N	one of the three criteria a	e mei, mereiore i	rie sample pic		uanu.		
N	ote: SP 3-2 is approximat	ely X feet east and	d ~ 3 feet ups	lope of SP 3-1			
VEGETATION -	 Use scientific name 				1		
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test	worksheet:	
		% Cover	Species?	Status			
1					Number of Dom	inant Species	
2					That are OBL, F	ACW, or FAC:	1 (A)
3					Total Number of	f Dominant	
4					Species Across	All Strata:	2 (B)
-		0	= Total Cov	er	Percent of Dom	inant Species	
			•		That are OBL, F	ACW, or FAC:	50% (A/B)
	ture Distained				Prevalence Index	worksheet:	
Sapling/Shrub Stra		_		=			
1 Corylus cornu		60	Y	FACU	Total % Co		Multiply by:
2 Acer circinat	um	5	N	FAC	OBL Species	0 x1 =	0
3					FACW Species		0
4					FAC Species	90 x3 =	270
5					FACU Species	75 x4 =	300
		65	= Total Cov	er	UPL Species	x5 =	0
					Column Totals:	165 (A)	570 (B)
Herb Stratum	Plot Size:				Prevalence Inde	ex = B/A	3.45
1 Maianthemun	n dilatatum	85	Y	FAC			
2 DICENTRA P	FORMOSA (ANDR.) WA	10	N	FACU	Hydrophytic Vege	etation Indicators:	
3 POLYSTICH	UM MUNITUM (KAULF.,	5	N	FACU		Dominance Test is >	·50%
4						Prevalence Test is ≤	3.0 ¹
5						Morphological Adapt	tations (Provide supporting
6							on a separate sheet)
7			·			Wetland Non-Vascul	lar Plants ¹
						Drahlamatia Lludrank	nitic Vegetation ¹ (explain)
8			- <u></u>		1		
9			·		-	c soil and wetland hydr s disturbed or problema	
10							
11							
		100	= Total Cov	er			
Woody Vine Stratu	m Plot Size:				Hydrop	ohytic vegetation pre	sent?
1							
2		<u> </u>				Yes	No x
<u> </u>		0	= Total Cov	er		165	No <u>x</u>
% Bare Ground in	Herb Stratum 0%		-	-			
	rea does not pass domina	Ince or prevalence	e test. No oth	er indicators prese	I		
		- Fielderlow					

	Matrix		F	Redox Fea	itures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-13	10YR 3/1	100					loam			
13-20+	10YR 3/2	100					gravelly sandy loam			
¹ Type: C=Conc	centration, D=Depleti	on, RM=Re	educed Matrix, CS	=Covered	or Coated	I Sand G	rains. ² Location:	PL=Pore Lining,	M=Matrix.	
Hydric Soil Indica	tors: (Applicable to	all LRRs,	unless otherwis	e noted.)	Indicators	for Pro	blematic Hydric Se	oils ³ :		
Histosol (A1)		-	Sandy Redox	(S5)			2 cm Muck (A1	0) (LRR B)		
Histic Epipedon	n (A2)	-	Stripped Matrix	ĸ (S6)			Red Parent Ma	terial (TF2)		
Black Histic (A3	3)	-	Loamy Mucky	Mineral (F	1)(except l	MLRA1)	Other (Explain	in Remarks)		
Hydrogen Sulfic	de (A4)	-	Loamy Gleyed	Matrix (F2	2)					
Depleted Below	/ Dark Surface (A11)	_	Depleted Matri	ix (F3)			³ Indicators of hydro			
Thick Dark Surf	face (A12)	-	Redox Dark Si	urface (F6)		hydrology must be problematic.	present, unless d	sturbed or	
Sandy Mucky N	lineral (S1)	-	Depleted Dark	Surface (F7)		problematic.			
Sandy Gleyed M	Matrix (S4)	-	Redox Depres	sions (F8)						
Restrictive Layer	(if present):									
Type:										
Depth (inches)):						Hydric Soil P	resent?	Yes	No
Domorko:										
	not meet hydric soil	indicators	for applicable tex	xtures						
Sample does r		indicators	for applicable tex	xtures						
Sample does r HYDROLOGY Wetland Hydrolog	ly Indicators:			xtures						
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (y Indicators: (minimum of 1 requir		all that apply)						ators (2 or more re	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water	y Indicators: (minimum of 1 requir (A1)		all that apply) Water-Stained	I Leaves (E	,			Water-Staine	ed Leaves (B9)	quired) (MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water Tat	y Indicators: (minimum of 1 requir (A1) Dle (A2)		all that apply) Water-Stained (except MLRA	l Leaves (E A 1,2,4A, a	,			Water-Staine Drainage Pa	ed Leaves (B9) tterns (B10)	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat High Water Tat Saturation (A3)	y Indicators: (minimum of 1 requir (A1) ole (A2)		all that apply) Water-Stained (except MLRA Salt Crust (B1	I Leaves (E \ 1,2,4A, a 1)	ind 4B)			Water-Staine Drainage Pa Dry-Season	ed Leaves (B9) tterns (B10) Water Table (C2)	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat High Water Tat Saturation (A3) Water Marks (B	y Indicators: (minimum of 1 requir (A1) Jele (A2) 31)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte	I Leaves (E A 1,2,4A, a 1) ebrates (B [.]	ind 4B) 13)			Water-Staine Drainage Pa Dry-Season Saturation V	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water (High Water Tat Saturation (A3) Water Marks (B Sediment Depo	y Indicators: (minimum of 1 requir (A1) ble (A2) B1) usits (B2)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf	I Leaves (E \ 1,2,4A, a 1) ebrates (B [:] ïde Odor (f	nd 4B) 13) C1)			Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water (High Water Tat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f	y Indicators: (minimum of 1 requir (A1) ble (A2) (A1) ble (A2) (A1) ble (B2) (B3)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo	I Leaves (E A 1,2,4A, a 1) ebrates (B ⁻ iide Odor (i ospheres a	nd 4B) 13) C1) along Living	g Roots (Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2)	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Tata Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (B Algal Mat or Crit	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) vsits (B2) B3) ust (B4)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizc Presence of R	I Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (i ospheres a educed Iro	13) C1) along Living on (C4)			Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3)	· · · · · · · · · · · · · · · · · · ·
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Tata Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (F Algal Mat or Cru Iron Deposits (F	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) usits (B2) B3) ust (B4) 35)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re	I Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (i ospheres a educed Irc educed Irc eduction in	and 4B) 13) C1) along Living on (C4) a Tilled Soi	ils (C6)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5)	(MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (F Algal Mat or Cru Iron Deposits (E Surface Soil Cru	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) ssits (B2) B3) ust (B4) 35) acks (B6)	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (opspheres a educed Irc eduction in essed Plar	nnd 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (L	ils (C6)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant M	d Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) <i>I</i> ounds (D6) (LRR	(MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (F Algal Mat or Cru Iron Deposits (E Surface Soil Cri Inundation Visit	y Indicators: (minimum of 1 requir (A1) ble (A2) B1) bsits (B2) B3) bust (B4) B5) acks (B6) ble on Aerial Imagery	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (opspheres a educed Irc eduction in essed Plar	nnd 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (L	ils (C6)	 C3)	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant M	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5)	(MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (F Algal Mat or Cru Iron Deposits (E Surface Soil Cri Inundation Visit	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) ssits (B2) B3) ust (B4) 35) acks (B6)	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (opspheres a educed Irc eduction in essed Plar	nnd 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (L	ils (C6)	 C3)	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant M	d Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) <i>I</i> ounds (D6) (LRR	(MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water fat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Crr Iron Deposits (E Surface Soil Crr Inundation Visit Sparsely Veget	y Indicators: (A1) ble (A2) 31) vsits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (opspheres a educed Irc eduction in essed Plar	nnd 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (L	ils (C6)	C3)	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant M	d Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) <i>I</i> ounds (D6) (LRR	(MLRA 1,2,4A, and
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water High Water Tata Saturation (A3) Water Marks (B Sediment Deposits (F Algal Mat or Crr Iron Deposits (F Surface Soil Crr Inundation Visit Sparsely Veget Field Observation	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) sists (B2) B3) sust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfact	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro Other (Explain	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (opspheres a educed Irc eduction in essed Plar in Remark	nnd 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (L	ils (C6)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water of High Water Tata Saturation (A3) Water Marks (B Sediment Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cru Inundation Visiti Sparsely Veget Field Observation Surface Water Pre	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) sists (B2) B3) sust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfact ns: esent? Yes	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro Other (Explain	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc eduction in essed Plar in Remark	and 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (Li ks)	lls (C6) RR A)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant M	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (B Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget Field Observation Surface Water Pres Water Table Pres	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) sists (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfact ns: essent? Yes ent? Yes	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1) Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stre Other (Explain X Depth X Depth	I Leaves (E A 1,2,4A, a 1) ide Odor (f opspheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	and 4B) (13) (C1) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ls (C6) RR A)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators Surface Water Tata Saturation (A3) Water Marks (B Sediment Deposits (I Algal Mat or Crr Iron Deposits (I Surface Soil Crr Inundation Visit Sparsely Veget Field Observation Surface Water Prese Water Table Prese Saturation Presen	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) usits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfact ms: esent? Yes ent? Yest?	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1) Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stre Other (Explain X Depth X Depth	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc eduction in essed Plar in Remark	and 4B) 13) C1) along Living on (C4) n Tilled Soi nts (D1) (Li ks)	ls (C6) RR A)		Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tate Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (B Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget Field Observation Surface Water Press Saturation Pressen (includes capillary	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) bits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surface ns: esent? Yes ent? Yes t? Yes	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizz Presence of R Recent Iron Re Stunted or Stra Other (Explain X Depth X Depth	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	and 4B) 13) C1) 13 C1) 13 C1) 17 Illed Soi 15 C1) (L1 ks) 20 20 20 20 20 20 20 20 20 20 20 20 20	ls (C6) RR A)	Wetland Hy	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tate Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cru Inundation Visit Sparsely Veget Field Observation Surface Water Prese Saturation Presen (includes capillary	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) usits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfact ms: esent? Yes ent? Yest?	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizz Presence of R Recent Iron Re Stunted or Stra Other (Explain X Depth X Depth	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	and 4B) 13) C1) 13 C1) 13 C1) 17 Illed Soi 15 C1) (L1 ks) 20 20 20 20 20 20 20 20 20 20 20 20 20	ls (C6) RR A)	Wetland Hy	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tate Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru Iron Deposits (F Surface Soil Cru Inundation Visit Sparsely Veget Field Observation Surface Water Press Saturation Pressen (includes capillary	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) bits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surface ns: esent? Yes ent? Yes t? Yes	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizz Presence of R Recent Iron Re Stunted or Stra Other (Explain X Depth X Depth	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	and 4B) 13) C1) 13 C1) 13 C1) 17 Illed Soi 15 C1) (L1 ks) 20 20 20 20 20 20 20 20 20 20 20 20 20	ls (C6) RR A)	Wetland Hy	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A
Sample does r HYDROLOGY Wetland Hydrolog Primary Indicators (Surface Water Tat Saturation (A3) Water Marks (B Sediment Deposits (I Algal Mat or Cru Iron Deposits (I Surface Soil Cru Inundation Visit Sparsely Veget Field Observation Surface Water Prese Saturation Presen (includes capillary Describe Recorde Remarks:	y Indicators: (minimum of 1 requir (A1) ble (A2) 31) bits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surface ns: esent? Yes ent? Yes t? Yes	red: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizc Presence of R Recent Iron Re Stunted or Strr Other (Explain X Depth X Depth X Depth Depth	I Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (f ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (14) (C4) (15) (15) (15) (15) (15) (15) (15) (15	ls (C6) RR A) D" D"	Wetland Hy s), if available:	Water-Staine Drainage Pa Dry-Season Saturation V Imagery (C9 Geomorphic Shallow Aqu FAC-Neutral Raised Ant N Frost-Heave	ed Leaves (B9) tterns (B10) Water Table (C2) isible on Aerial) Position (D2) itard (D3) Test (D5) /ounds (D6) (LRR Hummocks (D7)	(MLRA 1,2,4A, and A

Project/Site:	Factoria Transfer S	Station		Cit	y/County:	Bellevue/King	Sampling Date	3/5/2010
Applicant/Owner:	King County				State:	WA	Sampling Point	: SP 4-1 (WL)
Investigator(s):	Danielski/Dalzell				s	Section, Township, R	Range:	10/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillslope	Local relie	ef (concave	, convex, no	one): Nor	ne Slope (%)	: <5%
Subregion (LRR):		А	Lat:	47.58	2036 l	Long: -122.1594	24 Datum	NAD83
Soil Map Unit Name	e:		Jrban Land			NWI CI	assification:	PSS
Are climatic/hydrolo	ogic conditions on th	e site typical for this	time of year?	Yes	Х	No(I	f no, explain in Remark	s)
Are Vegetation	Soil	Or Hydrolog	у	significantl	y disturbed'	? Are "Normal C	ircumstances" present	? Yes X No
Are Vegetation	Soil	Or Hydrolog	у	Naturally p	roblematic?	? (If needed, explain	n any answers in Rema	rks)
		ach site man she	wing sampl	ling point	location	e transacte imr	oortant features, et	c
Hydrophytic Vegeta		X	No		location	s, transects, imp	Jonanii Teatures, et	
Hydric Soil Present	-	X	No		Is the Sar	mpled Area	Yes X	No
Wetland Hydrology	-	X	No		within a W	Wetland?		
Wa	Il three criteria are m ater. he sample plot is loc						g fill material that may b	e preventing infiltration of
VEGETATION -	- Use scientific n	ames of plants.						
Tree Stratum	Plot size:	Absolu	te Dominan	t Indic	ator I	Dominance Test wo	orksheet:	
		% Cove	er Species?	Stat	tus			
1						Number of Domina	ant Species	
2						That are OBL, FA	CW, or FAC:	2 (A)
3						Total Number of D	Dominant	
4						Species Across A	Il Strata:	3 (B)
		0	= Total Co	over		Percent of Domina		(=)
						That are OBL, FA		67% (A/B)
					-	Prevalence Index w	·	(,
Sapling/Shrub Stra					l'			
1 Rubus specta	abilis	25	Y	FAC		Total % Cove		Multiply by:
2						OBL Species	x1 =	0
3						FACW Species	5 x2 =	10
4						FAC Species	25 x3 =	75
5						FACU Species	0 x4 =	0
		25	= Total Co	over		UPL Species	95 x5 =	475
						Column Totals:	125 (A)	560 (B)
Herb Stratum	Plot Size:					Prevalence Index	= B/A	4.48
1 Equisetum te	elmateia	5	Y	FACV	V			
2						Hydrophytic Vegeta	ation Indicators:	
3						<u> </u>	ominance Test is >50%	6
4						P	Prevalence Test is ≤ 3.0	1
5						N	Iorphological Adaptatio	ns (Provide supporting
6							data in Remarks or on a	
7						V	Vetland Non-Vascular F	Plants ¹
8		,			—		Problematic Hydrophitic	Vegetation ¹ (explain)
9					1		soil and wetland hydrolog	
-				·			listurbed or problematic.	jy musi
10							•	
11			- Tatal Ca					
		5	= Total Co	Jvei				
Woody Vine Stratu	m Plot Size:					Hydroph	ytic vegetation preser	ıt?
1 Hedera Helix		95	Y	NI				
2							Yes X	No
		95	= Total Co	over				
% Bare Ground in I	Herb Stratum	0	-					
Remarks: Do	ominant test indicate	es that hydrophytic v	egetation is pre	esent at the	e sample plo	ot.		

