

DEPARTMENT OF ECOLOGY
Shorelands and Environmental Assistance Program

DATE: September 6, 2016

TO: Chris Wend

FROM: Catherine Reed, PWS, SEA Program

SUBJECT: Yakima Steel Fabricators site (parcel # 19133141009) wetland reconnaissance project SIC code JJ222

On August 25, 2016, we walked around a low-lying “pond” area on the above-referenced parcel in order to answer several questions. Was a wetland present on the site? If so, what is the extent of the wetland area, and what buffers would be required to protect the functional values of the wetland?

The general extent of the wetland was determined by visual observation of wetland conditions in the pond area and by digging one observation hole in a low-lying ditch remnant to the east of the wetland to confirm hydric soil conditions in that moist area. The water source of the pond and ditch appears to be primarily groundwater, and the wetland type is “emergent” based on the kind of vegetation (rushes and cattails) present.

The pond area/wetland is located at the extreme south of the parcel and is primarily confined to an area that is much lower (3 to 5 vertical feet to the pond surface) than the surrounding land elevation. Trees and shrubs that grow adjacent to the pond and the ditch are growing in the buffer, just outside of the wetland. There are berms around the pond wetland, probably composed of fill material from excavation of the wetland sometime in the past. There was also a narrow wetland ditch remnant on the northeast corner of the pond on the east side of the berm as well.

Based on old aerial photos of the site and its vegetation, there is evidence that the wetland area of today is a portion of a much larger historic wetland area, which was either filled or drained over time to accommodate development. The current pond area was likely excavated into an existing wetland area. Therefore, even though this wetland has been altered over time, it is still a “jurisdictional” wetland. This is an important fact when determining how much wetland mitigation may be required for future activities that could impact the wetland.

Since the amount of any mitigation required is based on the wetland’s functional values, I completed a wetland rating form for the wetland using Ecology’s “Washington State Wetland Rating System for Eastern Washington (2014) methodology. The wetland was rated as a Category III wetland. Ecology would generally recommend 75 to 80 foot buffers to protect wetland functional values based on the wetland being located in a

high-intensity development area, but because the habitat scores of the wetland are so low, if stormwater inputs into the wetland were controlled, then smaller buffers can be considered to protect the functional values. If this wetland were to be filled and wetland mitigation was done, replacement ratios for re-establishment or creation of the wetland would be 2:1 (for every one acre of wetland lost, 2 acres of replacement wetlands would need to be provided).

I hope this information will assist you in working with your client to resolve some of the issues on the site.



Wetland name or number: _____

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Agri-Tech / Bay Chemical Date of site visit: 8/25/16

Rated by Catherine Reed (ECY) Trained by Ecology? Yes No Date of training _____

HGM Class Used for Rating Depressional Unit has multiple HGM classes? Y N

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

Source of base aerial photo/map Google Maps

OVERALL WETLAND CATEGORY III

1. Category of wetland based on FUNCTIONS

_____ Category I - Total score = 22 - 27

_____ Category II - Total score = 19 - 21

X Category III - Total score = 16 - 18

_____ Category IV - Total score = 9 - 15

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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat
	<i>Circle the appropriate ratings</i>		
Site Potential	H <input checked="" type="radio"/> M <input type="radio"/> L <input type="radio"/>	<input checked="" type="radio"/> H <input type="radio"/> M <input type="radio"/> L <input type="radio"/>	H <input type="radio"/> M <input type="radio"/> <input checked="" type="radio"/> L <input type="radio"/>
Landscape Potential	<input checked="" type="radio"/> H <input type="radio"/> M <input type="radio"/> L <input type="radio"/>	<input checked="" type="radio"/> H <input type="radio"/> M <input type="radio"/> L <input type="radio"/>	H <input type="radio"/> M <input type="radio"/> <input checked="" type="radio"/> L <input type="radio"/>
Value	H <input checked="" type="radio"/> M <input type="radio"/> L <input type="radio"/>	H <input type="radio"/> M <input type="radio"/> <input checked="" type="radio"/> L <input type="radio"/>	H <input type="radio"/> M <input type="radio"/> <input checked="" type="radio"/> L <input type="radio"/>
Score Based on Ratings	<u>7</u>	<u>7</u>	<u>3</u>