(inches)	Matrix		R	Redox Fea	itures						
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rema	rks	
0-14	5Y 5/1	100					loamy sand				
14-32	5Y 5/1	90	2.5Y 5/6	10	С	М	sandy loam				
								·			
								·			
								·			
								·			
								·			
¹ Type: C=Cond	centration, D=Depleti	on, RM=Re	educed Matrix, CS	=Covered	or Coated	I Sand G	ains. ² Location:	PL=Pore Lining,	M=Matrix.		
	tors: (Applicable to										
Histosol (A1)		un Errito,	Sandy Redox	-	indicatoro		2 cm Muck (A1				
Histic Epipedor	n (A2)	-	Stripped Matrix			-	Red Parent Ma				
Black Histic (A3		-	Loamy Mucky	. ,		MIRA1)		. ,			
Hydrogen Sulfic		-	Loamy Gleyed					in Remarks)			
	/ Dark Surface (A11)	-			<u>~</u>)		³ Indicators of hydro	phytic vegetation	and wetland		
	. ,	-	Depleted Matri		`		hydrology must be				
Thick Dark Sur	. ,	-	Redox Dark Si				problematic.	-			
Sandy Mucky M		-	Depleted Dark								
Sandy Gleyed N	viaulix (54)	-	Redox Depres	SIONS (F8)							
Restrictive Layer	(if present).										
•	(p. 000117).										
Type:							Undrie Cail D		Vaa	V	No
Depth (inches)).						Hydric Soil Pr	esent?	Yes	X	No
Demendue											
Remarks:											
	pleted matrix criteria	. Soil prot	ile does not appe	ear disturb	oed.						
Solis meet dep											
Solis meet dep		·									
Solis meet det		·									
HYDROLOGY											
	y Indicators:										
HYDROLOGY Wetland Hydrolog	y Indicators: (minimum of 1 requir							Secondary Indica	tors (2 or more	e required)	
HYDROLOGY Wetland Hydrolog	(minimum of 1 requir								tors (2 or more) RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators	(minimum of 1 requir (A1)		all that apply)	Leaves (E	39)				d Leaves (B9)		
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water	(minimum of 1 requir (A1) ble (A2)		all that apply) Water-Stained	l Leaves (E A 1,2,4A, a	39)			Water-Staine Drainage Pat	d Leaves (B9)	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3)	(minimum of 1 requir (A1) ble (A2)		all that apply) Water-Stained (except MLRA Salt Crust (B1)	l Leaves (E A 1,2,4A, a 1)	39) I nd 4B)			Water-Staine Drainage Pat	ed Leaves (B9) tterns (B10)	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E	(minimum of 1 requir (A1) ble (A2) 31)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte	l Leaves (E A 1,2,4A, a 1) ebrates (B	39) ind 4B) 13)			Water-Staine Drainage Pat	ed Leaves (B9) tterns (B10) Water Table (C sible on Aerial	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water X High Water Tat X Saturation (A3) Water Marks (E Sediment Depo	(minimum of 1 requir (A1) ole (A2) B1) ssits (B2)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf	l Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (ⁱ	39) ind 4B) 13) C1)	a Roots (Water-Staine Drainage Pat Dry-Season V Saturation Vi Imagery (C9)	ed Leaves (B9) tterns (B10) Water Table (C sible on Aerial	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I	(minimum of 1 requir (A1) ole (A2) 31) vsits (B2) B3)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo	Leaves (E A 1,2,4A, a 1) ebrates (B ide Odor (ospheres a	39) Ind 4B) 13) C1)	g Roots (C3)	Water-Staine Drainage Pat Dry-Season V Saturation Vi Imagery (C9) Geomorphic	ed Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2)	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri	(minimum of 1 requir (A1) ble (A2) 31) ssits (B2) B3) ust (B4)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (obspheres a educed Irc	39) Ind 4B) 13) C1) along Living on (C4)	-	 C3)	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3)	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E	(minimum of 1 requir (A1) ble (A2) 81) sits (B2) B3) ust (B4) 35)		all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc educed Irc eduction in	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil	ls (C6)	 C3)	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5)	(ML	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cri	(minimum of 1 requir (A1) ble (A2) 81) sists (B2) B3) ust (B4) 85) acks (B6)	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll	ls (C6)	 C3)	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	d Leaves (B9) terns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) lounds (D6) (L	(ML 22) RR A)	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit	(minimum of 1 requir (A1) ble (A2) B3) bists (B2) B3) ust (B4) B35) acks (B6) ble on Aerial Imagery	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll	ls (C6)		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5)	(ML 22) RR A)	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit	(minimum of 1 requir (A1) ble (A2) 81) sists (B2) B3) ust (B4) 85) acks (B6)	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll	ls (C6)		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	d Leaves (B9) terns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) lounds (D6) (L	(ML 22) RR A)	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget	(minimum of 1 requir (A1) (A1) ble (A2) 31) sists (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll	ls (C6)	 C3)	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	d Leaves (B9) terns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) lounds (D6) (L	(ML 22) RR A)	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cri Inundation Visit Sparsely Veget Field Observation	(minimum of 1 requir (A1) (A1) ole (A2) (A2) (A2) (A3) (A3) (B2) (B3) (B4) (B4) (B4) (A3) (B4) (B4) (A3) (B4) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) 1 Tilled Soil 1 Tilled Soil tts (D1) (Ll ks)	ls (C6) RR A)		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A)	
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water X High Water Tat X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Pre	(minimum of 1 requir (A1) (A1) ole (A2) (A2) (A3) (A2) (A3) (B2) (B3) (B4) (B4) (B4) (B4) (B5) (B6) ole on Aerial Imagery ated Concave Surfact (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3)	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro Other (Explain	Leaves (E A 1,2,4A, a 1) bbrates (B ide Odor (r obspheres a educed Irc eduction in essed Plar	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll	ls (C6) RR A)		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water × High Water Tat × Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cri Inundation Visit Sparsely Veget Field Observation	(minimum of 1 requir (A1) (A1) ole (A2) (A2) (A3) (A2) (A3) (B2) (B3) (B4) (B4) (B4) (B4) (B5) (B6) ole on Aerial Imagery ated Concave Surfact (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3)	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stro Other (Explain	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (r opspheres a educed Irc eduction in essed Plar in Remart	39) ind 4B) 13) C1) along Living on (C4) 1 Tilled Soil 1 Tilled Soil tts (D1) (Ll ks)	ls (C6) RR A)		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) terns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) Iounds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water X High Water Tat X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Pres Saturation Presen	(minimum of 1 requir (A1) (A1) (A1) (A2) (A2) (A3) (A3) (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B5) (B6) (B6) (B6) (B6) (B6) (B6) (B6) (B6	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1) Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stre Other (Explain Depth Depth	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (r opspheres a educed Irc eduction in essed Plar in Remart (inches):	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil nts (D1) (Ll ks) ~1	ls (C6) RR A) "		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water X High Water Tat X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Pres Water Table Pres	(minimum of 1 requir (A1) (A1) (A1) (A2) (A2) (A3) (A3) (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B5) (B6) (B6) (B6) (B6) (B6) (B6) (B6) (B6	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1) Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Re Stunted or Stre Other (Explain Depth Depth	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (r opspheres a educed Irc eduction in eased Plar in Remart (inches): (inches):	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soii nts (D1) (Ll ks) ~1 surfa	ls (C6) RR A) "		Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water Aligh Water Tate Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Pres Saturation Presen (includes capillary	(minimum of 1 requir (A1) (A1) (A1) (A2) (A1) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (bebrates a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil hts (D1) (Ll ks) <u>~1</u> <u>surfa</u>	Is (C6) RR A) " ace ace	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water Aligh Water Tate Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Pres Saturation Presen (includes capillary	(minimum of 1 requir (A1) (A1) (A1) (A2) (A2) (A3) (A3) (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B5) (B6) (B6) (B6) (B6) (B6) (B6) (B6) (B6	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (bebrates a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil hts (D1) (Ll ks) <u>~1</u> <u>surfa</u>	Is (C6) RR A) " ace ace	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water Aligh Water Tate Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Press Saturation Presen (includes capillary Describe Recorded	(minimum of 1 requir (A1) (A1) (A1) (A2) (A1) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	Leaves (E A 1,2,4A, a 1) bebrates (B ide Odor (bebrates a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) ind 4B) 13) C1) along Living on (C4) i Tilled Soil hts (D1) (Ll ks) <u>~1</u> <u>surfa</u>	Is (C6) RR A) " ace ace	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water X High Water Tat Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Press Saturation Presen (includes capillary Describe Recorde Remarks:	(minimum of 1 requir (A1) (A1) (A1) (A2) (A1) (A1) (A1) (A2) (A2) (A2) (A2) (A2) (A2) (A2) (A2	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizc Presence of R Recent Iron Re Stunted or Stra Other (Explain Depth Depth Depth Depth Depth Depth Depth	Leaves (F A 1,2,4A, a 1) bebrates (B ide Odor (r ospheres a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) Ind 4B) 13) C1) along Living on (C4) I Tilled Soil nts (D1) (Ll ks) -1 surfa surfa surfa	Is (C6) RR A) " ace ace spections	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators X Surface Water Tat Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Cri Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Press Saturation Presen (includes capillary Describe Recorde Remarks:	(minimum of 1 requir (A1) (A1) (A1) (A2) (A1) (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizc Presence of R Recent Iron Re Stunted or Stra Other (Explain Depth Depth Depth Depth Depth Depth Depth	Leaves (F A 1,2,4A, a 1) bebrates (B ide Odor (r ospheres a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) Ind 4B) 13) C1) along Living on (C4) I Tilled Soil nts (D1) (Ll ks) -1 surfa surfa surfa	Is (C6) RR A) " ace ace spections	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and
HYDROLOGY Wetland Hydrolog Primary Indicators × Surface Water Tat × High Water Tat × Saturation (A3) Water Marks (E Sediment Deposits (I Algal Mat or Crr Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observation Surface Water Present Saturation Present (includes capillary Describe Recorder	(minimum of 1 requir (A1) (A1) (A1) (A2) (A1) (A1) (A1) (A2) (A2) (A2) (A2) (A2) (A2) (A2) (A2	ed: check a - - - - - - - - - - - - - - - - - - -	all that apply) Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizc Presence of R Recent Iron Re Stunted or Stra Other (Explain Depth Depth Depth Depth Depth Depth Depth	Leaves (F A 1,2,4A, a 1) bebrates (B ide Odor (r ospheres a educed Irc eduction in essed Plar in Remart (inches): (inches): (inches):	39) Ind 4B) 13) C1) along Living on (C4) I Tilled Soil nts (D1) (Ll ks) -1 surfa surfa surfa	Is (C6) RR A) " ace ace spections	Wetland Hy	Water-Staine Drainage Pat Dry-Season \ Saturation Vi Imagery (C9) Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave	d Leaves (B9) tterns (B10) Water Table (C sible on Aerial Position (D2) tard (D3) Test (D5) founds (D6) (L Hummocks (D	(ML 22) RR A) 7)	RA 1,2,4A, and

Project/Site:	Factoria Transfer St	ation		City/County:	Bellevue/King	Sampling Date:	3/5/2010
Applicant/Owner:	King County			State:	WA	Sampling Point:	SP 4-2 (UPL)
Investigator(s):	Danielski/Dalzell				Section, Township, R	ange:	10/T24N/R5E
Landform (hillslope	e, terrace, etc):	Hillslope	Local relief (concave, convex,	none): Non	Slope (%):	>5%
Subregion (LRR):		Α	Lat:	47.582064	Long: -122.1593	79 Datum:	NAD83
Soil Map Unit Nam	e:	Urb	an Land		NWI Cla	assification:	Upland shrub
Are climatic/hydrole	ogic conditions on the	site typical for this tim	e of year?	Yes X	No(If	no, explain in Remark	s)
Are Vegetation	Soil	Or Hydrology		gnificantly disturbe		rcumstances" present?	
Are Vegetation	Soil	Or Hydrology	N	aturally problemation	c? (If needed, explain	any answers in Remar	ks)
SUMMARY OF	FINDINGS – Attac	ch site map showi	ng samplin	a point locatio	ns. transects. imp	ortant features, etc	2.
Hydrophytic Vegeta			lo X	51		,	
Hydric Soil Present	t? Yes	N	lo X		ampled Area	Yes	No X
Wetland Hydrology	Present? Yes	1	lo X	within a	Wetland?		
Remarks: Ty	wo out of three criteria	a are absent; therefore	the sample n	lot is not within a v	vetland		
Remarks.			the sumple p				
TI	he sample plot is loca	ted upslope of Wetlan	d 4, less than	10 feet southwest	of flag 4-1		
r	Use scientific na	•			I		
Tree Stratum	Plot size:	Absolute	Dominant	Indicator Status	Dominance Test wo	orksheet:	
		% Cover	Species?				
1 Acer macrop	hyllum	30	Y	FACU	Number of Domina	ant Species	
2					That are OBL, FAC	CW, or FAC:	0 (A)
3					Total Number of D	ominant	
4					Species Across All	I Strata:	3 (B)
		30	= Total Cove	er	Percent of Domina	int Species	
					That are OBL, FAC	CW, or FAC:	0 (A/B)
Sapling/Shrub Stra	tum Plot size.				Prevalence Index w	orksheet:	
1 Rosa spp.		15	Y	NI	Total % Cove	er of:	Multiply by:
2 Symphoricar	nos albus	15	 Y	FACU	OBL Species	x1 =	0
					FACW Species	x2 =	0
3 Rubus procei	lus	40	Y	FACU	· -	·	0
4					FAC Species	x3 =	
5					FACU Species	85 x4 =	340 50
		70	= Total Cove	er	UPL Species Column Totals:	10 x5 = 95 (A)	390 (B)
Herb Stratum	Plot Size:				Prevalence Index =		4.11 (B)
	1 101 5126.					<u> </u>	
1							<u> </u>
2					Hydrophytic Vegeta		
3						ominance Test is >50%	
4					Pr	revalence Test is ≤ 3.0	
5						orphological Adaptation	
6						ata in Remarks or on a	. ,
7					W	etland Non-Vascular P	lants ¹
8					Pr	roblematic Hydrophitic	Vegetation ¹ (explain)
9					¹ Indicators of hydric set	oil and wetland hydrolog	y must
10					be present, unless di	sturbed or problematic.	
11							
		0	= Total Cove	er			
Woody Vine Stratu	m Plot Size:				Hydrophy	tic vegetation presen	1 ?
-				NU	- Hydrophy	nie vegetation presen	
1 Hedera Helix		10	Y	NI			
2			Table			Yes	No <u>X</u>
% Poro Crowned in		10	= Total Cove	er			
% Bare Ground in				ation			
Remarks: A	rea does not meet crit	eria for dominant hydr	opnytic veget	auon			

Depth	Matrix		F	Redox Fea	atures					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-15	10YR 3/2	100					gravelly sandy loam			
15-20+	10YR 3/2	50					gravelly sandy loam			
	10YR 4/3	50								
							<u> </u>			
							<u> </u>			
							. <u> </u>			
	. <u> </u>						. <u> </u>			
4										
	ncentration, D=Deplet							PL=Pore Lining, N	/I=Matrix.	
Hydric Soil Indic	ators: (Applicable to	all LRRs	unless otherwis	e noted.)	Indicators	s for Pro	•			
Histosol (A1)		-	Sandy Redox				2 cm Muck (A10			
Histic Epipedo		-	Stripped Matrix	. ,			Red Parent Mate			
Black Histic (A		-	Loamy Mucky			MLRA1)	Other (Explain in	n Remarks)		
Hydrogen Sulf		-	Loamy Gleyed		2)		3 and a stars of building			
	w Dark Surface (A11)	-	Depleted Matri		•		³ Indicators of hydrop hydrology must be p			
Thick Dark Su		-	Redox Dark S				problematic.	,	-	
Sandy Mucky		-	Depleted Dark Redox Depres							
Sandy Gleyed	Matrix (54)	-	Redox Depres	SIONS (F8))					
Restrictive Laye	er (if present):									
Type:										
Depth (inches	e).						Hydric Soil Pro	esent?	Yes	No X
Doput (monor							injunio com i n			
Remarks:							ļ			
Soils do not r	neet hydric soil criter	ia for annl	icable textures							
HYDROLOGY										
Wetland Hydrolo	gy Indicators:									
Primary Indicators	s (minimum of 1 requir	ed: check	all that apply)					Secondary Indicat		
Surface Water		-	Water-Stained	,	,		-	Water-Stained		(MLRA 1,2,4A, and 4
High Water Ta			(except MLRA		and 4B)		-	Drainage Patt		
Saturation (A3		-	Salt Crust (B1				-		/ater Table (C2)	
Water Marks (-	Aquatic Inverte				-	Saturation Vis	ible on Aerial	
Sediment Dep		-	Hydrogen Sulf				-	Imagery (C9)		
Drift Deposits		-	Oxidized Rhize			g Roots	(C3)	Geomorphic F		
Algal Mat or C		-	Presence of R		. ,	(OO)	-	Shallow Aquita		
Iron Deposits		-	Recent Iron Re				-	FAC-Neutral 1	ounds (D6) (LRR J	•)
Surface Soil C		- (DZ)	Stunted or Stre			.KR A)	-			A)
	sible on Aerial Imagery		Other (Explain	in Remar	KS)		-	Frost-Heave F	lummocks (D7)	
Sparsely vege	etated Concave Surfac	.е (во)								
Field Observation										
Surface Water P		No		(inches):			Wetland Hyd	drology Present	? Yes	<u>No X</u>
Water Table Pre		No		(inches):			.			
Saturation Prese	· · · · · · · · · · · · · · · · · · ·	No	X Depth	(inches):						
(includes capillar	y mnge)									
Describe Record	led Data (stream gau	ige, monito	oring well, aerial	photos, pr	revious ins	spection	s), if available:			
	2									
Remarks:										
Lack of prima	ary indicators of hydro	ology in ea	rly part of growin	g season	. No seco	ondary in	diciators			

Project/Site:	Factoria Transfer S	tation		City/County:	Belle	vue/King	Sampling Date:	3/5/2010
Applicant/Owner:	King County			State:		WA	Sampling Point:	SP 4-3 (WL)
Investigator(s):	Danielski/Dalzell				Section, Tov	wnship, Range:	10)/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillslope	Local relief (co	ncave, convex, r	none):	None	Slope (%):	>5%
Subregion (LRR):		A	Lat:	47.58215	Long: -	122.159261	Datum:	NAD83
Soil Map Unit Name			an Land			NWI Classific	cation:	PSS1
-	-	e site typical for this tin	-	es X	No		explain in Remarks)	
Are Vegetation	Soil	Or Hydrology		-				Yes X No
Are Vegetation	Soil	Or Hydrology	Natu	irally problematic	? (If needeo	d, explain any a	answers in Remarks	(ئ
SUMMARY OF	FINDINGS – Atta	ch site map showi	ng sampling	point location	ns, transed	cts, importa	nt features, etc.	
Hydrophytic Vegeta	ation Present? Yes	х і	No	•	*			
Hydric Soil Present	? Yes	Х	No		ampled Area	a	Yes X	No
Wetland Hydrology	Present? Yes	Х	No	within a	Wetland?			
Remarks: Al	I three criteria are me	et; therefore the sample	e plot is within a	wetland				
		•	•					
		ated in northeast portio	n of Wetland 4,	near north bound	dary.			
	Use scientific na	-	<u> </u>					
Tree Stratum	Plot size:	Absolute	Dominant	Indicator Status	Dominance	e Test worksho	eet:	
		% Cover	Species?	Status				
1			·	<u> </u>	Number of	of Dominant Sp	becies	
2					That are	OBL, FACW, o	or FAC:	1 (A)
3					Total Nur	mber of Domina	ant	
4					Species /	Across All Strat	ta:	3 (B)
		0	= Total Cover		Percent of	of Dominant Sp	ecies	
					That are	OBL, FACW, o	or FAC:	33% (A/B)
Sapling/Shrub Strat	tum Plot size.				Prevalence	e Index worksł	heet:	
1 Viburnum sp		20	Y	NI	Tota	al % Cover of:		Multiply by:
2 Acer circinatu			·	FAC	OBL Spe		x1 =	0
		10	<u> </u>	FAC	FACW S		x2 =	0
3			·	<u> </u>		·		30
4		<u> </u>			FAC Spe			
5			· <u> </u>	<u> </u>	FACU Sp			0
		30	= Total Cover		UPL Spe			575 605 (B)
Harb Stratum	Diet Size:				Column T	ce Index = B/A		605 (B) 4.84
Herb Stratum	Plot Size:				Tievalen			+.04
1			·	<u> </u>				
2				<u> </u>	Hydrophyti	ic Vegetation I		
3			·	<u> </u>			ance Test is >50%	
4			·			Prevale	ence Test is $\leq 3.0^1$	
5			. <u> </u>					(Provide supporting
6							Remarks or on a se	. ,
7			·			Wetlan	d Non-Vascular Pla	nts ¹
8					х	Probler	matic Hydrophitic Ve	getation ¹ (explain)
9					¹ Indicators of	of hydric soil and	d wetland hydrology r	must
10					be present	, unless disturbe	ed or problematic.	
11				<u>.</u>				
		0	= Total Cover					
Woody Vino Strating	m Plot Size:						notation process?	
Woody Vine Stratu					'		egetation present?	
1 Hedera Helix		95	Y	NI				
2			· <u> </u>				Yes X	No
	lash Christian	95	= Total Cover					
% Bare Ground in H			1 1 2					
Remarks: Ar	ea has problematic v	vegetation. Assume hy	/drophtic vegetai	ion is present ba	sed on hydro	ology/soils.		

(inches)	Matrix		R	edox Fea	tures					
(Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-10	2.5YR 4/1	90	10YR 4/6	10	С	Μ	fine sandy loam			
10-18+	10G 6/1	75	10YR 4/6	25	С	Μ	fine sandy loam	compacted		
			. <u></u>							
			. <u> </u>							
17 0.0	<u> </u>						. 2			
	centration, D=Depletio							PL=Pore Lining, M=	Matrix.	
	tors: (Applicable to	all LKKS, l		-	Indicators	tor Pro	2 cm Muck (A10			
Histosol (A1)	(42)		Sandy Redox (
Histic Epipedon			Stripped Matrix Loamy Mucky I	. ,	1)(oxcont I		Red Parent Mate			
Black Histic (A3						VILKAI)	Other (Explain in	r Remarks)		
Hydrogen Sulfic			Loamy Gleyed		<u>(</u>)		³ Indicators of hydror	phytic vegetation and	wetland	
_	v Dark Surface (A11)	-	_ Depleted Matri		\ \			present, unless distur		
Thick Dark Surf Sandy Mucky N		_	_Redox Dark Su Depleted Dark				problematic.			
Sandy Mucky W			Redox Depress							
	viatrix (34)			50115 (FO)						
estrictive Layer	(if present):									
Туре:	,									
Depth (inches)):						Hydric Soil Pro	esent?	Yes X	No
1 ()										
emarks:	eria for loamy gleyed									
IYDROLOGY										
etland Hydrolog	y Indicators:									
-	(minimum of 1 require	ed: check al						Secondary Indicators		· · · · · · · · · · · · · · · · · · ·
Surface Water	(A1)	ed: check al	Water-Stained	,	,			Water-Stained L	eaves (B9) (M	· · · · · · · · · · · · · · · · · · ·
Surface Water	(A1) ble (A2)	ed: check al	Water-Stained (except MLRA	1,2,4A, a	,			Water-Stained L Drainage Patterr	eaves (B9) (M ns (B10)	· · · · · · · · · · · · · · · · · · ·
Surface Water	(A1) ble (A2)	ed: check al	Water-Stained (except MLRA Salt Crust (B11	1 ,2,4A , a	nd 4B)			Water-Stained L Drainage Patterr Dry-Season Wat	eaves (B9) (M ns (B10) rer Table (C2)	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tab Saturation (A3) Water Marks (B	(A1) ble (A2) B1)	ed: check al	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte	1 ,2,4A, a 1) ebrates (B	nd 4B) 13)			Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl	eaves (B9) (M ns (B10) rer Table (C2)	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tak Saturation (A3) Water Marks (B Sediment Depo	(A1) ole (A2) 31) osits (B2)	ed: check al 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi	1,2,4A, a brates (B de Odor (nd 4B) 13) C1)			Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visible Imagery (C9)	eaves (B9) (M ns (B10) er Table (C2) e on Aerial	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (I	(A1) ole (A2) 31) usits (B2) B3)	ed: check al 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	1,2,4A, a l) brates (B de Odor (ospheres a	nd 4B) 13) C1) along Living	g Roots (Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos	eaves (B9) (M is (B10) ier Table (C2) e on Aerial	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru	(A1) ble (A2) 31) bsits (B2) B3) ust (B4)	ed: check al 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re	1,2,4A , a bbrates (B de Odor (ospheres a educed Irc	nd 4B) 13) C1) along Living on (C4)	-		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3)	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cri Iron Deposits (f	(A1) ble (A2) sits (B2) B3) ust (B4) 35)	ed: check al 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re	1,2,4A, a brates (B de Odor (ospheres a educed Irc	nd 4B) 13) C1) along Living on (C4) 1 Tilled Soil	ls (C6)		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5)	· · · · · · · · · · · · · · · · · · ·
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (I Algal Mat or Cri Iron Deposits (E Surface Soil Cri	(A1) ble (A2) sits (B2) B3) ust (B4) 35) acks (B6)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stree	a 1,2,4A , a l) bbrates (B de Odor (ospheres a educed Irc eduction in essed Plar	13) C1) along Living on (C4) Tilled Soil nts (D1) (LI	ls (C6)		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A)	· · · · · · · · · · · · · · · · · · ·
Surface Water (K High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (I Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit	(A1) ble (A2) sits (B2) B3) ust (B4) B5) acks (B6) ble on Aerial Imagery	(B7)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re	a 1,2,4A , a l) bbrates (B de Odor (ospheres a educed Irc eduction in essed Plar	13) C1) along Living on (C4) Tilled Soil nts (D1) (LI	ls (C6)		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A)	· · · · · · · · · · · · · · · · · · ·
Surface Water 1 High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru Iron Deposits (E Surface Soil Cr. Inundation Visit	(A1) ble (A2) sits (B2) B3) ust (B4) 35) acks (B6)	(B7)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stree	a 1,2,4A , a l) bbrates (B de Odor (ospheres a educed Irc eduction in essed Plar	13) C1) along Living on (C4) Tilled Soil nts (D1) (LI	ls (C6)		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (I Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget	(A1) ole (A2) sits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Imagery ated Concave Surfac	(B7)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stree	a 1,2,4A , a l) bbrates (B de Odor (ospheres a educed Irc eduction in essed Plar	13) C1) along Living on (C4) Tilled Soil nts (D1) (LI	ls (C6)		Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A)	
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget	(A1) ble (A2) (A1) bsits (B2) (B3) ust (B4) (B4) acks (B6) ble on Aerial Imagery ated Concave Surfac	(B7) e (B8)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	1,2,4A, a bbrates (B de Odor (bspheres a educed Irc educed Irc eduction in essed Plar in Remart	13) C1) along Living on (C4) Tilled Soil nts (D1) (LI	ls (C6)	C3)	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget ield Observation urface Water Pre	(A1) ble (A2) (A1) ble (A2) (B1) ble (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: esent? Yes	(B7) e (B8)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	(inches):	nd 4B) 13) C1) along Living on (C4) Tilled Soil tts (D1) (LI ks)	ls (C6) RR A)	C3)	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour	eaves (B9) (M ns (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A)	i) LRA 1,2,4A, and
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cri Iron Deposits (E Surface Soil Cri Inundation Visit Sparsely Veget ield Observation urface Water Preso	(A1) ble (A2) (A1) ble (A2) (B1) ble (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: essent? Yes <u>x</u>	(B7) e (B8)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	(inches): (inches):	nd 4B) 13) C1) along Living on (C4) Tilled Soil tts (D1) (LI ks) 8"	ls (C6) RR A)	C3)	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cri Iron Deposits (E Surface Soil Cri Inundation Visit Sparsely Veget ield Observation urface Water Pre- /ater Table Presen aturation Presen	(A1) ble (A2) (A1) ble (A2) (B1) (B2) (B4) (B4) (B4) (B4) (B5) ble on Aerial Imagery ated Concave Surfac (B6) ble on Aerial Imagery ated Concave Surfac (Concave Surfac (Concave Surfac) (Concave Surfac) (Concav	(B7) e (B8)	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	(inches):	nd 4B) 13) C1) along Living on (C4) Tilled Soil tts (D1) (LI ks)	ls (C6) RR A)	C3)	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water 1	(A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A2) ((B7) e (B8) No No No	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stre Other (Explain	1,2,4A, a brates (B de Odor (b spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	nd 4B) 13) C1) 13 along Living In (C4) Tilled Soil tts (D1) (LI tts) 8" 8"	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (I Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget ield Observation urface Water Present aturation Present ncludes capillary	(A1) ble (A2) (A1) ble (A2) (B1) (B2) (B4) (B4) (B4) (B4) (B5) ble on Aerial Imagery ated Concave Surfac (B6) ble on Aerial Imagery ated Concave Surfac (Concave Surfac (Concave Surfac) (Concave Surfac) (Concav	(B7) e (B8) No No No	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stre Other (Explain	1,2,4A, a brates (B de Odor (b spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	nd 4B) 13) C1) 13 along Living In (C4) Tilled Soil tts (D1) (LI tts) 8" 8"	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water 1	(A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A2) ((B7) e (B8) No No No	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stre Other (Explain	1,2,4A, a brates (B de Odor (b spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	nd 4B) 13) C1) 13 along Living In (C4) Tilled Soil tts (D1) (LI tts) 8" 8"	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water ((A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A2) ((B7) e (B8) No No ge, monitor	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	(inches): (inches):	nd 4B) (13) (C1) (C4) (Tilled Soil (C4) (Tilled Soil (D1) (LI (ks) (S) (S) (S) (S) (S) (S) (S) (S) (S) (S	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and
Surface Water (High Water Tab Saturation (A3) Water Marks (B Sediment Depo Drift Deposits (f Algal Mat or Cru Iron Deposits (E Surface Soil Cru Inundation Visit Sparsely Veget Surface Water Pre- daturation Presen ncludes capillary escribe Recorde	(A1) ble (A2) (A1) ble (A2) (A1) ble (A2) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A1) (A2) ((B7) e (B8) No No ge, monitor	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizc Presence of Re Recent Iron Re Stunted or Stree Other (Explain	(inches): (inches):	nd 4B) (13) (C1) (C4) (Tilled Soil (C4) (Tilled Soil (D1) (LI (ks) (S) (S) (S) (S) (S) (S) (S) (S) (S) (S	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained L Drainage Patterr Dry-Season Wat Saturation Visibl Imagery (C9) Geomorphic Pos Shallow Aquitarc FAC-Neutral Tes Raised Ant Mour Frost-Heave Hur	eaves (B9) (M is (B10) eer Table (C2) e on Aerial sition (D2) d (D3) st (D5) nds (D6) (LRR A) nmocks (D7)	LRA 1,2,4A, and

Project/Site:	Factoria Transfer Stati	on		City/County:	Bellevue/King	Sampling Date:	3/23/2010
Applicant/Owner:	King County			State	WA	Sampling Point:	SP A-1 (UPL)
Investigator(s):	Danielski/Dalzell				Section, Township, R	Range: 1	0/T24N/R5E
Landform (hillslope,	, terrace, etc):	Hillside	Local relief	(concave, convex,	none): Nor	ne Slope (%):	0%
Subregion (LRR):	A	A	Lat:	47.581772	Long: -122.1612	07 Datum:	NAD83
Soil Map Unit Name	e:	Urb	an Land		NWI CI	assification:	
Are climatic/hydrolo	ogic conditions on the si	te typical for this tim	e of year?	Yes X	No (l	f no, explain in Remarks))
Are Vegetation	Soil	Or Hydrology	si	ignificantly disturbe	d? Are "Normal C	ircumstances" present?	Yes X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemation	c? (If needed, explain	n any answers in Remark	s)
		cito mon chowi	na complin	a naint laastia	na trancasta imu	ortant factures ato	
Hydrophytic Vegeta		-	No X		ns, transects, imp	oortant features, etc.	
Hydric Soil Present				Is the S	ampled Area	Yes	No X
Wetland Hydrology				within a	Wetland?	100	
Remarks: No	one of the criteria are m	et; therefore the sar	nple plot is no	ot within a wetland.			
No	ote: SP A-1 is upslope a	ind southwest of We	etland A.				
VEGETATION -	Use scientific nam	es of plants.					
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test wo	orksheet:	
		% Cover	Species?	Status			
1					Number of Domina	ant Species	
2					That are OBL, FA	CW or FAC	1 (A)
3					Total Number of D		
				·			0 (D)
4			- Tatal Cau		Species Across A		2(B)
		0	= Total Cove	er	Percent of Domina		50% (A/D)
					That are OBL, FA	CW, OFFAC:	50% (A/B)
Sapling/Shrub Strat	tum Plot size:				Prevalence Index w	vorksheet:	
1 Cornus stolon	nifera	40	Y	FACW	Total % Cove	er of:	Multiply by:
2 Lonicera invol	lucrata	5	N	FAC	OBL Species	x1 =	0
3					FACW Species	40 x2 =	80
4					FAC Species	5 x3 =	15
					FACU Species	15 x4 =	60
5			- Total Cau		UPL Species	x5 =	0
		45	= Total Cove	ei	Column Totals:	(A)	155 (B)
Herb Stratum	Plot Size:				Prevalence Index	(0)	2.58
	1 101 3126.						2.30
1							
2					Hydrophytic Vegeta		
3					D	ominance Test is >50%	
4					<u> </u>	revalence Test is $\leq 3.0^1$	
5						lorphological Adaptations	
6						lata in Remarks or on a s	. ,
7			_		V	Vetland Non-Vascular Pla	ants ¹
8					P	roblematic Hydrophitic V	egetation ¹ (explain)
9						soil and wetland hydrology	
10						isturbed or problematic.	
11		0	= Total Cov				
		0					
Woody Vine Stratur	m Plot Size:				Hydroph	vtic vegetation present	?
1 RUBUS URSI	INUS CHAM. & SCHL	E 15	Y	FACU			
2						Yes	No X
		15	= Total Cove	er			
% Bare Ground in H	Herb Stratum 85%						
Remarks: Ar	ea does not meet hydro	phytic vegetation te	st based on p	prevalence test alor	ne since hydric soil/hy	dro not present.	

Type:		Matrix		R	edox Fea	tures							
11:20: 10YR 42.5 >96 10YR 46 5 C M sendy leam "Type: C-Concentration, D-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Gram." ************************************	(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. Halcool (A1)	0-11	10YR 4/2	100					sandy loam					
Hydric Soil Indicators: Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ . Histoc Explection (A2) Strapped Matrix (S5) 2 cm Muck (A10) (LRR B) Histoc Explection (A2) Strapped Matrix (S6) Red Parent Muck (A10) (LRR B) Depleted Balow Dark Surface (A11) Depleted Matrix (F2) ¹ Indicators of hydrophytic suppation and wattand hydrology musb be present, unless disturbed or problematic. Standy Mucky Mineral (S1) Depleted Dark Surface (F2) Red Arent Mucheral (S1) Depleted Dark Surface (F2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F2) Redox Dark Surface (F2) No x Sandy Mucky Mineral (S1) Depleted Dark Surface (F2) Redox Dapressions (F8) No x Retrictive Layer (If present): Type: Depth (inches): Mydric Soil Present? Yes No x Sandy Kedy Matrix (S4) Water-Stained Lawes (B9) (MLRA 1,2.4A, and 4B) Dirainage Patients (B10) Stauration Nibble on Aerial [Mayer YG9) (MLRA 1,2.4A, and 4B) Dirainage Patients (B10) Stauration Nibble on Aerial [Mayer YG9) [MLRA 1	11-20+	10YR 4/2.5	>95	10YR 4/6	<5	С	Μ	sandy loam					
Hydric Soil Indicators: Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ . Histoc Explection (A2) Strapped Matrix (S5) 2 cm Muck (A10) (LRR B) Histoc Explection (A2) Strapped Matrix (S6) Red Parent Muck (A10) (LRR B) Depleted Balow Dark Surface (A11) Depleted Matrix (F2) ¹ Indicators of hydrophytic suppation and wattand hydrology musb be present, unless disturbed or problematic. Standy Mucky Mineral (S1) Depleted Dark Surface (F2) Red Arent Mucheral (S1) Depleted Dark Surface (F2) Sandy Mucky Mineral (S1) Depleted Dark Surface (F2) Redox Dark Surface (F2) No x Sandy Mucky Mineral (S1) Depleted Dark Surface (F2) Redox Dapressions (F8) No x Retrictive Layer (If present): Type: Depth (inches): Mydric Soil Present? Yes No x Sandy Kedy Matrix (S4) Water-Stained Lawes (B9) (MLRA 1,2.4A, and 4B) Dirainage Patients (B10) Stauration Nibble on Aerial [Mayer YG9) (MLRA 1,2.4A, and 4B) Dirainage Patients (B10) Stauration Nibble on Aerial [Mayer YG9) [MLRA 1													
Hydric Soil Indicators: Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ¹ . Histoc Expection (A2) Stripped Matrix (S5)													
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls ¹ . Histic Eppedion (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Histic Eppedion (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ¹ Indicators of hydrophytic vegatation and watand hydrology musits be present, unless disturbed or problematic. Sandy Mucky Miteral (S1) Depleted Dark Surface (F7) Red ox Depressions (F8) No x Remarks: Sample does not meet depleted below dark surface, or depleted matrix criteria Hydric Soil Present? Yes No x Surface Water (A1) Water-Staned Leaves (B9) Water-Staned Leaves (B9) (MLRA 1,2.4A, an Orange Patams (B10) (MLRA 1,2.4A, an Orange Patams (B10) Dranage Patams (B10) Dranage Patams (B10) Dranage Patams (B10) Sandrador (C1) Imagery (C3) Genomyrbic Patams (B10) Saturation (A3) Sati Crust (B1) Saturation Table (A2) Genomyrbic Patama (B10) Saturation (C3) Genomyrbic Patams (B10) Saturation (C3) Genomyrbic Patams (B10) Saturation (C3)													
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Sandy Redux (SS) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Bitck Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) ¹Indicators of hydrophysic upgatesian and watand hydrology music be present, unless disturbed or problematic. Productors of hydrophysic upgatesian and watand hydrology music be present, unless disturbed or problematic. Type: Depth (inches): Red Oraent Musics (F7) Redox Depressions (F8) Hydric Soil Present? Yes No x Sample Goes not meet depleted below dark surface, or depleted matrix criteria HYDROLOCY Wetter-Stained Leaves (89) High Water Table (A2) (Water-Stained Leaves (89) Bisching (A3) Sall Crust (B11) <ld>High Water Table (A2) Oralege Patams (B10) Day-Season Water Table (A2) Oralege Patams (B10) Saturation (A3) Sall Crust (B11) Geotomatic (C1) Bitariator (A3) Oralego Patams (B10) Saturation (A3) Oralego Patams (B10)</ld>													
Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls ¹ . Histic Eppedion (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Histic Eppedion (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) ¹ Indicators of hydrophytic vegatation and watand hydrology musits be present, unless disturbed or problematic. Sandy Mucky Miteral (S1) Depleted Dark Surface (F7) Red ox Depressions (F8) No x Remarks: Sample does not meet depleted below dark surface, or depleted matrix criteria Hydric Soil Present? Yes No x Surface Water (A1) Water-Staned Leaves (B9) Water-Staned Leaves (B9) (MLRA 1,2.4A, an Orange Patams (B10) (MLRA 1,2.4A, an Orange Patams (B10) Dranage Patams (B10) Dranage Patams (B10) Dranage Patams (B10) Sandrador (C1) Imagery (C3) Genomyrbic Patams (B10) Saturation (A3) Sati Crust (B1) Saturation Table (A2) Genomyrbic Patama (B10) Saturation (C3) Genomyrbic Patams (B10) Saturation (C3) Genomyrbic Patams (B10) Saturation (C3)													
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Sandy Redux (SS) 2 cm Muck (A10) (LRR B) Histic Epipedin (A2) Bitck Histic (A3) Loamy Mucky Mineral (F1) (except MLRA1) Depleted Below Dark Surface (A11) Depleted Matrix (F2) ¹Indicators of hydrophysic upgatesian and watand hydrology music be present, unless disturbed or problematic. Productors of hydrophysic upgatesian and watand hydrology music be present, unless disturbed or problematic. Type: Depth (inches): Red Oraent Musics (F7) Redox Depressions (F8) Hydric Soil Present? Yes No x Sample Goes not meet depleted below dark surface, or depleted matrix criteria HYDROLOCY Wetter-Stained Leaves (89) High Water Table (A2) (Water-Stained Leaves (89) Bisching (A3) Sall Crust (B11) <ld>High Water Table (A2) Oralege Patams (B10) Day-Season Water Table (A2) Oralege Patams (B10) Saturation (A3) Sall Crust (B11) Geotomatic (C1) Bitariator (A3) Oralego Patams (B10) Saturation (A3) Oralego Patams (B10)</ld>	1							. 2					
Histic Epipedon (A2) Sandy Redox (S5) 2 cm Muck (A10) (LRR B) Histic Epipedon (A2) Shripped Matrix (S6) Red Parent Material (TF2) Black Histic (X3) Loamy Gleyed Matrix (S2) Other (Epipelini Remarks) Pupictod Elevic (X3) Loamy Gleyed Matrix (F2) Prodicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Dark Surface (F7) Prodicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soil Present? Yes									-	latrix.			
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Block Histic (A3) Loamy Mudxy Mineral (F1)(except MLRA1) Other (Explain in Remarks) Popeleted Below Dark Surface (A11) Depleted Matrix (F3) ************************************	-	tors: (Applicable to	all LRRs, ι		-	ndicators f	or Prob	-					
Black Histic (A3) Leamy Mucky Mineral (F1) (except MLRA1) Other (Explain in Remarks) Hydrogen Suffide (A4) Leamy Gleged Matrix (F2) ************************************		(10)					-						
Hydrogen Sulfde (A4)					. ,		-						
□ Oppleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Protect Dark Surface (A12) □ Protect Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Protect Dark Surface (F7) □ Protect Dark Surface (F7) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Protect Dark Surface (F7) □ Protect Dark Surface (F7) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Protect Dark Surface (F7) □ Protect Dark Surface (F7) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) □ Protect Dark Surface (F7) □ Protect Dark Surface (F7) □ Depth (inches): □ Depth (inches): □ User Stained Leaves (F8) □ User Stained Leaves (F8) Wetland Hydrology Indicators: □ Secondary Indicators (2 or more required) □ User Stained Leaves (F8) Surface Water (A1) □ User Stained Leaves (F8) □ User Stained Leaves (F8) □ User Stained Leaves (F8) □ High Water Table (A2) □ (secept MLRA 12, 4A, and 4B) □ Drainage Patterns (F8 (10) □ Drainage Patterns (F8 (10) □ Saturation (A3) □ Sait Crust (B1) □ Drainage Patterns (F8) □ Drainage Patterns (F8) □ Drainage Patterns (F8) □ Oxidized Rhizospheres along Living Roots (C3) □ Geomorphic Position (D2) □ Saturation Proseon (F6) <td< td=""><td></td><td></td><td>_</td><td></td><td></td><td></td><td>LRAI)</td><td></td><td>n Remarks)</td><td></td><td></td></td<>			_				LRAI)		n Remarks)				
mick Dark Surface (A12) Redox Dark Surface (F5) hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S1) Depleted Dark Surface (F7) hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) Redox Depressions (F8) Hydric Soil Present? Yes No Restrictive Layer (If present): Type:						.)	3	Indicators of hydro	phytic vegetation and	wetland			
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Problematic. Sandy Cleyed Matrix (G4) Redxo Depressions (F8) Restrictive Layer (if present): Type: Type: Depth (inches): Depth (inches): Hydric Soil Present? Yes No Sample does not meet depleted below dark surface, or depleted matrix criteria HVDROLOGY Wetand Hydrology Indicators: Surface Water (A1) (water-Stained Leaves (B9) Hydrix S(B1) Aquatic Invertebrates (B13) Saturation (A3) Satic Crust (B11) Saturation (A3) Satic Crust (B11) Secondary Indicators (B2) Hydrogen Sulfice Odor (C1) Water Marks (B1) Aquatic Invertebrates (B13) Saturation (A3) Saturation (C4) Secondary Indicators (B2) Hydrogen Sulfice Odor (C1) Mater Marks (B1) Aquatic Invertebrates (B13) Saturation (A3) Saturation (C2) Agai Mat or Crust (B4) Presence of Reduced Iron (C4) Iont Deposits (B3) Saturation Present? Subrate Or Crusks (B6) Sturter or Needuction in Tilled Soils (C6) Shallow Aquitard (D3) Frost-Heave Hummocks (D		. ,		_									
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No x Remarks:: Sample does not meet depleted below dark surface, or depleted matrix criteria HYDROLOGY Wetenad Hydrology Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Water-Stained Leaves (B1) Oraloge Patterns (B10) Saturation (A3) Sati Crust (B11) Droinage Patterns (B10) Droinage Patterns (B10) Saturation (Nibble on Aerial Sediment Deposits (B2) Hydrogen Sulfice Odor (C1) Imagery (C9) Imagery (C9) Drift Deposits (B3) Oxidzed Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reductorin in Titled Solis (C6) Foot-Heave Hummocks (D7) Sparsely Vegetated Conceve Surface (B8) Sturted or Stressed Plants (D1) (LRR A) Frost-Heave Hummocks (D7) Sparsely Vegetated Conceve GBB No X Depth (inches):20* Yes	Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)												
Restrictive Layer (if present): Type: Depth (inches):													
Type:													
Depth (inches): Hydric Soil Present? Yes No x Remarks:: Sample does not meet depleted below dark surface, or depleted matrix criteria HYDROLOGY Wetand Hydrology Indicators:	Restrictive Layer	r (if present):											
Depth (inches): Hydric Soil Present? Yes No x Remarks:: Sample does not meet depleted below dark surface, or depleted matrix criteria Image: Comparison of the surface	Type:												
Remarks: Sample does not meet depleted below dark surface, or depleted matrix criteria HYDROLOGY Wetland Hydrology Indicators:):			<u> </u>			Hydric Soil Pr	esent?	Yes	No x		
Sample does not meet depleted below dark surface, or depleted matrix criteria HYDROLOGY Wetland Hydrology Indicators:													
Sample does not meet depleted below dark surface, or depleted matrix criteria HYDROLOGY Wetland Hydrology Indicators:	Remarks:												
Surface Water (A1) Water-Stained Leaves (B9) (MLRA 1,2,4A, and 4B) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Water Present? Yes No X Depth (inches): Surface Water Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Cincludes capillary fringe) Depth (inches): >20" No X Metanal Bule: Remarks: Remarks: Saturation Present? Yes No X Depth (inches): >20" <th></th> <th>u Indiactoro</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		u Indiactoro											
Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (MLRA 1,2,4A, an 4B) High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) Saturation (A3) _Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Water Present? Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Field Observations: Saturation Present? Yes No X Saturatio Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20"	wettand Hydrolog	ly indicators:							Secondary Indicators	(2 or more required)		
High Water Table (A2) (except MLRA 1,2,4A, and 4B) Drainage Patterns (B10) Saturation (A3) Salt Crust (B11) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Field Observations: Surface Water Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Yes	Surface Water	(A1)		Water-Stained	Leaves (F	39)		·	-				
Saturation (A3) Saturation (A3) Saturation (A3) Dry-Season Water Table (C2) Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Sturate on X Depth (inches): Water Table Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Mater Table Present? Yes No X Depth (inches): >20" Mater Table Present? Yes No X Depth (inches): >20" Sturation Present? Yes No X Depth (inches): <td< td=""><td></td><td></td><td></td><td>-</td><td>,</td><td>,</td><td></td><td></td><td></td><td></td><td></td></td<>				-	,	,							
Water Marks (B1) Aquatic Invertebrates (B13) Saturation Visible on Aerial Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches):				Salt Crust (B11)			•					
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Metland Hydrology Present? Yes No X Sufface Vater Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Remarks:				_ `		13)							
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes No X Depth (inches): >20" Vater Table Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" (includes capillary fringe) Depth (inches): >20" Remarks:						- /			Saturation visible	on Aerial			
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Depth (inches): >20" Water Table Present? Yes No X Depth (inches): >20" (includes capillary fringe) No X Depth (inches): >20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Sediment Depo				de Odor ((C1)				on Aerial			
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Vestand Hydrology Present? Yes No X Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Gincludes capillary fringe) No X Depth (inches): >20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:		B3)					Roots (0		Imagery (C9)				
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Wetland Hydrology Present? Yes No X Depth (inches): >20" Depth (inches): >20" Depth (inches): Present? Yes No X Depth (inches): Present? Yes No <td>Drift Deposits (</td> <td></td> <td>_</td> <td>Oxidized Rhizo</td> <td>spheres a</td> <td>long Living I</td> <td>Roots (0</td> <td>C3)</td> <td>Imagery (C9) Geomorphic Posit</td> <td>tion (D2)</td> <td></td>	Drift Deposits (_	Oxidized Rhizo	spheres a	long Living I	Roots (0	C3)	Imagery (C9) Geomorphic Posit	tion (D2)			
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Water Table Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" (includes capillary fringe) Depth (inches): ispections), if available: Remarks: Remarks:	Drift Deposits (Algal Mat or Cr	ust (B4)	-	Oxidized Rhizo Presence of Re	spheres a	long Living I n (C4)		C3)	Imagery (C9) Geomorphic Posi Shallow Aquitard	tion (D2) (D3)			
Field Observations: Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Water Table Present? Yes No X Depth (inches): >20"	Drift Deposits (Algal Mat or Cr Iron Deposits (B	ust (B4) 35)	-	Oxidized Rhizo Presence of Re Recent Iron Re	espheres a educed Iro eduction in	long Living I n (C4) Tilled Soils	(C6)	C3)	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test	tion (D2) (D3) (D5)			
Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Water Table Present? Yes No X Depth (inches): >20" No X Saturation Present? Yes No X Depth (inches): >20"	Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr	ust (B4) 35) acks (B6)	(B7)	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	espheres a educed Iro eduction in essed Plar	llong Living I n (C4) Tilled Soils its (D1) (LRI	(C6)	C3)	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	tion (D2) (D3) (D5) ds (D6) (LRR A)			
Surface Water Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Water Table Present? Yes No X Depth (inches): >20" No X Saturation Present? Yes No X Depth (inches): >20"	Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil	ust (B4) 35) acks (B6) ble on Aerial Imagery		Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	espheres a educed Iro eduction in essed Plar	llong Living I n (C4) Tilled Soils its (D1) (LRI	(C6)	C3)	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	tion (D2) (D3) (D5) ds (D6) (LRR A)			
Water Table Present? Yes No X Depth (inches): >20" Saturation Present? Yes No X Depth (inches): >20" (includes capillary fringe) No X Depth (inches): >20" Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Drift Deposits (Algal Mat or Cr Iron Deposits (f Surface Soil Cr Inundation Visil Sparsely Veget	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac		Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	espheres a educed Iro eduction in essed Plar	llong Living I n (C4) Tilled Soils its (D1) (LRI	(C6)	C3)	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Moun	tion (D2) (D3) (D5) ds (D6) (LRR A)			
Saturation Present? Yes No X Depth (inches): >20" (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Drift Deposits (Algal Mat or Cr Iron Deposits (E Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac	e (B8)	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	espheres a educed Irc eduction in essed Plar in Remark	llong Living I n (C4) Tilled Soils its (D1) (LRI	(C6)	-	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No X		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visit Sparsely Veget Field Observatio Surface Water Pro	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: esent? Yes	No >	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Iro eduction in essed Plar in Remark (inches):	long Living I n (C4) Tilled Soils tts (D1) (LRI (ss)	(C6)	-	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X		
Remarks:	Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio Surface Water Pre Water Table Pres	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: esent? Yes ent? Yes	No X	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	Iong Living I n (C4) Tilled Soils its (D1) (LRI (ss) >20"	(C6)	-	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X		
	Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio Surface Water Pres Saturation Preser	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: essent? Yes ent? Yes t? Yes	No X	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	Iong Living I n (C4) Tilled Soils its (D1) (LRI (ss) >20"	(C6)	-	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X		
	Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio Surface Water Pre Water Table Pres Saturation Preser (includes capillary	ust (B4) 35) acks (B6) ble on Aerial Imagery iated Concave Surface ns: esent? Yes ent? Yes it? Yes fringe)	No > No > No >	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	long Living I n (C4) Tilled Soils its (D1) (LRI (s) 	(C6) R A)	Wetland Hy	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X_		
The primary management of my monory part of the growing boardon. The boardary indicators.	Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio Surface Water Pres Saturation Preser (includes capillary Describe Recorde	ust (B4) 35) acks (B6) ble on Aerial Imagery iated Concave Surface ns: esent? Yes ent? Yes it? Yes fringe)	No > No > No >	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Irc eduction in essed Plar in Remark (inches): (inches):	long Living I n (C4) Tilled Soils its (D1) (LRI (s) 	(C6) R A)	Wetland Hy	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X_		
	Drift Deposits (I Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Veget Field Observatio Surface Water Pres Saturation Preser (includes capillary Describe Recorde Remarks:	ust (B4) 35) acks (B6) ble on Aerial Imagery ated Concave Surfac ns: esent? Yes ent? Yes it? Yes it? Yes of ringe) ed Data (stream gau	e (B8)	Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	spheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	Iong Living I n (C4) Tilled Soils its (D1) (LRI (ss) 	(C6) R A) ections	Wetland Hyd	Imagery (C9) Geomorphic Posi Shallow Aquitard FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	tion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)	No_X_		