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	<input type="radio"/> II <input type="radio"/> III
Alkali	<input type="radio"/> I
Wetland with high conservation value	<input type="radio"/> I
Bog	<input type="radio"/> I
Old Growth or Mature Forest – slow growing	<input type="radio"/> I
Aspen Forest	<input type="radio"/> I
Old Growth or Mature Forest – fast growing	<input type="radio"/> II
Floodplain forest	<input type="radio"/> II
None of the above	

Wetland name or number _____

Maps and figures required to answer questions correctly (Eastern Washington)

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2, H1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D1.4	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	D 3.1, D 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	D 3.3	
Area of open water (<i>can be added to map of hydroperiods</i>)	H1.3.1	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2, H1.3	
Ponded depressions	R 1.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	R 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake-fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	L 2.2	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	L 3.1	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat)	H 2.1, H2.2	
Screen capture of map of 303d listed waters in basin (from Ecology web site)	S 3.1, S 3.2	
Screen capture of list of TMDL's for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Water Quality Functions - Indicators that the site functions to improve water quality.		
D 1.0 Does the wetland unit have the <u>potential</u> to improve water quality?		
D 1.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet -	points = 5	5
Wetland has an intermittently flowing outlet	points = 3	
Wetland has a highly constricted permanently flowing outlet	points = 3	
Wetland has a permanently flowing surface outlet	points = 1	
D 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions of soils)		
YES points = 3	NO points = 0	0
D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class)		
Wetland has persistent, ungrazed, vegetation for > 2/3 of area	points = 5	5
Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area	points = 3	
Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area	points = 1	
Wetland has persistent, ungrazed vegetation < 1/10 of area	points = 0	
D 1.4 Characteristics of seasonal ponding or inundation.)		
<i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i>		
Area seasonally ponded is > 1/2 total area of wetland	points = 3	0
Area seasonally ponded is 1/4 - 1/2 total area of wetland	points = 1	
Area seasonally ponded is < 1/4 total area of wetland	points = 0	
Total for D 1	Add the points in the boxes above	10

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

D 2.0 Does the landscape have the potential to support the water quality function at the site?		
D2.1 Does the Wetland unit receive stormwater discharges?	Yes = 1 No = 0	1
D 2.2 Is > 10% of the buffer within 150 ft of wetland unit in land uses that generate pollutants	Yes = 1 No = 0	1
D2.3 Are there are septic systems within 250 ft of the wetland unit?	Yes = 1 No = 0	2
D2.4 Are there are other sources of pollutants coming into the wetland that are not listed in questions		
D2.1 - D2.3? Source <u>groundwater Cadmium etc.</u>	Yes = 1 No = 0	1
Total for D 2	Add the points in the boxes above	

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

D 3.0 Is the water quality improvement provided by the site valuable to society?		
D3.1 Does the unit discharge directly (within 1 mile) to a stream, river, or lake that is on the 303d list?		
	Yes = 1 No = 0	0
D 3.2 Is the unit in a basin or sub-basin where water quality is an issue in some aquatic resource (303d list, eutrophic lakes, problems with nuisance and toxic algae)? <u>groundwater contamination</u>		
	Yes = 1 No = 0	1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? (answer YES if there is a TMDL for the drainage or basin in which unit is found)		
	Yes = 2 No = 0	0
Total for D 3	Add the points in the boxes above	1

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

Wetland name or number _____

DEPRESSIONAL WETLANDS		Points (only 1 score per box)
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion.		
D 4.0 Does the wetland unit have the <u>potential</u> to reduce flooding and erosion?		
D 4.1 Characteristics of surface water flows out of the wetland unit:		
Wetland has no surface water outlet	points = 8	8
Wetland has an intermittently flowing outlet	points = 4	
Wetland has a highly constricted permanently flowing outlet	points = 4	
Wetland has a permanently flowing surface outlet	points = 0	
<i>(If outlet is a ditch and not permanently flowing treat unit as "intermittently flowing")</i>		
D 4.2 Depth of storage during wet periods <i>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).</i>		
Seasonal ponding: => 3 ft above the lowest point in unit or the surface of permanent ponding	points = 8	4
Seasonal ponding: 2 ft - < 3 ft above the lowest point in unit or the surface of permanent ponding	points = 6	
The wetland is a "headwater" wetland"	points = 4	
Seasonal ponding: 1 ft - < 2 ft	points = 4	
Seasonal ponding: 6 in - < 1 ft	points = 2	
Seasonal ponding: <6 in or unit has only saturated soils	points = 0	
Total for D 4	Add the points in the boxes above	12