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

Project/Site:	Factoria Transfer S	tation		City/County:	Bellevue/Ki	ng Samplin	g Date:	3/23/2010
Applicant/Owner:	King County			State:	WA	Sampling	g Point:	SPA-2 (WL)
Investigator(s):	Danielski/Dalzell				Section, Township	, Range:	10/T24N/I	R5E
Landform (hillslope	e, terrace, etc):	Hillside	Local relief (cond	cave, convex, r	none): N	lone Slo	pe (%):	0%
Subregion (LRR):		A	Lat: 4	7.581792	Long: -122.16	1046	Datum:	NAD83
Soil Map Unit Nam	e:	Urb	an Land		NWI	Classification:	-	
Are climatic/hydrolo	ogic conditions on the	e site typical for this tim	ne of year? Yes	X	No	(If no, explain in F	Remarks)	
Are Vegetation	Soil	Or Hydrology	signifi	cantly disturbed	d? Are "Normal	Circumstances" p	resent? Yes	<no< td=""></no<>
Are Vegetation	Soil	Or Hydrology	Natura	ally problemation	? (If needed, expla	ain any answers in	Remarks)	
		ch site map showi	na samplina n	oint location	ne transacte in	nortant featur	as atc	
	ation Present? Yes		No		13, 1141130013, 11	iportant reatary		
Hydric Soil Present			No	Is the Sa	ampled Area	Ye	es X I	No
Wetland Hydrology	Present? Yes	1 X	No	within a	Wetland?			
Demerica:		diantara						
Remarks: Ar	rea meets all three in	dicators.						
		west portion of Wetland	d A.					
VEGETATION -	 Use scientific na 	ames of plants.						
Tree Stratum	Plot size:	Absolute		ndicator	Dominance Test	worksheet:		
		% Cover	Species?	Status				
1					Number of Dom	inant Species		
2			. <u> </u>		That are OBL, F	ACW, or FAC:	0	(A)
3					Total Number o	f Dominant		
4					Species Across	All Strata:	1	(B)
			= Total Cover		Percent of Dom	inant Species		
					That are OBL, F	ACW, or FAC:	0%	(A/B)
Sapling/Shrub Stra	tum Plot sizo:				Prevalence Index	worksheet:		
				ACU			N 4 14:	ha baa
	103	2	<u>N</u> F/	400	Total % Co OBL Species	0 x1	– Multip)
2			·					
3			·		FACW Species			
4					FAC Species	x3		
5			·		FACU Species	2 x4		
		2	= Total Cover		UPL Species			
List Otration					Column Totals:	2 (A	·	3(B)
Herb Stratum	Plot Size:				Prevalence Inde	x - D/A	4.00	
1			·					
2					Hydrophytic Veg	etation Indicators		
3			·			Dominance Test i	s >50%	
4						Prevalence Test i	s ≤ 3.0 ¹	
5			. <u> </u>			Morphological Ad		
6			. <u> </u>			data in Remarks		sheet)
7						Wetland Non-Vas	cular Plants ¹	
8					x	Problematic Hydro	ophitic Vegetatio	n ¹ (explain)
9					¹ Indicators of hydri	c soil and wetland h	ydrology must	
10					be present, unless	s disturbed or proble	ematic.	
11			·					
		0	= Total Cover					
Woody Vine Stratu	m Plot Size:				Ludror	hytic vegetation	nresent?	
	<u> </u>				nyurop	mytic vegetation	presenti	
1 Hedera helix		10	<u>Y</u> N	1				
2						Yes X	No	_
% Poro Crowned in 1	Horb Stratum	<u>10</u>	= Total Cover					
% Bare Ground in I			uluon http://www.com	a la accesa dit	and an involution of the	aila		
Remarks: Ai	rea has problematic v	regetation. Assume hy	arophtic vegetaio	n is present ba	sed on hydrology/s	OIIS.		

Depth		Matrix		F	Redox Fea	atures					
(inches)	Color (m	noist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-8	2.5Y 3	3/1	100					sandy loam			
8-15+	2.5Y 4	4/1	85	10YR 5/6	15	С	Μ	sandy loam			
1								2			
				duced Matrix, CS					PL=Pore Lining, M=	Matrix.	
	ators: (Appl	icable to a	I LRRS,			Indicators	s for Prol	blematic Hydric So 2 cm Muck (A1			
Histosol (A1)	n (A 2)		-	Sandy Redox			-				
Histic Epipedo			-	Stripped Matrix	. ,	1)/ovcont		Red Parent Ma	. ,		
Black Histic (A			-	Loamy Mucky			MLRA1)	Other (Explain	in Remarks)		
Hydrogen Sulfi			_	Loamy Gleyed		2)		3			
Depleted Belov		ce (A11)		x Depleted Matr					phytic vegetation and present, unless distu		
Thick Dark Su			_	Redox Dark S		,		problematic.	prosent, unicos ulstu		
Sandy Mucky I	Mineral (S1)		_	Depleted Dark	Surface (F7)					
Sandy Gleyed	Matrix (S4)		_	Redox Depres	sions (F8))					
Restrictive Laye	r (if presen	t):									
Type:	(
Depth (inches	<i>:</i>).							Hydric Soil Pr	esent?	Yes X	No
Doptil (monoc	·)·								obolit.		
Remarks:											
Sample plot fi	illed with wa	ter below 1	5". Soil	meets criteria fo	r depleted	d matrix.					
HYDROLOGY											
Wetland Hydrolog		s:									
Primary Indicators	(minimum o	f 1 required	: check a	ll that apply)					Secondary Indicator	s (2 or more req	uired)
Surface Water	· (A1)			Water-Stained	Leaves (E	B9)			Water-Stained L	eaves (B9)	(MLRA 1,2,4A, and 4
X High Water Ta	ble (A2)		_	(except MLRA	A 1,2,4A, a	and 4B)			Drainage Patter		
X Saturation (A3				Salt Crust (B1	1)				 Dry-Season Wa		
Water Marks (I			_	Aquatic Inverte		13)			Saturation Visib		
Sediment Dep			-	Hydrogen Sulf		,			Imagery (C9)		
Drift Deposits (-	Oxidized Rhizo			a Roots ((.3)	Geomorphic Pos	sition (D2)	
Algal Mat or Ci			_	Presence of R	•	•	ig i tooto (Shallow Aquitare		
Iron Deposits (-	_		. ,					
	. ,		-	Recent Iron Re Stunted or Stre					FAC-Neutral Te Raised Ant Mou		•
Surface Soil C		l Inner a mar (/D					KK A)				`)
Inundation Visi			· -	Other (Explain	in Remar	KS)			Frost-Heave Hu	mmocks (D7)	
Sparsely Vege	tated Conca	ve Surface ((B8)								
Field Observatio	ons:										
Surface Water Pr		Yes	No. Y	X Denth	(inches):		_	Wotland Hy	drology Present?	Yes X	No
Water Table Pres		Yes X	No No		· · ·		"		a biogy i resent (103 /	
					(inches):	11					
Saturation Prese		Yes X	No_	Depth	(inches):	11					
(includes capillar	y minge)										
Describe Record	ed Data (stre	eam gauge	, monito	ring well, aerial	ohotos, pr	revious ins	spections	s), if available:			
Remarks:											
Saturation and	d free water	within 10"	of surfac	A							
Saturation and	u nee waler	with III IZ	u suildC	с.							

Project/Site:	Factoria Transfer St	tation		City/County:	Bellevue/King	Sampling Date:	3/23/2010
Applicant/Owner:	King County			State:	WA	Sampling Point:	SPC-1 (WL)
Investigator(s):	Danielski/Dalzell				Section, Township, Range	e: 10/	/T24N/R5E
Landform (hillslope	, terrace, etc):	Hillside	Local relief ((concave, convex,	none): None	Slope (%):	0%
Subregion (LRR):		Α	Lat:	47.581186	Long: -122.158136	Datum:	NAD83
Soil Map Unit Name	e:	Urba	an Land		NWI Classif	ication:	
Are climatic/hydrolo	ogic conditions on the	site typical for this tim	e of year?	Yes X	No (If no,	explain in Remarks)	
Are Vegetation	Soil	Or Hydrology	si	gnificantly disturbe	d? Are "Normal Circun	nstances" present?	Yes X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemation	c? (If needed, explain any	answers in Remarks)	1
SUMMARY OF I	FINDINGS - Atta	ch site man showi	ng samplin	a point locatio	ns, transects, importa	ant features, etc.	
Hydrophytic Vegeta			lo	<u></u>	,		
Hydric Soil Present	? Yes	XN	lo		ampled Area	Yes X	No
Wetland Hydrology	Present? Yes	XN	lo	within a	Wetland?		
Remarks: Al	l three criteria are ma	t: therefore the comple	nlot io within	a watland			
Remarks. A	i thee chiena are me	et; therefore the sample	plot is within	r a wettanu.			
			5 feet west of	SP C-2, and 5 fee	t east of the access road.		
	Use scientific na				1		
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test works	heet:	
		% Cover	Species?	Status			
1 Alnus rubra		60	Y	FAC	Number of Dominant S	species	
2 Populus bals	amifera	20	Y	FAC	That are OBL, FACW,	or FAC:	4 (A)
3					Total Number of Domir	nant	
4					Species Across All Stra	ata:	6 (B)
		80	= Total Cove	er	Percent of Dominant S	pecies	
					That are OBL, FACW,	or FAC: 6	7% (A/B)
Sapling/Shrub Stra	tum Plot sizo:				Prevalence Index works	sheet:	
			X	FACU			Mallachar
1 Rubus procer		40	<u>Y</u>	FACU	Total % Cover of:		Multiply by: 0
2 Polygonum ci	uspidatum	30	Y	FACU		·	
3					FACW Species	x2 =	0
4					FAC Species	x3 =	0
5					FACU Species	x4 =	0
		70	= Total Cove	er	UPL Species	x5 =	0
					Column Totals:	(A)	0 (B)
Herb Stratum	Plot Size:				Prevalence Index = B/	4	
1 Juncus effusi		30	Y	FACW			
2 Epilobium cili	latum	10	N	FACW	Hydrophytic Vegetation	Indicators:	
₃ Agrostis sp.		20	Y	FAC	X Domir	nance Test is >50%	
4 Equisetum te	Imateia	10	Ν	FACW	Preva	lence Test is $\leq 3.0^1$	
5					Morph	ological Adaptations	(Provide supporting
6					data i	n Remarks or on a se	parate sheet)
7					Wetla	nd Non-Vascular Plan	its ¹
8					Proble	ematic Hydrophitic Ve	getation ¹ (explain)
9					¹ Indicators of hydric soil a		,
				·	be present, unless disturb		
10							
11		70	- Total Cov				
		10	 Total Cove 				
Woody Vine Stratu	m Plot Size:				Hydrophytic	vegetation present?	
1							
2						Yes X	No
		0	= Total Cove	er			
% Bare Ground in I	Herb Stratum 30	0%					
Remarks: Do	ominant test indicates	s that hydrophytic vege	tation is pres	ent at the sample p	blot.		
1							
1							

Depth	Matri	•		Redox Fea	luies						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks		
0-12	5GY 5/1	80	10YR 4/3	20	С	М	SiCL				
12-18+	5GY 5/1	35	10YR 4/3	30	С	Μ	SiCL	Compacted			
	2.5Y 5/2	35									
¹ Type: C=Con	centration, D=Depl	tion, RM=R	educed Matrix, CS	=Covered	or Coated	d Sand Gra	ins. ² Location:	PL=Pore Lining, M=M	atrix.		
lydric Soil Indica	tors: (Applicable	to all LRRs	, unless otherwis	e noted.)	Indicators	s for Probl	ematic Hydric So	oils ³ :			
Histosol (A1)			Sandy Redox	-			2 cm Muck (A10				
Histic Epipedor	n (A2)	-	Stripped Matrix				Red Parent Mat	terial (TF2)			
Black Histic (A				. ,	1)(except	MLRA1)	Other (Explain i				
Hydrogen Sulfi		•	X Loamy Gleyed				(+	,			
	v Dark Surface (A1		Depleted Matri		-/	3	ndicators of hydro	phytic vegetation and v	vetland		
Thick Dark Sur		,)			present, unless disturb			
Sandy Mucky N	. ,		Redox Dark Surface (F6) problematic.								
Sandy Mucky N Sandy Gleyed I	Redox Depres										
		•		3013 (1 0)							
Restrictive Laye	(if present):										
Type:	(
Depth (inches							Hydric Soil Pr	acont?	Yes X	No	
).						Hyune Son Fr	esenti		NO	
Deptil (menes											
						I					
Remarks: F2 meets hydr	ic soil criteria.					I					
Remarks:						I					
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog		ired: check	all that apply)					Secondary Indicators (2 or more requ	ired)	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog	y Indicators: (minimum of 1 requ	ired: check	all that apply) Water-Stained	I Leaves (E	39)			Secondary Indicators (Water-Stained Lea		ired) (MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators	y Indicators: (minimum of 1 req (A1)	ired: check		,	,			-	aves (B9)		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X_Surface Water	y Indicators: (minimum of 1 req (A1) ole (A2)	ired: check	Water-Stained	A 1,2,4A, a	,			Water-Stained Lea	aves (B9) (B10)		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal	y Indicators: (minimum of 1 req (A1) ole (A2)	ired: check	Water-Stained (except MLRA	A 1,2,4A, a 1)	ind 4B)			Water-Stained Lea Drainage Patterns	aves (B9) (B10) r Table (C2)		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal X Saturation (A3)	y Indicators: (minimum of 1 req (A1) ole (A2) 31)	ired: check	Water-Stained (except MLRA Salt Crust (B1	A 1,2,4A, a 1) ebrates (B	ind 4B) 13)			Water-Stained Lea Drainage Patterns Dry-Season Water	aves (B9) (B10) r Table (C2)		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal X Saturation (A3) Water Marks (E Sediment Depo	y Indicators: (minimum of 1 req (A1) ble (A2) B1) ssits (B2)	ired: check	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf	A 1,2,4A, a 1) ebrates (B ⁻ ide Odor (n d 4B) 13) C1)	I Roots (C		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible	aves (B9) (B10) r Table (C2) on Aerial		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (y Indicators: (minimum of 1 req (A1) ble (A2) B1) bsits (B2) B3)	ired: check	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte	A 1,2,4A , a 1) ebrates (B ide Odor (ospheres a	nd 4B) 13) C1) along Livin	ug Roots (C		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit	aves (B9) (B10) r Table (C2) on Aerial ion (D2)		
Remarks: F2 meets hydr F2 meet	y Indicators: (minimum of 1 req (A1) ble (A2) B1) bsits (B2) B3) ust (B4)	ired: check	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc	nd 4B) 13) C1) along Livin on (C4)			Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (aves (B9) (B10) r Table (C2) on Aerial ion (D2) [D3)		
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (y Indicators: (minimum of 1 requ (A1) ble (A2) 31) vsits (B2) B3) ust (B4) 35)	ired: check	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in	13) C1) along Livin on (C4) n Tilled Soi	ils (C6)		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5)	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr	y Indicators: (minimum of 1 req (A1) ble (A2) 31) vsits (B2) B3) ust (B4) 35) acks (B6)	-	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron R Stunted or Stro	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in essed Plar	13) C1) along Livin on (C4) n Tilled Sol nts (D1) (L	ils (C6)		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) ds (D6) (LRR A	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (I Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visi	y Indicators: (minimum of 1 req (A1) ble (A2) B1) bsits (B2) B3) ust (B4) B5) acks (B6) ble on Aerial Image	ry (B7)	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in essed Plar	13) C1) along Livin on (C4) n Tilled Sol nts (D1) (L	ils (C6)		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) ds (D6) (LRR A	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (I Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visi	y Indicators: (minimum of 1 req (A1) ble (A2) 31) vsits (B2) B3) ust (B4) 35) acks (B6)	ry (B7)	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron R Stunted or Stro	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in essed Plar	13) C1) along Livin on (C4) n Tilled Sol nts (D1) (L	ils (C6)		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) ds (D6) (LRR A	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (I Sediment Depo Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visi	y Indicators: (minimum of 1 req (A1) ole (A2) 81) osits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Image ated Concave Surf	ry (B7)	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Presence of R Recent Iron R Stunted or Stro	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in essed Plar	13) C1) along Livin on (C4) n Tilled Sol nts (D1) (L	ils (C6)		Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) ds (D6) (LRR A	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr F2 meets hy	y Indicators: (Minimum of 1 req (A1) ole (A2) 31) osits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Image ated Concave Surf ns:	ry (B7) ace (B8)	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stru Other (Explain	A 1,2,4A , a 1) ide Odor (f ospheres a educed Irc eduction in essed Plar	13) C1) along Livin on (C4) n Tilled Sol nts (D1) (L	ils (C6) RR A)	3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) ds (D6) (LRR A	(MLRA 1,2,4A, and 4	
Remarks: F2 meets hydr F2 meets hy	y Indicators: (minimum of 1 req (A1) ble (A2) 31) usits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Image ated Concave Surf ns: esent? Yes	ry (B7) ace (B8) XNo	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	A 1,2,4A, a 1) ebrates (B ide Odor (oppheres a educed Irc educed Irc eduction in essed Plar in Remark	and 4B) 13) C1) along Livin on (C4) n Tilled Soi nts (D1) (L ks)	ils (C6) RR A)	3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr HYDROLOGY Vetland Hydrolog Primary Indicators X Surface Water X Saturation (A3) Water Marks (E Sediment Deposits (Drift Deposits (Algal Mat or Cr Iron Deposits (I Surface Soil Cr Inundation Visii Sparsely Vegel Field Observatio Surface Water Pr	y Indicators: (minimum of 1 req (A1) ble (A2) 31) sits (B2) B3) sust (B4) 35) acks (B6) ble on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes	ry (B7) ace (B8) X No X No	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	A 1,2,4A, a 1) ebrates (B ide Odor (i ospheres a educed Irc educed Irc eduction in essed Plar in Remark (inches): (inches):	and 4B) 13) C1) along Livin on (C4) n Tilled Soints (D1) (L ks) ~1	ils (C6) RR A)	3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr F2 meets hy	y Indicators: (minimum of 1 req (A1) ble (A2) 31) sits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes	ry (B7) ace (B8) X No X No	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stra Other (Explain	A 1,2,4A, a 1) ebrates (B ide Odor (oppheres a educed Irc educed Irc eduction in essed Plar in Remark (inches):	and 4B) 13) C1) along Livin on (C4) h Tilled So tts (D1) (L ks) ~1 8	ils (C6) RR A)	3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Surface Soil Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Vegel Field Observatio Surface Water Present Saturation Present Present Present Present Present Present Present Present Present Present Present Pr	y Indicators: (minimum of 1 req (A1) ole (A2) 31) osits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes it? Yes	ry (B7) ace (B8) X No X No X No	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Ro Stunted or Stro Other (Explain Depth Depth Depth	A 1,2,4A, a 1) ebrates (B ide Odor (lo ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ils (C6) RR A) " ace	3) Wetland Hy	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Surface Soil Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Vegel Field Observatio Surface Water Present Saturation Present Present Present Present Present Present Present Present Present Present Present Pr	y Indicators: (minimum of 1 req (A1) ble (A2) 31) sits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes	ry (B7) ace (B8) X No X No X No	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Ro Stunted or Stro Other (Explain Depth Depth Depth	A 1,2,4A, a 1) ebrates (B ide Odor (lo ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ils (C6) RR A) " ace	3) Wetland Hy	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr Primary Indicators X Surface Water High Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Surface Soil Cr Iron Deposits (I Surface Soil Cr Inundation Visil Sparsely Vegel Field Observatio Surface Water Present Saturation Present Present Present Present Present Present Present Present Present Present Present Pr	y Indicators: (minimum of 1 req (A1) ole (A2) 31) osits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes it? Yes	ry (B7) ace (B8) X No X No X No	Water-Stained (except MLRA Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizo Presence of R Recent Iron Ro Stunted or Stro Other (Explain Depth Depth Depth	A 1,2,4A, a 1) ebrates (B ide Odor (lo ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ils (C6) RR A) " ace	3) Wetland Hy	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr F2 mary Indicators X Sufface Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Inon Deposits (I Sufface Soil Cr Inundation Visil Sparsely Vegel Field Observatio Sufface Water Pr Vater Table Press Saturation Preser includes capillary Describe Recorded Remarks:	y Indicators: (minimum of 1 req (A1) ole (A2) 31) osits (B2) B3) ust (B4) 35) acks (B6) ole on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes it? Yes	ry (B7) ace (B8) X No X No uge, monite	Water-Stained (except MLR4 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stru Other (Explain Depth Depth Depth	A 1,2,4A, a 1) ebrates (B ide Odor (lo ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ils (C6) RR A) " ace	3) Wetland Hy	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	
Remarks: F2 meets hydr F2 mary Indicators X Sufface Water Tal X Saturation (A3) Water Marks (E Sediment Depo Drift Deposits (I Algal Mat or Cr Inon Deposits (I Sufface Soil Cr Inundation Visil Sparsely Vegel Field Observatio Sufface Water Pr Vater Table Press Saturation Preser includes capillary Describe Recorded Remarks:	y Indicators: (minimum of 1 requ (A1) ble (A2) 31) bits (B2) B3) ust (B4) 35) acks (B6) ble on Aerial Image ated Concave Surf ns: esent? Yes ent? Yes it? Yes of finge) ed Data (stream generic)	ry (B7) ace (B8) X No X No uge, monite	Water-Stained (except MLR4 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhizt Presence of R Recent Iron Re Stunted or Stru Other (Explain Depth Depth Depth	A 1,2,4A, a 1) ebrates (B ide Odor (lo ospheres a educed Irc eduction in essed Plar in Remark (inches): (inches): (inches):	and 4B) (13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C4	ils (C6) RR A) " ace	3) Wetland Hy	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible Imagery (C9) Geomorphic Posit Shallow Aquitard (FAC-Neutral Test Raised Ant Mound Frost-Heave Hum	aves (B9) (B10) r Table (C2) on Aerial ion (D2) (D3) (D5) is (D6) (LRR A mocks (D7)	(MLRA 1,2,4A, and 6	

Project/Site:	Factoria Transfer Statio	n		City/County	: Bellevue/King	Sampling Date:	3/23/2010
Applicant/Owner:	King County			State	: WA	Sampling Point:	SPC-2 (UPL)
Investigator(s):	Danielski/Dalzell				Section, Township, Rang	je: 10/7	24N/R5E
Landform (hillslope	e, terrace, etc):	Hillside	Local relief (concave, convex,	none): None	Slope (%):	0%
Subregion (LRR):	Α		Lat:	47.581159	Long: -122.158096	Datum:	NAD83
Soil Map Unit Name	e:	Urb	an Land		NWI Classi	ification:	
Are climatic/hydrolo	ogic conditions on the site	e typical for this tim	ne of year?	Yes X	No (If no	, explain in Remarks)	
Are Vegetation	Soil	Or Hydrology		gnificantly disturbe		mstances" present? Y	es X No
Are Vegetation	Soil	Or Hydrology	N	aturally problemati	ic? (If needed, explain any	y answers in Remarks)	
SUMMARY OF I	FINDINGS – Attach	site map showi	ng samplin	q point locatio	ons, transects, import	ant features, etc.	
Hydrophytic Vegeta			No X	<u></u>	, , , , , , , , , , , , , , , , , , ,		
Hydric Soil Present	t? Yes X	1	No		ampled Area	Yes	No X
Wetland Hydrology	Present? Yes	1	No X	within a	a Wetland?		
ab	pandoned), thus overlying	soils may have be	een removed	and soils that mee	isturbed. It may have been thydric indicators were ex om the wetland boundary.	kposed.	ate road (now
VEGETATION -	 Use scientific name 	es of plants.					
Tree Stratum	Plot size:	Absolute	Dominant	Indicator	Dominance Test works	sheet:	
		% Cover	Species?	Status			
1 Populus bals	amifera	50	Y	FAC	Number of Dominant	Species	
2					That are OBL, FACW,	, or FAC:	1 (A)
3					Total Number of Domi	inant	
4					Species Across All Str	rata:	3 (B)
		50	= Total Cove	er	Percent of Dominant S		
					That are OBL, FACW,	, or FAC: 33	% (A/B)
Capling (Chruh Ctra					Prevalence Index work	sheet.	
	tum Plot size:			FAOL			
1 Rubus procer	lus	5	<u>Y</u>	FACU	Total % Cover of		Multiply by: 0
2					OBL Species	x1 =	-
3					FACW Species	x2 =	0
4						50 x3 =	150
5						10 x4 =	40
		5	= Total Cove	er	UPL Species	x5 =	0
						60 (A)	190 (B)
Herb Stratum	Plot Size:				Prevalence Index = B/	/A <u> </u>	17
1 Polystchum r	munitum	5	<u>Y</u>	FACU			
2					Hydrophytic Vegetation	n Indicators:	
3					Domi	nance Test is >50%	
4					Preva	alence Test is $\leq 3.0^1$	
5						hological Adaptations (
6						in Remarks or on a sep	,
7					Wetla	and Non-Vascular Plant	S ¹
8					Probl	ematic Hydrophitic Veg	etation ¹ (explain)
9					¹ Indicators of hydric soil a		
10					be present, unless distur		
11			·				
		5	= Total Cove	er			
Woods Vinc Otal	m Diat Size				h ha a bara a bara d	Vogototion	
Woody Vine Stratu	m Plot Size:				Hydrophytic	vegetation present?	
1							
2						Yes I	No <u>X</u>
	05%	0	= Total Cove	er			
% Bare Ground in I							
Remarks: PI	lot is covered with dead H	limalayn blackberr	y canes. Area	a does not pass do	ominance or prevalence te	est.	

(inches) 0-6	Matrix		R	edox Fea	tures							
0-6	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks			
	2.5Y 4/2	100					sandy clay loam					
6-14	2.5Y 4/1	90	10YR 4/6	10	С	Μ	sandy clay loam	Compacted				
14-20	2.5Y 5/3	95	10YR 5/8	5	С	М	gscl	Compacted				
				<u> </u>								
1 <u></u>	<u> </u>						. 2			<u> </u>		
	entration, D=Deplet							PL=Pore Lining, M=Ma	atrix.			
-	ors: (Applicable to	o all LRRs,			Indicators	for Pro	Diematic Hydric Soi					
Histosol (A1)	(4.0)	-	Sandy Redox (2 cm Muck (A10)					
Histic Epipedon		-	Stripped Matrix	. ,	1)(avaant l	MI DA 1)	Red Parent Mate					
Black Histic (A3)		-	Loamy Mucky M			WLRAI)	Other (Explain in	Remarks)				
Hydrogen Sulfid		. –	Loamy Gleyed		2)		³ Indicators of hydron	hytic vegetation and w	otland			
	Dark Surface (A11)) –	X Depleted Matrix		`			resent, unless disturbe				
	_Thick Dark Surface (A12)Redox Dark Surface (F6) Sandy Mucky Mineral (S1)Depleted Dark Surface (F7)						problematic.					
Sandy Mucky M Sandy Gleyed N		-	Redox Depress									
		-		5013 (10)								
Restrictive Layer	(if present):											
Туре:	. ,											
Depth (inches):							Hydric Soil Pre	sent?	Yes X	No		
										· · · · · · · · · · · · · · · · · · ·		
Remarks:												
Meets depleted	motrix oritorio											
	matrix ontona											
HYDROLOGY Wetland Hydrology	/ Indicators:											
Fillinally indicators (i i i i i i i i i i i i i i i i i i i		ll that apply)				c	Socondary Indicators (or more requ	irod)		
Surface Water (Δ1)	red: check a	all that apply)	Leaves (F	30)		5	Secondary Indicators (2				
Surface Water (red: check a	Water-Stained	,	'		<u>s</u>	Water-Stained Lea	ves (B9)	ired) (MLRA 1,2,4A, and 4		
High Water Tab		red: check a	Water-Stained (except MLRA	1,2,4A, a	'		<u>s</u> 	Water-Stained Lea Drainage Patterns	ves (B9) (B10)			
High Water Tab Saturation (A3)	le (A2)	red: check a	Water-Stained (except MLRA Salt Crust (B11	1,2,4A, a	nd 4B)		<u>5</u> 	Water-Stained Lea Drainage Patterns Dry-Season Water	ves (B9) (B10) Table (C2)			
High Water Tab Saturation (A3) Water Marks (B	le (A2) 1)	red: check a - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte	1 ,2,4A, a) brates (B ⁻	nd 4B) 13)		<u>\$</u> 	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible o	ves (B9) (B10) Table (C2)			
High Water Tab Saturation (A3) Water Marks (B Sediment Depos	le (A2) 1) sits (B2)	red: check a - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic	1 ,2,4A, a) brates (B de Odor (0	nd 4B) 13) C1)	a Poots (- - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible o Imagery (C9)	ves (B9) (B10) Table (C2) on Aerial			
High Water Tab Saturation (A3) Water Marks (B Sediment Depose Drift Deposits (B	1) 5its (B2) 13)	red: check (- - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo	1,2,4A, a) brates (B de Odor (spheres a	nd 4B) 13) C1) Ilong Living	g Roots (- - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Position	ves (B9) (B10) Table (C2) on Aerial on (D2)			
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru	le (A2) 1) sits (B2) 3) st (B4)	red: check (- - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re	1,2,4A, a) brates (B de Odor (f spheres a educed Iro	nd 4B) 13) C1) Ilong Living in (C4)		 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positio Shallow Aquitard (I	ves (B9) (B10) Table (C2) on Aerial on (D2) D3)			
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B	le (A2) 1) sits (B2) (3) st (B4) 5)	red: check (- - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfin Oxidized Rhizo Presence of Re Recent Iron Re	1,2,4A, a) brates (B de Odor (spheres a educed Iro	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi	ls (C6)	 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra	le (A2) 1) sits (B2) (3) st (B4) 5) ccks (B6)		Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	1,2,4A, a) brates (B de Odor (f spheres a educed Irc duction in essed Plar	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi nts (D1) (L	ls (C6)	 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positii Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mound	ves (B9) (B10) Table (C2) on Aerial on (D2) D3) D5) s (D6) (LRR A	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (E Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib	le (A2) 1) 53) 55 (B4) 5) 1cks (B6) le on Aerial Imagery	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfin Oxidized Rhizo Presence of Re Recent Iron Re	1,2,4A, a) brates (B de Odor (f spheres a educed Irc duction in essed Plar	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi nts (D1) (L	ls (C6)	 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (ves (B9) (B10) Table (C2) on Aerial on (D2) D3) D5) s (D6) (LRR A	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (E Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib	le (A2) 1) sits (B2) (3) st (B4) 5) ccks (B6)	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	1,2,4A, a) brates (B de Odor (f spheres a educed Irc duction in essed Plar	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi nts (D1) (L	ls (C6)	 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positii Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mound	ves (B9) (B10) Table (C2) on Aerial on (D2) D3) D5) s (D6) (LRR A	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta	le (A2) 1) isits (B2) i3) st (B4) 5) icks (B6) le on Aerial Imagery ited Concave Surface	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	1,2,4A, a) brates (B de Odor (f spheres a educed Irc duction in essed Plar	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi nts (D1) (L	ls (C6)	 - - -	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positii Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mound	ves (B9) (B10) Table (C2) on Aerial on (D2) D3) D5) s (D6) (LRR A	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta	le (A2) 1) isits (B2) isits (B4) 5) icks (B6) le on Aerial Imageny ited Concave Surfact	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	1,2,4A, a) brates (B de Odor (f spheres a aduced Irc duction in ssed Plar in Remark	nd 4B) 13) C1) Ilong Living n (C4) Tilled Soi nts (D1) (L	ls (C6)	C3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depose Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta	le (A2) 1) sits (B2) (B4) 5) le on Aerial Imageny ted Concave Surfact Is: sent? Yes	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark	nd 4B) 13) C1) ilong Living in (C4) Tilled Soi tits (D1) (Li (s)	ls (C6) RR A)	C3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positii Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mound	ves (B9) (B10) Table (C2) on Aerial on (D2) D3) D5) s (D6) (LRR A	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Prese	le (A2) 1) (B2) (B2) (B3) (B4) (B4) (B5) Icks (B6) Ie on Aerial Imagery ted Concave Surfact Is: Sent? Yes ent? Yes	/ (B7) ce (B8) No No	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark (inches): (inches):	nd 4B) 13) C1) ilong Living in (C4) Tilled Soi tts (D1) (Ll (s) 	ls (C6) RR A)	C3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Deposits Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Pre Water Table Present Saturation Present	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ited Concave Surfact sent? Yes print? Yes? Yes?	- - - - - - - - - - - - - - - - - - -	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark	nd 4B) 13) C1) ilong Living in (C4) Tilled Soi tits (D1) (Li (s)	ls (C6) RR A)	C3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Prese	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ited Concave Surfact sent? Yes print? Yes? Yes?	/ (B7) ce (B8) No No	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfir Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark (inches): (inches):	nd 4B) 13) C1) ilong Living in (C4) Tilled Soi tts (D1) (Ll (s) 	ls (C6) RR A)	C3)	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Pre Water Table Present (includes capillary	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ated Concave Surfact is: sent? Yes ent? Yes ? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark (inches): (inches): (inches):	nd 4B) (13) (21) (14) (15) (14) (15) (14) (14) (14) (14) (14) (14) (14) (14	ls (C6) RR A) 0 0	C3) 	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depos Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Pre Water Table Present (includes capillary	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ated Concave Surfact is: sent? Yes ent? Yes ? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark (inches): (inches): (inches):	nd 4B) (13) (21) (14) (15) (14) (15) (14) (14) (14) (14) (14) (14) (14) (14	ls (C6) RR A) 0 0	C3) 	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Deposits Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Pre Water Table Present Saturation Present	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ated Concave Surfact is: sent? Yes ent? Yes ? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark (inches): (inches): (inches):	nd 4B) (13) (21) (14) (15) (14) (15) (14) (14) (14) (14) (14) (14) (14) (14	ls (C6) RR A) 0 0	C3) 	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Deposits Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Prese Saturation Present (includes capillary Describe Recorded Remarks:	le (A2) 1) isits (B2) i3) st (B4) 5) le on Aerial Imagery ated Concave Surfact is: sent? Yes ent? Yes ? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark inches): inches): hotos, pr	nd 4B) (13) (21) (13) (21) (24) (24) (24) (24) (24) (25) (25) (25) (25) (25) (25) (25) (25	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Deposits Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Present Vater Table Present Saturation Present (includes capillary Describe Recorded Remarks:	le (A2) 1) sits (B2) (3) st (B4) 5) le on Aerial Imagery ted Concave Surfact sent? Yes rest? Yes rest? Yes rest? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark inches): inches): hotos, pr	nd 4B) (13) (21) (13) (21) (24) (24) (24) (24) (24) (25) (25) (25) (25) (25) (25) (25) (25	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		
High Water Tab Saturation (A3) Water Marks (B Sediment Depose Drift Deposits (B Algal Mat or Cru Iron Deposits (B Surface Soil Cra Inundation Visib Sparsely Vegeta Field Observation Surface Water Present Saturation Present (includes capillary Describe Recorded Remarks:	le (A2) 1) sits (B2) (3) st (B4) 5) le on Aerial Imagery ted Concave Surfact sent? Yes rest? Yes rest? Yes rest? Yes fringe)	/ (B7) 	Water-Stained (except MLRA Salt Crust (B11 Aquatic Inverte Hydrogen Sulfic Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain) X Depth (X Depth (X Depth (X Depth (1,2,4A, a) brates (B de Odor (I spheres a educed Irc duction in ssed Plar in Remark inches): inches): hotos, pr	nd 4B) (13) (21) (13) (21) (24) (24) (24) (24) (24) (25) (25) (25) (25) (25) (25) (25) (25	Is (C6) RR A)	C3) Wetland Hyd	Water-Stained Lea Drainage Patterns Dry-Season Water Saturation Visible of Imagery (C9) Geomorphic Positi Shallow Aquitard (I FAC-Neutral Test (Raised Ant Mounds Frost-Heave Humm	ves (B9) (B10) Table (C2) on Aerial on (D2) O3) D5) s (D6) (LRR A) nocks (D7)	(MLRA 1,2,4A, and 4		

Appendix C – Wetland and Stream Photographs



Photo 1. Wetland 2 facing south near the eastern boundary.