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

D 5.0 Does the landscape have the potential to support hydrologic functions at the site?		
D5.1 Does the unit receive any stormwater discharges?	Yes = 1 No = 0	1
D5. Is >10% of the land use within 150 ft of the wetland in a land uses that generates runoff?	Yes = 1 No = 0	1
D 5.3 Is more than 25% of the contributing basin of the wetland unit covered with intensive human land uses?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

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

D 6.0 Are the hydrologic functions provided by the site valuable to society?		
D 6.1 Is the unit is in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. <i>Do not add points. Choose the highest score if more than one condition is met.</i>		
<input type="checkbox"/> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g. salmon redds), AND		
<input type="radio"/> Damage occurs in sub-basin that is immediately downgradient of unit	points=2	
<input type="radio"/> Damage occurs in a sub-basin further down-gradient	points = 1	
<input checked="" type="checkbox"/> The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood.		
<i>Explain why really small wetland stormwater system within city</i>	points = 0	
<input type="checkbox"/> There are no problems with flooding downstream of the unit.	points = 0	0
D 6.2 Has the site has been identified as important for flood storage or flood conveyance in a regional flood control plan?		
	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	

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

Wetland name or number _____

These questions apply to wetlands of all HGM classes.

(only 1 score per box)

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1. Does the wetland unit have the potential to provide habitat for many species?

H 1.1 Categories of vegetation structure

Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ acre or $\geq 10\%$ of the unit if unit is < 2.5 acres

- Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have $> 30\%$ cover
- Emergent plants $> 12 - 40$ in. ($> 30 - 100$ cm) high are the highest layer with $> 30\%$ cover *rcg*
- Emergent plants > 40 in. (> 100 cm) high are the highest layer with $> 30\%$ cover *rushes*
- Scrub/shrub (areas where shrubs have $> 30\%$ cover) 4-6 checks points = 3
- Forested (areas where trees have $> 30\%$ cover) 3 checks points = 2
- 2 checks points = 1
- 1 check points = 0

1

H 1.2. Is one of the vegetation types "aquatic bed?" YES = 1 point NO = 0 points

0

H 1.3. Surface Water

H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) over at least $\frac{1}{4}$ acre OR 10% of its area during the March to early June OR in August to the end of September?

Note: answer YES for Lake-fringe wetlands

YES = 3 points & go to H 1.4 NO = go to H 1.3.2

H 1.3.2 Does the unit have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ acre or 10% of its area, (answer yes only if H 1.3.1 is NO)?

YES = 3 points NO = 0 points

0

H 1.4. Richness of Plant Species

Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species.

Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites, Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)

of species _____ Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 points

1

H 1.5. Interspersion of habitats

Decide from the diagrams below whether interspersion between types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, medium, low, or none.

Use map of Cowardin plant classes prepared for questions H1.1 and map of open water from H1.3

Figure __



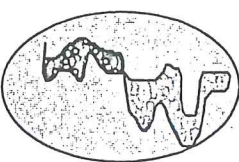
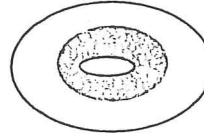
None = 0 points



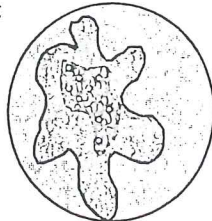
Low = 1 point



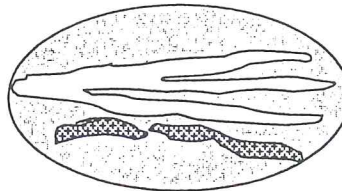
Moderate = 2 points



High = 3 points



High = 3 points



riparian braided channels with 2 classes = High

NOTE: If you have four or more classes or three plants classes and open water the rating is always "high".