Photo 2. Wetland 2 facing northwest near the south boundary.



Photo 3. Wetland 2 facing south from the northern boundary.



Photo 4. Culvert located west of the transfer station, upslope of Wetland 2



Photo 5. Wetland 3 facing north from SP3-1.



Photo 6. Wetland 3 facing north from the southern boundary towards SE 30th Street.



Photo 8. Wetland 4 facing north from SE 32nd Street.



Photo 9. Wetland 4 facing northwest.



Photo 10. Surface water in the English ivy patch within Wetland 4



Photo 11. Wetland A facing east from SP A-1.



Photo 12. SP A-1 facing east



Photo 13. Outlet located at the east end of Wetland A



Photo 14. Wetland C facing east



Photo 15. Wetland C facing southwest



Photo 16. Stream 0263 facing downstream at the southeast end of the project study area.



Photo 17. Stream 0263 looking down the channel.



Photo 18. Ditch A facing east towards Wetland 2.



Photo 19. Ditch A facing west



Photo 20. Ditch A facing north towards SE 30th Street.



Photo 21. Ditch A facing north – the channel lined with a half-cut CMP



Photo 22. Ditch A with a vertical drop structure facing south from SE 30th Street.



Photo 23. Ditch B facing southeast from the culvert crossing



Photo 24. Buried culvert located south of SE 32nd Street, north end of Stream



Photo 25. Buried culvert located north of SE 32nd Street, east of Wetland 4



Photo 26. Ditch C along SE 32nd Street facing east



Photo 27: Overflowing manhole in upstream reach of stream 0263 east of the project facility.



Photo 28: Steep banks in forested portion of stream 0263 in the project area.



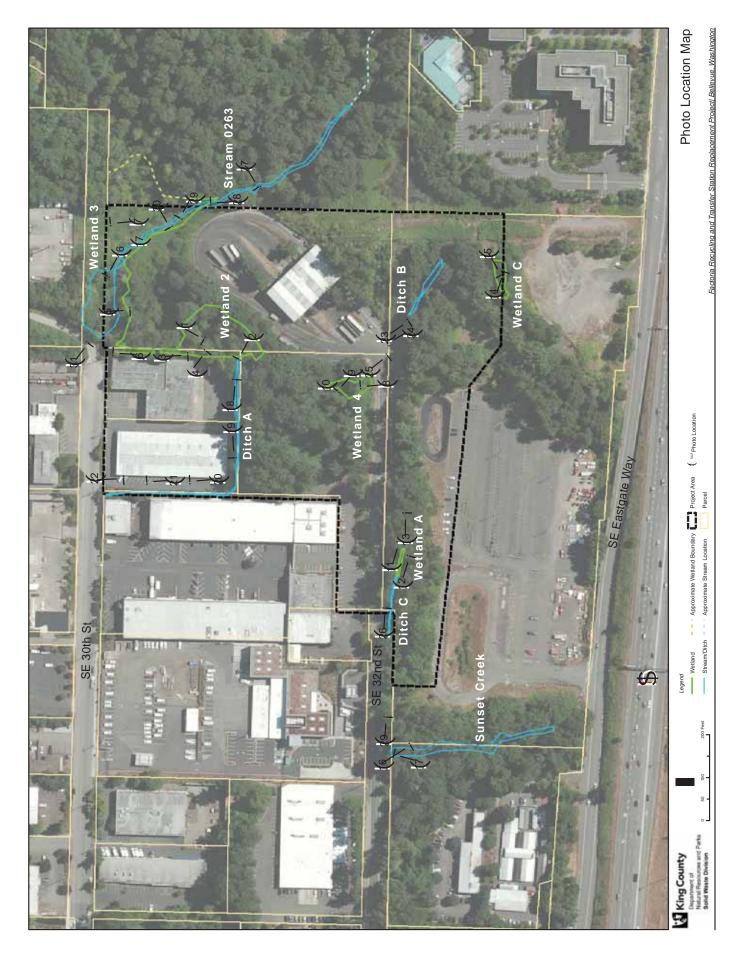
Photo 29: Stream 0263 by pipeline and transmission corridor



Photo 30: One of the small cascades where stream 0263 flows down the shrub covered hillside below the powerline corridor.



Photo 31: Culvert located at the PSE access road. Photo taken from downstream of the culvert facing southeast.



Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

C-19

Appendix D – Ecology Rating Forms

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

Wetland Rating Form - western Washington

version 2 To be used with Ecology Publication 04-06-025

rd name or number Metland 2

WETLAND RATING FORM - WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats RTS: Wetland 2 Date of site visit: 3-5-19, 3-23-10 Name of wetland (if known): factoria Rated by Wither, Danielski Trained by Ecology? Yes No Date of training 2005 SEC: 10 TWNSHP: 24N RNGE: SE Is S/T/R in Appendix D? Yes No Map of wetland unit: Figure ____ Estimated size ~ 0.38 aC

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I II IV \times

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

Score for Water Quality Functions Score for Hydrologic Functions

Score for Habitat Functions

TOTAL score for Functions

٦

Category based on SPECIAL CHARACTERISTICS of wetland

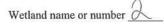
I II Does not Apply X

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

-	TIT	-
	IV	
) V	

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
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	

Commence of the state of the



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

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

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

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

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

Wetland Rating Form – western Washington 2 version 2 Updated with new WDFW definitions Oct. 2008

Classification of Wetland Units in Western Washington

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

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

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

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

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.

Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3 YES - The wetland class is Flats

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

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

_____The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)

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

 \times 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

Wetland Rating Form – western Washington 3 version 2 Updated with new WDFW definitions Oct. 2008

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

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

The overbank flooding occurs at least once every two years.

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

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

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

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

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

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

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

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

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

 Wetland Rating Form – western Washington
 4

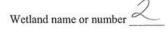
 version 2
 Updated with new WDFW definitions Oct. 2008

August 2004

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
S	S 1. Does the wetland unit have the potential to improve water quality?	(see p.64)
S	S 1.1 Characteristics of average slope of unit: Slope is1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5%	Þ
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic <i>(use NRCS definitions)</i> YES = 3 points NO = 0 points	ø.
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area points = 6 Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 Dense, uncut, herbaceous vegetation > 1/2 of area points = 1 Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for vegetation points = 0 Aerial photo or map with vegetation polygons	Figure
S	Total for S 1 Add the points in the boxes above	2
S	S 2. Does the wetland unit 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. 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.	(see p.67)
	$\stackrel{\frown}{\checkmark}$ Grazing in the wetland or within 150ft Untreated stormwater discharges to wetland	
	 Tilled fields, logging, or orchards within 150 feet of wetland Residential, urban areas, or golf courses are within 150 ft upslope of wetland 	multiplier
	Other YES multiplier is 2 NO multiplier is 1	2
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	4

Comments

Wetland Rating Form – western Washington 11 version 2 Updated with new WDFW definitions Oct. 2008



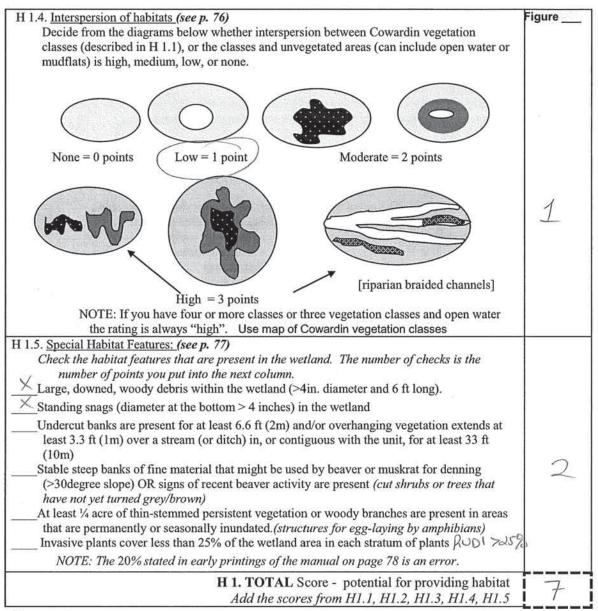
S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only 1 score per box)
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6	2
a	Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3Dense, uncut, rigid vegetation > 1/4 areapoints = 1More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0	2
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	Ø
S	Add the points in the boxes above	3
S	S 4. Does the wetland have the opportunity to reduce flooding and erosion? Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. — Wetland has surface runoff that drains to a river or stream that has flooding problems Surface Water August of the following conditions of the following conditions apply.	
	- Other trib to fichards (r.	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	2
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	6

Comments

These questions apply to wetlands of all HABITAT FUNCTIONS - Indicators that unit for		habitat	Points (only 1 score per box)
H 1. Does the wetland unit have the potential	to provide habitat for many	species?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as d class is ¼ acre or more than 10% of the area if Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have > Forested (areas where trees have >30% If the unit has a forested class check if:	unit is smaller than 2.5 acres.	hold for each	Figure
The forested class has 3 out of 5 strata moss/ground-cover) that each cover	20% within the forested polygo		2
Add the number of vegetation structures that quali	fy. If you have: 4 structures or more 3 structures 2 structures 1 structure	points = 4 points = 2 points = 1 points = 0	
H 1.2. <u>Hydroperiods (see p. 73)</u> Check the types of water regimes (hydroperiod regime has to cover more than 10% of the wetla	ds) present within the wetland.	The water	Figure
descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or Seasonally flowing stream in, or adjacent Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points		points = 2 point = 1 points = 0	1
H 1.3. <u>Richness of Plant Species</u> (see p. 75) Count the number of plant species in the wetla of the same species can be combined to meet th You do not have to name the species. Do not include Eurasian Milfoil, reed cand If you counted: List species below if you want to: HEPHE ALRU GEMA HEPHE ALRU OECE RILA ATFF EQTE	nd that cover at least 10 ft ² . (<i>dij</i> he size threshold) arygrass, purple loosestrife, Ca	fferent patches	2

Total for page _____

Wetland Rating Form – western Washington 13 version 2 Updated with new WDFW definitions Oct. 2008

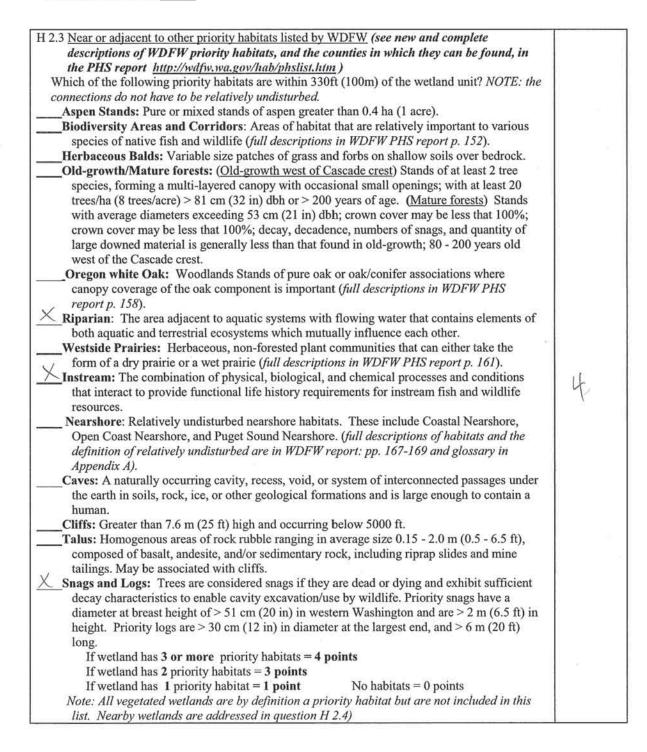


Comments

Wetland Rating Form – western Washington 14 version 2 Updated with new WDFW definitions Oct. 2008

2. Does the wetland unit have the opportunity to provide habitat for many species?	
 12.1 Buffers (see p. 80) The interval of the second prime interval of the se	Figure
H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? Powertime (or mider to the least is regularly YES = 2 points (go to H 2.3) NO = H 2.2.3 Mowed of 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?	Þ

Wetland Rating Form – western Washington 15 version 2 Updated with new WDFW definitions Oct. 2008



Wetland Rating Form – western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

Wetland name or number ____

 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, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe 	3
wetland within $\frac{1}{2}$ milepoints = 3There is at least 1 wetland within $\frac{1}{2}$ mile.points = 2There are no wetlands within $\frac{1}{2}$ mile.points = 0	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4	8
TOTAL for H 1 from page 14	7
otal Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	15

Wetland Rating Form – western Washington 17 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands <i>(see p. 86)</i> Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal,	
 Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant 	Cat. I Cat. II
species. If the non-native <i>Spartina</i> 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.	Dual rating I/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 has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	

Wetland Rating Form – western Washington18version 2Updated with new WDFW definitions Oct. 2008

Wetland name or number _____

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

Wetland Rating Form – western Washington 19 version 2 Updated with new WDFW definitions Oct. 2008

					2
Wetland	name	or	numb	er	d

	Hollish Land
 SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. 	
NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter.	
Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth.	G-11
YES = Category I $(NO) + not a$ forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES = Go to SC 5.1 	
 SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ³/₄ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	Cat. I
- The wetland is larger than 1/10 acre (4350 square feet)	Cal. I
YES = Category I NO = Category II	Cat. II

Wetland Rating Form – western Washington 20 version 2 Updated with new WDFW definitions Oct. 2008

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (als	o called the Western Boundary of Unland	
Ownership or WBUO)?	So caned the western Boundary of Opland	
	$\phi ightarrow $ not an interdunal wetland for rating	
	to rate the wetland based on its	
In practical terms that means the following g	geographic areas:	
 Long Beach Peninsula- lands west of 	f SR 103	
 Grayland-Westport- lands west of SI 	R 105	
 Ocean Shores-Copalis- lands west of 	f SR 115 and SR 109	
SC 6.1 Is the wetland one acre or larger once acre or larger?	, or is it in a mosaic of wetlands that is	
YES = Category II	NO - go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 ac between 0.1 and 1 acre?	re, or is it in a mosaic of wetlands that is	Cat. II
YES = Category III		Cat. III
Category of wetland based on Special C	haracteristics	
Choose the "highest" rating if wetland fall		
p. 1.		N/L
If you answered NO for all types enter "No	ot Applicable" on p.1	MA

Wetland Rating Form – western Washington 21 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

land name or number
WETLAND RATING FORM - WESTERN WASHINGTON Version 2 - Updated July 2006 to increase accuracy and reproducibility among users Updated Oct 2008 with the new WDFW definitions for priority habitats Name of wetland (if known): <u>Factoria</u> <u>PTS-Wetland</u> Date of site visit: <u>3-5-10</u> Rated by <u>DavidSid/Palzell</u> Trained by Ecology? Yes No Date of training <u>2005</u> /2007
SEC: TWNSHP: 241 RNGE: 5E Is S/T/R in Appendix D? Yes No
Map of wetland unit: Figure Estimated size ~ 0.96
SUMMARY OF RATING
Category based on FUNCTIONS provided by wetland
<u>і п </u>
Category I = Score >=70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30

Category based on SPECIAL CHARACTERISTICS of wetland

I____ II___ Does not Apply 🔨

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

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

1

Wetland Rating Form – western Washington version 2 To be used with Ecology Publication 04-06-025

Wetland name or number $_{2}$

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

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

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		\checkmark
For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		\bigwedge
SP2. Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species? For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		and the second se
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	2	\bigvee

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

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

Wetland Rating Form – western Washington 2 version 2 Updated with new WDFW definitions Oct. 2008

Classification of Wetland Units in Western Washington

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

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

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

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

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

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

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

_____The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)

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

X 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.

- <u>X</u> 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)

Wetland Rating Form – western Washington 3 version 2 Updated with new WDFW definitions Oct. 2008

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

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

The overbank flooding occurs at least once every two years.

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

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

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

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

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

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

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

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

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

Wetland Rating Form – western Washington4version 2Updated with new WDFW definitions Oct. 2008

August 2004

Wetland name or number _____

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

Comments

Wetland Rating Form – western Washington 11 version 2 Updated with new WDFW definitions Oct. 2008

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	Points (only 1 score per box)	
	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)	
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. points = 6		
	Dense, uncut, rigid vegetation > 1/2 area of wetlandpoints = 3Dense, uncut, rigid vegetation > 1/4 areapoints = 1More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigidpoints = 0	6	
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	8	
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? Note which of the following conditions apply. 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	2	
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	16	

Comments

Wetland Rating Form – western Washington12version 2Updated with new WDFW definitions Oct. 2008

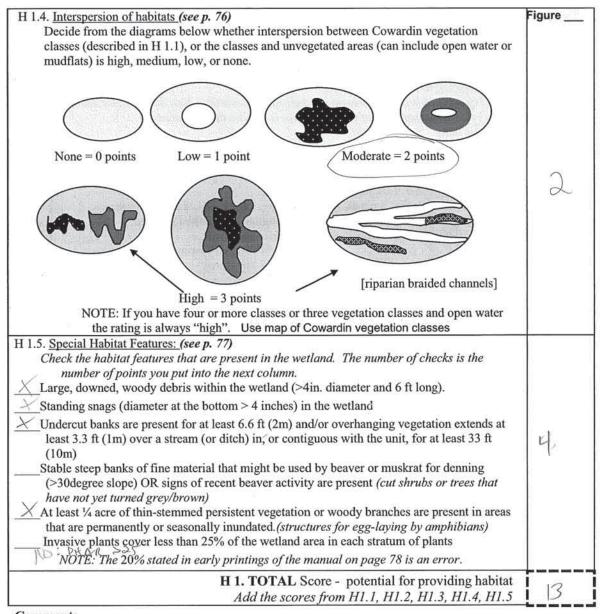
Wetland name or number _____

ABITAT FUNCTIONS - Indicators that unit f	HGM classes. Sunctions to provide important habitat	Points (only 1 scor per box)
1. Does the wetland unit have the potential	to provide habitat for many species?	
1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as d class is ¹ / ₄ acre or more than 10% of the area if Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >	funit is smaller than 2.5 acres.	Figure
Forested (areas where trees have $>30\%$ If the unit has a forested class check if:	(canopy, sub-canopy, shrubs, herbaceous, 20% within the forested polygon ify. If you have: 4 structures or more 3 structures 2 structures 2 structures points = 2 points = 1	4
1.2. Hydroperiods (see p. 73)	1 structure $points = 0$	Figure
descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or Seasonally flowing stream in, or adjacen Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points		2
of the same species can be combined to meet the You do not have to name the species.	arygrass, purple loosestrife, Canadian Thistle : > 19 species points = 2 5 = 19 energies points = 1	1

Total for page $_+$

Wetland Rating Form – western Washington13version 2Updated with new WDFW definitions Oct. 2008

Wetland name or number _____



Comments

Wetland Rating Form – western Washington 14 version 2 Updated with new WDFW definitions Oct. 2008

H 2. Does the wetland unit 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 unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference, . Points = 4 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference, . Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 3 — 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 3 — 50 m (areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light	1
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? Fourer line corridor IS Mountained break YES = 2 points (go to H 2.3) NO = H 2.2.3 IN CORDOR 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	Ø

Total for page ____

Wetland Rating Form – western Washington 15 version 2 Updated with new WDFW definitions Oct. 2008

Wetland name or number _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
	1
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	1
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	1
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	1
large downed material is generally less than that found in old-growth; 80 - 200 years old	
west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS	
y report p. 158).	
<u>K</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	0
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	
Instream: The combination of physical, biological, and chemical processes and conditions	
that interact to provide functional life history requirements for instream fish and wildlife	1 1
resources.	4
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	1.16
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	10
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in	1
Appendix A).	1
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.	1
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	1
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine	
tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft)	
long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	

Wetland Rating Form – western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

 12.4 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 wetland within ½ mile The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe metland within ½ mile The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe metland within ½ mile The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe metland within ½ mile. There are no wetlands within ½ mile. 	5
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4	10
TOTAL for H 1 from page 14	13.
Cotal Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	23

Wetland Rating Form – western Washington 17 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands <i>(see p. 86)</i>	D. D. Harris
Does the wetland unit meet the following criteria for Estuarine wetlands?	
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 (NO) 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant 	Cat. I Cat. II
 species. If the non-native <i>Spartina</i> 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. 	Dual rating I/II
 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	

Wetland Rating Form – western Washington 18 version 2 Updated with new WDFW definitions Oct. 2008

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

Wetland Rating Form – western Washington19version 2Updated with new WDFW definitions Oct. 2008

August 2004

1

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. Cat. I YES = Category I No	 Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <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/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO int a forested wetland with special characteristics 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 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 ¼ 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 larget than 1/10 acre (4350 square feet) 		THE REAL PROPERTY OF
 NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I No X not a forested wetland with special characteristics 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 (<i>needs to be measured near the bottom</i>) YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¼ 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) 	 NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I No X not a forested wetland with special characteristics 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 (<i>meeds to be measured near the bottom</i>) YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet) 	 Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? If you answer yes you will still need to rate the wetland based on its functions. Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a 	
 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I NO Knot a forested wetland with special characteristics SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO K not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¼ 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) 	 80 - 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. YES = Category I No X not a forested wetland with special characteristics SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO X not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¼ 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) 	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"	
YES = Category I No	YES = Category I No Anot a forested wetland with special characteristics Cat. I SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO A not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? — — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. Cat. — — The wetland is larger than 1/10 acre (4350 square feet) Cat.	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	0
 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet) 	 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO × not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet) 		Cat. I
 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet) 	 Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) YES = Go to SC 5.1 NO × not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. The wetland is larger than 1/10 acre (4350 square feet) 	SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
 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) 	 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) 	 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) 	
shrub, forest, or un-grazed or un-mowed grassland.Cat. I— The wetland is larger than 1/10 acre (4350 square feet)	shrub, forest, or un-grazed or un-mowed grassland.Cat.— The wetland is larger than 1/10 acre (4350 square feet)	— 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).	
— The wetland is larger than 1/10 acre (4350 square feet)	— The wetland is larger than 1/10 acre (4350 square feet)	사망 수 가장에 들었는 것은 것 같아요. 그는 것은 것은 것은 것은 것을 수 있는 것은 것을 것을 수 있는 것을 것 같아요. 것이 같이 것을 들었는 것이 같아요. 것은 것을 하는 것이 같아요. 것은 것을 하는 것이 같이 있는 것이 같아요. 것을 하는 것이 같아요. 것을 것 같아요. 않아요. 것 같아요. 않아요. 것 같아요. 것 같아요. 않아요. 것 같아요. 않아요. 것 않아요. 않아요. 것 않아요. 않아요. 것 않아요. 않아요. 않아요. 않아요. 않아요. 않아요. 않아요. 않아요.	Cat I
			Cau
$1 E_{0} = Calcourv I$ $NU = Calcourv II$			Cat. II

Wetland Rating Form – western Washington20version 2Updated with new WDFW definitions Oct. 2008

August 2004

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report

Wetland name or number ____

SC 6.0 Interdunal Wetlands (see p. 9. Is the wetland unit west of the 1889 line	(also called the Western Boundary of Upland	
Ownership or WBUO)?	\bigcirc	
YES - go to SC 6.1	(NO) interdunal wetland for rating	
If you answer yes you will sti	ll need to rate the wetland based on its	8
functions.		
In practical terms that means the follow	ing geographic areas:	
 Long Beach Peninsula- lands we 		
 Grayland-Westport- lands west 	of SR 105	1
 Ocean Shores-Copalis- lands we 	est of SR 115 and SR 109	
SC 6.1 Is the wetland one acre or la	arger, or is it in a mosaic of wetlands that is	
once acre or larger? YES = Category II	NO - go to SC 6.2	Cat. II
	1 acre, or is it in a mosaic of wetlands that is	
YES = Category III	2	Cat. III
Category of wetland based on Speci	al Characteristics	
Choose the "highest" rating if wetland	d falls into several categories, and record on	
p. 1.		
If you answered NO for all types ente	r "Not Applicable" on p.1	

Wetland Rating Form – western Washington 21 version 2 Updated with new WDFW definitions Oct. 2008

Factoria Recycling and Transfer Station Replacement Project King County - Wetland and Stream Assessment Report August 2004



Wetland nam	e or number	
	Version 2 - Updated July 2006 to increa	RM – WESTERN WASHINGTON ase accuracy and reproducibility among users new WDFW definitions for priority habitats
Name of w	etland (if known): Hactoria K	5: Warland 4 Date of site visit: 2-5-10
Rated by	Danielski Tra	ined by Ecology? Yes X No Date of training $\frac{\partial \cos S}{\partial S}$
SEC:	TWNSHP: 24N RNGE: 5E Is S/1	ſ/R in Appendix D? Yes Nok
	Map of wetland unit: Figure	Estimated size <u>N0.064</u> C
	hidp of frenching and signed	
	SUMMAR	RY OF RATING
	SUMMA	(I OF MAIN(G
C (I I FUNCTIONS	and by wetland
1000	y based on FUNCTIONS prov	laed by welland
I	<u>п_ п_ ту_</u>	
1.		
	1	Score for Water Quality Functions
Category	$y I = \text{Score} \ge 70$	
	y II = Score 51-69	Score for Hydrologic Functions
	y III = Score 30-50	Score for Habitat Functions
	V IV = Score < 30	TOTAL score for Functions
		TOTAL score for Functions 32
Categor	y based on SPECIAL CHARA	CTERISTICS of wetland
1.752	y based on SPECIAL CHARA	
1.77.2	y based on SPECIAL CHARA II Does not ApplyX	
1.77.2	24	
1.77.2	_ II Does not ApplyX	
1.77.2	_ II Does not ApplyX	
I_	II Does not Apply X	e "highest" category from above)
I_	II Does not Apply X	e "highest" category from above)
I_	II Does not Apply X	e "highest" category from above)
I_	II Does not Apply X Final Category (choose th Summary of basic infor	e "highest" category from above)
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special	e "highest" category from above) mation about the wetland unit Wetland HGM Class
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe
I_	II Does not Apply X Final Category (choose the Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope
1.752	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats
I_	II Does not Apply X Final Category (choose th Summary of basic infor Wetland Unit has Special Characteristics Estuarine Natural Heritage Wetland Bog Mature Forest Old Growth Forest Coastal Lagoon	e "highest" category from above) mation about the wetland unit Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats

Wetland Rating Form – western Washington version 2 To be used with Ecology Publication 04-06-025 1 August 2004

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

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

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

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

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

Wetland Rating Form – western Washington 2 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

Classification of Wetland Units in Western Washington

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

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

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

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this

revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

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

NO - go to 3) YES - The wetland class is Flats

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

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

_____The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO - go to 4 > YES - The wetland class is Lake-fringe (Lacustrine Fringe)

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

X 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

Wetland Rating Form – western Washington 3 version 2 Updated with new WDFW definitions Oct. 2008

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

- The unit is in a valley, or stream channel, where it gets inundated by overbank
 - flooding from that stream or river
 - _ The overbank flooding occurs at least once every two years.
- *NOTE:* The riverine unit can contain depressions that are filled with water when the river is *-not-flooding*.
- NO go to 6 YES The wetland class is Riverine
- 6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO - go to 7 YES - The wetland class is Depressional

- 7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 - NO go to 8 YES The wetland class is Depressional

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

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

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

Wetland Rating Form – western Washington 4 version 2 Updated with new WDFW definitions Oct. 2008

S	Slope Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)	
S	S 1. Does the wetland unit have the <u>potential</u> to improve water quality?	(see p.64)	
S	S 1.1 Characteristics of average slope of unit: Slope is1% or less (a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance) Slope is 1% - 2% Slope is 2% - 5% Slope is greater than 5%	1	
S	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic <i>(use NRCS definitions)</i> YES = 3 points	ø	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. Dense, uncut, herbaceous vegetation > 90% of the wetland area Dense, uncut, herbaceous vegetation > 1/2 of area Dense, woody, vegetation > ½ of area Dense, uncut, herbaceous vegetation > 1/4 of area Dense not meet any of the criteria above for vegetation Dense Dense <tr< td=""></tr<>		
S	Total for S 1 Add the points in the boxes above	7	
S	S 2. Does the wetland unit 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 from several sources, but any single source would qualify as opportunity.</i>		
	 Grazing in the wetland or within 150ft Untreated stormwater discharges to wetland Tilled fields, logging, or orchards within 150 feet of wetland Kesidential, urban areas, or golf courses are within 150 ft upslope of wetland Other YES multiplier is 2 NO multiplier is 1 	multiplier	
S	TOTAL - Water Quality Functions Multiply the score from S1 by S2 Add score to table on p. 1	14	

Comments

Wetland Rating Form – western Washington 11 version 2 Updated with new WDFW definitions Oct. 2008

S	Slope Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream erosion	
v	S 3. Does the wetland unit have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
S	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. Choose the points appropriate for the description that best fit conditions in the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3	6
	Dense, uncut, rigid vegetation > 1/2 area points = 1 More than 1/4 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	8
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? Note which of the following conditions apply. Wetland has surface runoff that drains to a river or stream that has flooding problems No- water Infiltrates, No Surface H₂O camecher Other To Tributaries 	(see p. 70) 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	1
S	TOTAL - Hydrologic Functions Multiply the score from S 3 by S 4 Add score to table on p. 1	8

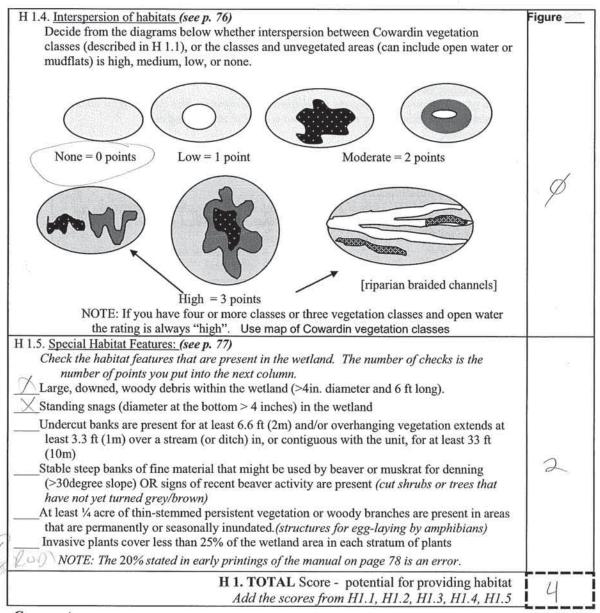
Comments

Wetland name or number _____

These questions apply to wetlands of all H HABITAT FUNCTIONS - Indicators that unit fur		habitat	Points (only 1 score per box)
H 1. Does the wetland unit have the potential to provide habitat for many species?			
H 1.1 <u>Vegetation structure</u> (see p. 72) Check the types of vegetation classes present (as defi- class is ¼ acre or more than 10% of the area if un Aquatic bed Emergent plants Scrub/shrub (areas where shrubs have >30 Forested (areas where trees have >30% co If the unit has a forested class check if:	ined by Cowardin)- Size thres nit is smaller than 2.5 acres. 0% cover) over)	hold for each	Figure
The forested class has 3 out of 5 strata (c moss/ground-cover) that each cover 2 Add the number of vegetation structures that qualify Map of Cowardin vegetation classes	0% within the forested polygo	points = 4 points = 2 points = 1	
H 1.2. Hydroperiods (see p. 73)	1 structure	points = 0	Figure
regime has to cover more than 10% of the wetland descriptions of hydroperiods) Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or Seasonally flowing stream in, or adjacent to Lake-fringe wetland = 2 points Freshwater tidal wetland = 2 points	4 or more types present 3 types present 2 types present 1 type present adjacent to, the wetland	t points = 3 points = 2 point = 1 points = 0	1
H 1.3. <u>Richness of Plant Species</u> (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the You do not have to name the species. Do not include Eurasian Milfoil, reed canar If you counted: List species below if you want to: ATFFF HEOHE NOSP	e size threshold)		1

Total for page _____

Wetland Rating Form – western Washington13version 2Updated with new WDFW definitions Oct. 2008



Comments

Wetland Rating Form – western Washington 14 version 2 Updated with new WDFW definitions Oct. 2008

2. Does the wetland unit have the opportunity to provide habitat for many species?	的编辑的
2.1 Buffers (see p. 80)	Figure _
noose the description that best represents condition of buffer of wetland unit. The highest scoring	
iterion that applies to the wetland is to be used in the rating. See text for definition of	
ndisturbed."	
— 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5	
— 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water >	
50% circumference. Points = 4	
 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 	
 — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% 	
v circumference, . Points = 3	
\Rightarrow 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for $>$ 50% circumference.	3
If buffer does not meet any of the criteria above	
— No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95%	1 2 2
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 	
$rac{1}{1}$ fields, paving, basalt bedrock extend to edge of wetland $rac{1}{1}$ Points = 0 .	
	_
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).	
$YES = 4 \text{ points} (go to H 2.3) \qquad NO = go to H 2.2.2$	
H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor	
(either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or	1
forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25	đ
acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? Power live corridor 15 regularly maintained	T
the question above? Power live conider is regularly maintained =	
the question above? Power live (correct in $VES = 2$ points (go to H 2.3) $NO = H 2.2.3$ break in Correct or	
H 2.2.3 Is the wetland:	
within 5 mi (8km) of a brackish or salt water estuary OR	
within 5 mi (8km) of a brackish or salt water estuary OR within 3 mi of a large field or pasture (>40 acres) OR	

Wetland Rating Form – western Washington15version 2Updated with new WDFW definitions Oct. 2008

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete	
descriptions of WDFW priority habitats, and the counties in which they can be found, in	
the PHS report http://wdfw.wa.gov/hab/phslist.htm)	
Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the	
connections do not have to be relatively undisturbed.	
Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).	
Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various	
species of native fish and wildlife (<i>full descriptions in WDFW PHS report p. 152</i>).	
Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.	
Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree	
species, forming a multi-layered canopy with occasional small openings; with at least 20	
trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands	
with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less that 100%;	
crown cover may be less that 100%; decay, decadence, numbers of snags, and quantity of	
large downed material is generally less than that found in old-growth; 80 - 200 years old	< 2
west of the Cascade crest.	
Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where	
canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).	
Riparian: The area adjacent to aquatic systems with flowing water that contains elements of	
both aquatic and terrestrial ecosystems which mutually influence each other.	
Westside Prairies: Herbaceous, non-forested plant communities that can either take the	es
form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).	φ
Instream: The combination of physical, biological, and chemical processes and conditions	6
that interact to provide functional life history requirements for instream fish and wildlife resources.	
Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore,	
Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the	
definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).	
Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under	
the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.	
Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.	
Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft),	
composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.	
Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient	
decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a	
diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height $Priority \log are > 20 cm (12 in) in dispersion at the largest and \log d > 2 m (20 ft)$	
height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.	
If wetland has 3 or more priority habitats = 4 points	
If wetland has 2 priority habitats = 3 points	
If wetland has 1 priority habitat = 1 point No habitats = 0 points	
Note: All vegetated wetlands are by definition a priority habitat but are not included in this	
list. Nearby wetlands are addressed in question H 2.4)	

Wetland Rating Form – western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008

best fits) (see p. 84) There are at least 3 other w relatively undisturbed (boating, but connection development. The wetland is Lake-fring wetlands within ½ mile There are at least 3 other disturbed	wetlands within ½ mile, BUT the ge on a lake with disturbance and d within ½ mile.	onnections between them are K, as is lake shore with some ed roads, fill, fields, or other points = 5 e and there are 3 other lake-fringe points = 5 connections between them are points = 3	M
-á		opportunity for providing habitat pres from H2.1,H2.2, H2.3, H2.4	6
		TOTAL for H 1 from page 14	4
otal Score for Habitat F	unctions – add the points for	H 1, H 2 and record the result on p. 1	10

Wetland Rating Form – western Washington 17 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	「「「「「」」
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover 	Cat. I Cat. II
 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 ³/₄ of the landward edge of the wetland has a 100 ft buffer of 	Dual rating I/II
 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. 	

Wetland Rating Form – western Washington 18 version 2 Updated with new WDFW definitions Oct. 2008

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

Wetland Rating Form – western Washington 19 version 2 Updated with new WDFW definitions Oct. 2008

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

Wetland Rating Form – western Washington 20 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

Wetland name or number _____

Is the wetland unit west of the 1889 line (also called the	Western Boundary of Upland	
Ownership or WBUO)?	· · · ·	
YES - go to SC 6.1 $(NO_)$ not an	interdunal wetland for rating	
If you answer yes you will still need to rate the	e wetland based on its	
functions.		
In practical terms that means the following geographic and	reas:	
 Long Beach Peninsula- lands west of SR 103 		
 Grayland-Westport- lands west of SR 105 		
 Ocean Shores-Copalis- lands west of SR 115 and 	SR 109	
SC 6.1 Is the wetland one acre or larger, or is it in a nonce acre or larger?	mosaic of wetlands that is	
YES = Category II NO	O – go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in between 0.1 and 1 acre?	a mosaic of wetlands that is	Call II
YES = Category III	3	Cat. III
Category of wetland based on Special Characteristic	es de la companya de	
Choose the "highest" rating if wetland falls into severa		11.
p. 1.		N/A
If you answered NO for all types enter "Not Applicable		1 '

Wetland Rating Form – western Washington 21 version 2 Updated with new WDFW definitions Oct. 2008

August 2004



Wetland name or number Wetland A

2. 4

		curacy and reproducibility among us VDFW definitions for priority habitation of the second sec	ts 2/5/10		
Name of wetl	and (if known): Factoria f.T.S. 1	Vetland A_Date of site	visit: <u>3/5/</u> 10		
Rated by De	melski Trained	by Ecology? Yes No D	ate of training 2005		
SEC: O TW	NSHP: 24NRNGE: 5E Is S/T/R i	n Appendix D? Yes No_	X		
	Map of wetland unit: Figure Estimated size $\sqrt{390}$ sq ft				
	SUMMARY	OF RATING			
Category b	ased on FUNCTIONS provided	l by wetland			
I	II III IV_X				
Category II Category II Category IV Category b I	= Score >=70 = Score 51-69 I = Score 30-50 7 = Score < 30 ased on SPECIAL CHARACT II Does not Apply × Final Category (choose the "hi	ghest" category from above)	s 5 s 6		
-	Summary of basic informationWetland Unit has SpecialCharacteristicsEstuarineNatural Heritage WetlandBogMature ForestOld Growth ForestCoastal LagoonInterdunal	Wetland HGM Class used for Rating Depressional Riverine Lake-fringe Slope Flats Freshwater Tidal			
	None of the above	Check if unit has multiple HGM classes present			

1

Wetland Rating Form – western Washington version 2 To be used with Ecology Publication 04-06-025

Wetland name or number Wetland A

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

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

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

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

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

Wetland Rating Form – western Washington 2 version 2 Updated with new WDFW definitions Oct. 2008

Wetland name or number Wetland A

Classification of Wetland Units in Western Washington

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

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

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

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

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

NO – go to 3 YES – The wetland class is Flats

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

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

_____The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)

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

- _____The wetland is on a slope (slope can be very gradual),
- The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
- _____The water leaves the wetland without being impounded?
- NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually 3ft diameter and less than 1 foot deep).