1

Wetland name or number _____

H 1.6. Special Habitat Features: <i>Check the habitat features that are present in the wetland unit. The number of checks is the score.</i> <input type="checkbox"/> Loose rocks larger than 4" <u>or</u> large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the unit. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland unit or within 30 m (100ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity <input checked="" type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>) Maximum score possible = 6		2
H 1. TOTAL Score - Add the check marks in the box above		5

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

H 2.0 . Does the landscape have the potential to support habitat at the site?		
H 2.1 Accessible habitat (only area of habitat abutting wetland unit). Calculate: % undisturbed habitat <u>8</u> + [(% moderate and low intensity land uses)/2] $\frac{12}{25} = 20.5\%$ If total accessible habitat is: > 1/3 (33.3%) of 1km circle (~100 hectares) points = 3 20 - 33% of 1km circle points = 2 10- 19% of 1km circle points = 1 <10% of 1km circle points = 0		2
H2.2 Undisturbed habitat in 1km circle around unit. If: Undisturbed habitat > 50% of circle points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of circle points = 0		0
H2.3 Land use intensity in 1 km circle. If: > 50% of circle is high intensity land use points = (-2) Does not meet criterion above points = 0		-2
H 2.4 <input checked="" type="checkbox"/> The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (<i>Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs</i>) points = 3		0
Total for H 2 Add the points in the boxes above		0

Rating of Landscape Potential If score is: 4- 6 = H 1-3 = M < 1 = L
 Record the rating on the first page

H 3.0 Is the Habitat provided by the site valuable to society?		
H3.1 Does the site provides habitat for species valued in laws, regulations or policies? (choose the highest score) Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) <input type="checkbox"/> It is a "priority area" for an individual WDFW species <input type="checkbox"/> It is a Wetland With a High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> It has 3 or more priority habitats within 100m (see Appendix B) <input type="checkbox"/> It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100m (see Appendix B) points = 1 Site does not meet any of the criteria above points = 0		0

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

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland unit meets the attributes described below and circle the appropriate Category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All units should also be characterized based on their functions.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
<p>SC 1.0 Vernal pools Is the wetland unit less than 4000 ft², and does it meet at least two of the following criteria?</p> <ul style="list-style-type: none"> — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>NOTE: If you find perennial, "obligate", wetland plants the wetland is probably NOT a vernal pool</i> — The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the "wet" season. <p>YES = Go to SC 1.1 NO - <i>not a vernal pool</i></p> <p>SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO – <i>not a vernal pool with special characteristics</i></p>	
<p>SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? YES = Category II NO = Category III</p>	<p align="center">Cat. II Cat. III</p>
<p>SC 2.0 Alkali wetlands Does the wetland unit meets one of the following two criteria?</p> <ul style="list-style-type: none"> — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as "alkali" species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. <p>OR does the wetland unit meets two of the following three sub-criteria?</p> <ul style="list-style-type: none"> — Salt encrustations around more than 80% of the edge of the wetland — More than ¾ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <p>YES = Category I NO – <i>not an alkali wetland</i></p>	<p align="center">Cat. I</p>

Wetland name or number _____

<p>SC 3.0 Wetlands with High Conservation Value (WHCV)</p> <p>SC 2.1 Has the Department of Natural Resources updated their web site to include the list of Wetlands with High Conservation Value? YES - Go to SC 2.2 NO – Go to SC 2.3</p> <p>SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High Conservation Value? YES = Category I NO = not a WHCV</p> <p>SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf YES ____ – contact WNHP/DNR and go to SC 2.4 NO = not a WHCV</p> <p>SC 2.4 Has DNR identified the wetland within the S/T/R as a wetland with High Conservation value and is listed on their web site? YES = Category I NO ____ not an WHCV</p>	<p>Cat. I</p>
<p>SC 4.0 Bogs and Calcareous Fens</p> <p>Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland 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 C for a field key to identify organic soils)? Yes - go to SC 4.3 No - go to SC 4.2</p> <p>SC 4.2. Does an area within 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 top of a lake or pond?? Yes - go to SC 4.3 No - <i>Is not a bog for rating</i></p> <p>SC 4.3. Does an area within the unit have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes – Category I bog No - go to SC 4.4</p> <p><i>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 plant species in Table 5 are present, the wetland is a bog.</i></p> <p>SC 4.4 Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy Yes – Category I bog NO – go to question SC 4.5</p> <p>5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes – Is a Calcareous Fen for purpose of rating No - go to Question 6</p> <p>6. Do the species listed in Table 6 comprise at least 10% of the total plant cover an area of peats and mucks, AND one of the two following conditions is met:</p> <ul style="list-style-type: none"> • Marl deposits (calcium carbonate (CaCO₃) precipitate) occur on the soil surface or plant stems • The pH of free water ≥ 6.8 AND electrical conductivity ≥ 200 uS/cm at multiple locations within the wetland <p>Yes – Is a Category I calcareous fen No - Is not a calcareous fen</p>	<p>Cat. I</p>