NO - go to 5 YES – The wetland class is Slope

Wetland Rating Form – western Washington3version 2Updated with new WDFW definitions Oct. 2008

August 2004

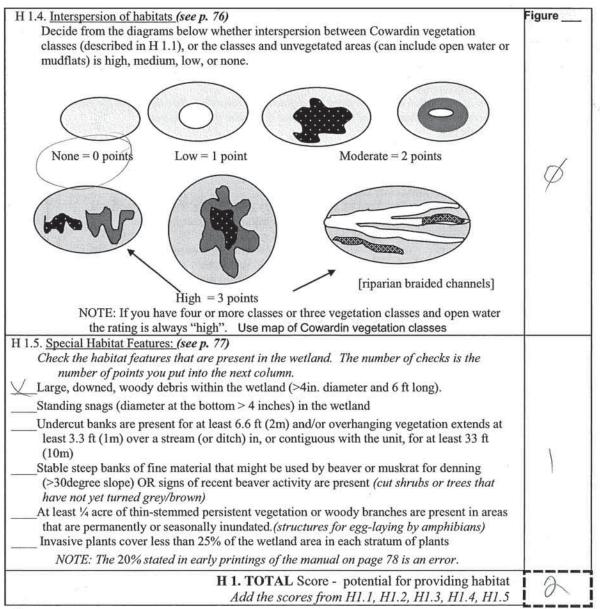
D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 score per box)
	D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?	(see p.46)
D	D 3.1 Characteristics of surface water flows out of the wetland unit 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 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 points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	2
D	D 3.2 Depth of storage during wet periodsEstimate the height of ponding above the bottom of the outlet. For units with no outletmeasure from the surface of permanent water or deepest part (if dry).Marks of ponding are 3 ft or more above the surface or bottom of outletpoints = 7The wetland is a "headwater" wetland"points = 5Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	Ø
D V VS	 D 3.3 Contribution of wetland unit to storage in the watershed Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of unit The area of the basin is 10 to 100 times the area of the unit The area of the basin is more than 100 times the area of the unit The area of the basin is more than 100 times the area of the unit points = 5 points = 0 points = 5 	3
D	Total for D 3Add the points in the boxes above	5
D	 D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit 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 	(see p. 49
	 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems 	multiplie
	Other YES multiplier is 2 NO multiplier is 1	1
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	5

Wetland Rating Form – western Washington 6 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

Wetland name or number _____

These questions apply to wetlands of all H HABITAT FUNCTIONS - Indicators that unit fund		bitat	Points (only 1 score per box)
H 1. Does the wetland unit have the <u>potential</u> to	provide habitat for many sp	ecies?	
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as definent class is 1/4 acre or more than 10% of the area if under the area of the are	it is smaller than 2.5 acres. % cover)	l for each	Figure
If the unit has a forested class check if: The forested class has 3 out of 5 strata (ca moss/ground-cover) that each cover 20 Add the number of vegetation structures that qualify.	nopy, sub-canopy, shrubs, herba % within the forested polygon <i>If you have:</i> 4 structures or more	points = 4	P
Map of Cowardin vegetation classes	2 structures p	points = 2 $points = 1$ $points = 0$	
H 1.2. <u>Hydroperiods</u> (see p. 73) Check the types of water regimes (hydroperiods) regime has to cover more than 10% of the wetland descriptions of hydroperiods)	or ¼ acre to count. (see text for		Figure
Permanently flooded or inundated Seasonally flooded or inundated Occasionally flooded or inundated Saturated only Permanently flowing stream or river in, or a Seasonally flowing stream in, or adjacent to Lake-fringe wetland = 2 points	3 types present 2 types present 1 type present djacent to, the wetland	points = 3 $points = 2$ $point = 1$ $points = 0$	1
Freshwater tidal wetland = 2 points	Map of hydrope	eriods	
H 1.3. <u>Richness of Plant Species</u> (see p. 75) Count the number of plant species in the wetland of the same species can be combined to meet the s You do not have to name the species. Do not include Eurasian Milfoil, reed canaryy If you counted: List species below if you want to: RUDI HEDHE	size threshold) grass, purple loosestrife, Canad. > 19 species po 5 - 19 species po		ø
		Total for	page 1

Wetland Rating Form – western Washington13version 2Updated with new WDFW definitions Oct. 2008

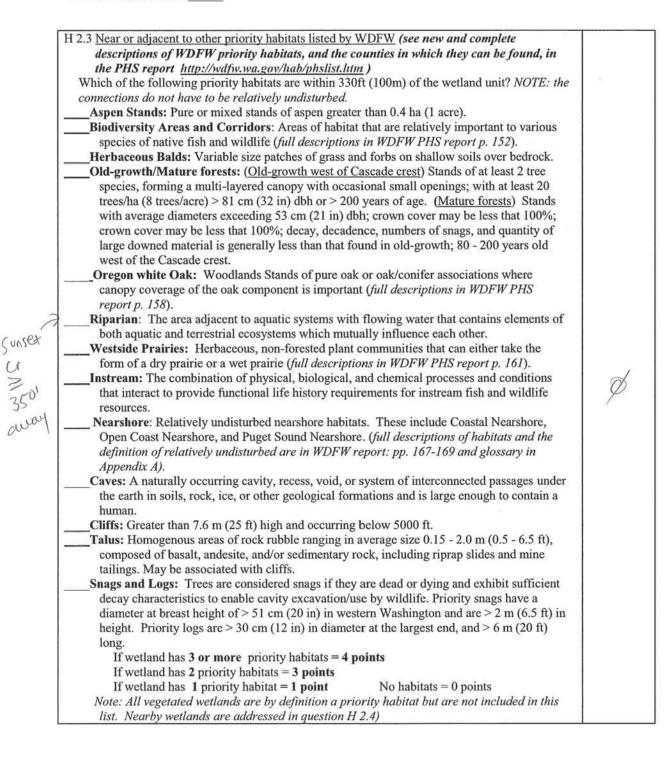


Comments

Wetland Rating Form – western Washington 14 version 2 Updated with new WDFW definitions Oct. 2008

2. Does the wetland unit have the opportunity to provide habitat for many species?	
2.1 Buffers (see p. 80)	Figure
 hoose the description that best represents condition of buffer of wetland unit. The highest scoring interior that applies to the wetland is to be used in the rating. See text for definition of undisturbed." 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference, Points = 3 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference, Points = 3 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >25% circumference. Points = 3 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 M (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 M (200 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% 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 = 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. Points = 1 	1
Aerial photo showing buffers	
H 2.2 <u>Corridors and Connections</u> (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland:	Þ
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?	

Wetland Rating Form – western Washington 15 version 2 Updated with new WDFW definitions Oct. 2008



Wetland Rating Form – western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

 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, 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, BUT the connections between them are disturbed The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile 	M
There is at least 1 wetland within $\frac{1}{2}$ mile.points = 2There are no wetlands within $\frac{1}{2}$ mile.points = 0	
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4	4
TOTAL for H 1 from page 14	R
Fotal Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	6

Wetland Rating Form – western Washington 17 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

×

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands (see p. 86)	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> 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. 	Cat. I Cat. II Dual rating I/II
 The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. 	

Wetland Rating Form – western Washington 18 version 2 Updated with new WDFW definitions Oct. 2008

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

Wetland Rating Form – western Washington19version 2Updated with new WDFW definitions Oct. 2008

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

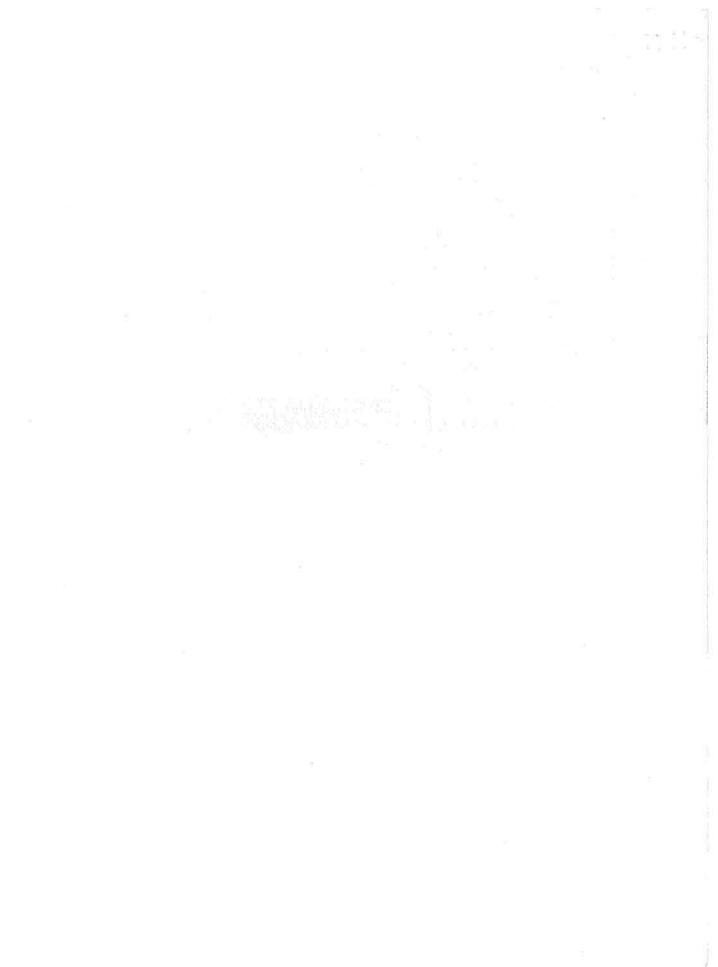
Wetland Rating Form – western Washington 20 version 2 Updated with new WDFW definitions Oct. 2008

Wetland name or number ______A

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

Wetland Rating Form – western Washington 21 version 2 Updated with new WDFW definitions Oct. 2008

August 2004



name or number Ubfland C

Version 2 - Updated July 2006 to increas Updated Oct 2008 with the n	RM – WESTERN WASHINGTON see accuracy and reproducibility among users new WDFW definitions for priority habitats 2-5-10 TS: Wetland C Date of site visit: $3-23-10$
Rated by Danielski Trai	ined by Ecology? Yes No_ Date of training 2005
SEC: 10 TWNSHP: 24N RNGE: 5E IS S/T	/R in Appendix D? Yes No \times
	Estimated size <u>~0.04</u> ac
SUMMAR	Y OF RATING
Category based on FUNCTIONS provid	ded by wetland
Category I = Score >=70 Category II = Score 51-69 Category III = Score 30-50 Category IV = Score < 30	Score for Water Quality Functions10Score for Hydrologic Functions7Score for Habitat Functions9TOTAL score for Functions26
Category based on SPECIAL CHARAC I II Does not Apply	TERISTICS of wetland
Final Category (choose the "	highest" category from above)
Summary of basic informa	tion about the wetland unit
Wetland Unit has Special	Wetland HGM Class
Characteristics	used for Rating
Estuarine	Depressional
Natural Heritage Wetland	Riverine
Bog	Lake-fringe

Slope

Flats

X

1

Freshwater Tidal

HGM classes present

Check if unit has multiple

Wetland Rating Form - western Washington

Interdunal None of the above

version 2 To be used with Ecology Publication 04-06-025

Mature Forest

Coastal Lagoon

Old Growth Forest

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

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

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?		1
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 I Natural Heritage Wetlands (see p. 19 of data form).		×
SP3. Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?		×
SP4. Does the wetland unit have a local significance in addition to its functions? For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		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.

Wetland Rating Form – western Washington2version 2Updated with new WDFW definitions Oct. 2008

Classification of Wetland Units in Western Washington

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

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

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

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

- 2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.
 - Groundwater and surface water runoff are NOT sources of water to the unit.
 - NØ go to 3 YES The wetland class is Flats

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

- 3. Does the entire wetland unit meet both of the following criteria?
 - ___The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
 - At least 30% of the open water area is deeper than 6.6 ft (2 m)?

NO – go to 4 YES – The wetland class is Lake-fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit meet all of the following criteria?
 - ____The wetland is on a slope (slope can be very gradual),
 - The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 - ____The water leaves the wetland without being impounded?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3ft diameter and less than 1 foot deep).
 - go to 5 **YES** The wetland class is **Slope**

Wetland Rating Form – western Washington 3 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

NO

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.

NO₇ go to 6 YES – The wetland class is Riverine

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

NO - go to 7 (YES - The wetland class is **Depressional**

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

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

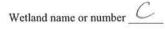
8. Your wetland unit seems to be difficult to classify and probably contains several different HGM clases. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH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

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

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

D	Depressional and Flats Wetlands WATER QUALITY FUNCTIONS - Indicators that the wetland unit functions to improve water quality	Points (only 1 score per box)
D	D 1. Does the wetland unit 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) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 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	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic <i>(use NRCS definitions)</i> YES NO	ø
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) 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 Wetland has persistent, ungrazed vegetation <1/10 of area points = 0 Map of Cowardin vegetation classes	Figure
D	D1.4 Characteristics of seasonal ponding or inundation.This is the area of the wetland unit that is ponded for at least 2 months, but dries outsometime during the year. Do not count the area that is permanently ponded. Estimatearea as the average condition 5 out of 10 yrs.Area seasonally ponded is > ½ total area of wetlandArea seasonally ponded is > ½ total area of wetlandArea seasonally ponded is < ¼ total area of wetland	Figure
D	Map of Hydroperiods Total for D 1 Add the points in the boxes above	10
D	 D 2. Does the wetland unit 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. 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. Gravel pad Grazing in the wetland or within 150 ft Untreated stormwater discharges to wetland Mot in active uset Tilled fields or orchards within 150 ft of wetland does not contribute pollutants 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 	multiplier
D	YES multiplier is 2 NO multiplier is 1	
D	<u>TOTAL</u> - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	10

Wetland Rating Form – western Washington 5 version 2 Updated with new WDFW definitions Oct. 2008



	D	Depressional and Flats Wetlands HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions to reduce flooding and stream degradation	Points (only 1 score per box)
		D 3. Does the wetland unit have the potential to reduce flooding and erosion?	(see p.46)
	D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 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 points = 1	4
		(If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	
	D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet The wetland is a "headwater" wetland"	
		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 Unit 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 = 0	ø
(mthbyt	D	D 3.3 Contribution of wetland unit to storage in the watershed	
Contribut Notersted mited to area uplop	e	The area of the basin is less than 10 times the area of unitpoints = 5The area of the basin is 10 to 100 times the area of the unitpoints = 3The area of the basin is more than 100 times the area of the unitpoints = 0Entire unit is in the FLATS classpoints = 5	3
to south/	D	Total for D 3 Add the points in the boxes above	7
Water Flow like drains to West. Doe	D	 D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? Answer YES if the unit 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 	(see p. 49)
West. Doe connect ! triburant Richard	2) + 2) + 2) (r	 Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems Other 	multiplier
		YES multiplier is 2 NO multiplier is 1	
	D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	7

Wetland Rating Form – western Washington 6 version 2 Updated with new WDFW definitions Oct. 2008

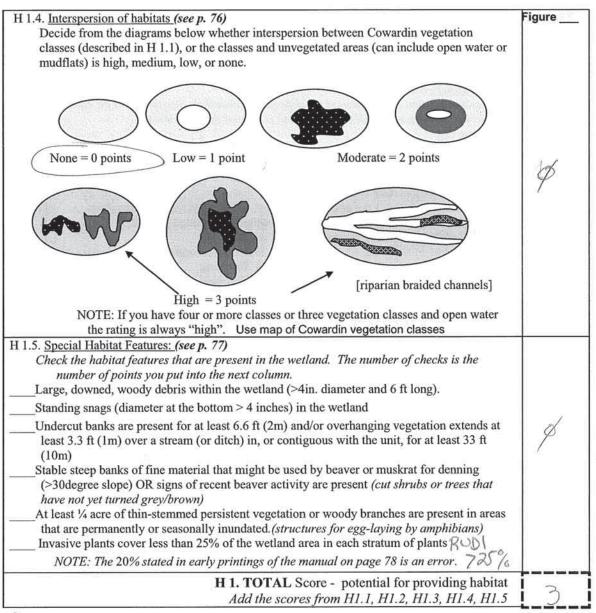
Wetland name or number _____

IGM classes.	t habitat	Points (only 1 score per box)
provide habitat for man	y species?	
nit is smaller than 2.5 acres. 0% cover) over)		Figure
	n	1
	points = 4	- J
3 structures		
2 structures	points = 1	
1 structure	points = 0	
\$ ⁻		Figure
3 types present 2 types present	points = 2	1
Map of hyd	roperiods	
size threshold)	n na shi kana ka na sana sa	1
	ctions to provide important provide habitat for many ined by Cowardin)- Size thress it is smaller than 2.5 acres.)% cover) over) anopy, sub-canopy, shrubs, he)% within the forested polygo If you have: 4 structures or more 3 structures 1 structures 1 structures 1 structure present within the wetland. d or ¼ acre to count. (see text 4 or more types present 3 types present 2 types present 1 type present adjacent to, the wetland o, the wetland Map of hyd I that cover at least 10 ft ² . (dj size threshold) pgrass, purple loosestrife, Ca > 19 species 5 - 19 species	ctions to provide important habitat provide habitat for many species? ined by Cowardin)- Size threshold for each ait is smaller than 2.5 acres. 0% cover) over) anopy, sub-canopy, shrubs, herbaceous, 0% within the forested polygon If you have: 4 structures or more points = 4 3 structures points = 2 2 structures points = 1 1 structure points = 0 present within the wetland. The water d or ¼ acre to count. (see text for 4 or more types present points = 3 3 types present points = 2 2 types present points = 0 Map of hydroperiods I that cover at least 10 ft ² . (different patches size threshold) prass, purple loosestrife, Canadian Thistle > 19 species points = 2 5 - 19 species points = 1

Total for page _____

Wetland Rating Form – western Washington13version 2Updated with new WDFW definitions Oct. 2008

Wetland name or number Wetland C



Comments

Wetland Rating Form – western Washington 14 version 2 Updated with new WDFW definitions Oct. 2008

H 2. Does the wetland unit have the opportunity to provide habitat for many species?	
H 2.1 Buffers (see p. 80) Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed." — 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) Points = 5 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 50 m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 55% circumference. Points = 4 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 — 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. Points = 3 No maved areas (except paved trails) or bu	Figure
H 2.2 Corridors and Connections (see p. 81) H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor). YES = 4 points (go to H 2.3) NO = go to H 2.2.2 H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above? YES = 2 points (go to H 2.3) NO = H 2.2.3 H 2.2.3 Is the wetland: within 5 mi (8km) of a brackish or salt water estuary OR within 1 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	Ø

Total for page 3

Wetland Rating Form – western Washington 15 version 2 Updated with new WDFW definitions Oct. 2008

Wetland Rating Form – western Washington 16 version 2 Updated with new WDFW definitions Oct. 2008

There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There are no wetlands within ½ mile. points = 0 H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1,H2.2, H2.3, H2.4 Made the scores from H2.1,H2.2, H2.3, H2.4 Made the scores from H2.1,H2.2, H2.3, H2.4	Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	9
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0 H 2. TOTAL Score - opportunity for providing habitat	TOTAL for H 1 from page 14	3
relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2		6
	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 wetland 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

Wetland Rating Form – western Washington 17 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	Category
SC 1.0 Estuarine wetlands <i>(see p. 86)</i>	
Does the wetland unit meet the following criteria for Estuarine wetlands?	
 The dominant water regime is tidal, Vegetated, and With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?	Cat. I
YES = Category I NO go to SC 1.2	
 SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native Sparting spp. are the only species that cover 	Cat. I Cat. II
 species. If the holl-harve spectrum 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. 	Dual rating I/II

Wetland Rating Form – western Washington 18 version 2 Updated with new WDFW definitions Oct. 2008

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

Wetland Rating Form – western Washington 19 version 2 Updated with new WDFW definitions Oct. 2008

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for	
the Department of Fish and Wildlife's forests as priority habitats? <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/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.	1964 g. 191
$YES = Category I$ NO_not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91)	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
 The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks 	
— The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	
$YES = Go \text{ to } SC 5.1 \qquad (NO) \text{ not a wetland in a coastal lagoon}$	
SC 5.1 Does the wetland meets all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74).	
- At least ³ / ₄ of the landward edge of the wetland has a 100 ft buffer of	
shrub, forest, or un-grazed or un-mowed grassland.	Cat. I
— The wetland is larger than 1/10 acre (4350 square feet)	
YES = Category I NO = Category II	Cat. II

Wetland Rating Form – western Washington 20 version 2 Updated with new WDFW definitions Oct. 2008 August 2004

Ś

SC 60 Interdunal Watlands (asan 02)	
SC 6.0 Interdunal Wetlands <i>(see p. 93)</i>	1
Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland	
Ownership or WBUO)?	
YES - go to SC 6.1 NO/ not an interdunal wetland for rating	
If you answer yes you will still need to rate the wetland based on its	
functions.	
In practical terms that means the following geographic areas:	
 Long Beach Peninsula- lands west of SR 103 	
 Grayland-Westport- lands west of SR 105 	
 Ocean Shores-Copalis- lands west of SR 115 and SR 109 	0
SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger?	
YES = Category II NO – go to SC 6.2	Cat. II
SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre?	Cat. II
YES = Category III	Cat. III
Category of wetland based on Special Characteristics	
Choose the "highest" rating if wetland falls into several categories, and record on	
p. 1.	0
If you answered NO for all types enter "Not Applicable" on p.1	

Wetland Rating Form – western Washington 21 version 2 Updated with new WDFW definitions Oct. 2008

August 2004

b