Wetland name or number _____

<p>SC 5.0 Forested Wetlands Does the wetland unit have an area of forest rooted within its boundary that meets at least one of the following three criteria? (<i>Continue only if you have identified a forested class is present in question H 1.1</i>)</p> <ul style="list-style-type: none"> • The wetland is within the “100 year” floodplain of a river or stream • aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see definitions in question H3.1</i>) <p>YES = go to SC 5.1 NO –not a forested wetland with special characteristics</p>	
<p>SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees (<i>see Table 7</i>) YES = Category I NO = go to SC 5.2</p>	<p>Cat. I</p>
<p>SC 5.2 Does the unit have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species. YES = Category I NO = go to SC 5.3</p>	<p>Cat. I</p>
<p>SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree species (by cover) are fast growing species. (<i>see Table 7</i>) YES = Category II NO = go to SC 5.5</p>	<p>Cat. II</p>
<p>SC 5.4 Is the forested component of the wetland within the “100 year floodplain” of a river or stream? YES = Category II</p>	<p>Cat. II</p>
<p>Category of wetland based on Special Characteristics <i>Choose the “highest” rating if wetland falls into several categories. If you answered NO for all types enter “Not Applicable” on p.1</i></p>	

Wetland name or number _____

Appendix B: WDFW Priority Habitats in Eastern Washington

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

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

___ **Aspen Stands:** Pure or mixed stands of aspen greater than 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*).

___ **Old-growth/Mature forests:** Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 - 3 snags/acre) that are > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east 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 - see web link above*).

___ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

___ **Cliffs:** Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

___ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

___ **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).

___ **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho Fescue (*Festuca idahoensis*), Sandberg Bluegrass (*Poa secunda*), Rough Fescue (*F. campestris*), or needlegrass (*Achnatherum* spp.).

___ **Juniper Savannah:** All juniper woodlands.

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





le 3D path 3D polygon
joins on the ground

150.46 Feet
150.83
297.95 degrees

Save Clear



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Agrotech / Bay Chemical City/County: Yakima (City) Sampling Date: 8/25/16
 Applicant/Owner: _____ State: WA Sampling Point: Hole 1
 Investigator(s): Catherine Reed Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): ancient floodplain Local relief (concave, convex, none): concave Slope (%): _____
 Subregion (LRR): _____^{terrace} Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Whole area subject to unknown underground drains. ^{Surface} Ditches located on this site and to the south & east end of the property. Installation of railroad grade and clean-up berm to west.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Shrub/Straw Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>reed canary grass</u>	<u>70</u>	_____	_____	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		

Remarks:
 Willows and Russian olive in adjacent buffer areas. Tree and shrub canopies influence micro-climate of area to cool it down. Also sumac and roses in buffer. No holes dug in pond area, dominated by rushes, cattails. Water surface visible. Duckweed in pond, too.

SOIL

Sampling Point: _____

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5Y 3/1		10YR 4/6	12	Distinct		Loam	sample taken at this location because pond itself known soil to contain heavy metal contamination

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

soil in this location could have been fill, but if so, probably more than 40 plus years

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) man-made ditches |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes No _____ Depth (inches): to surface
 Saturation Present? Yes No _____ Depth (inches): to surface
 (includes capillary fringe)

visible w adjacent pond
 Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

Saturated to surface Obvious redox in spite of altered situation

Wetland visit Yakima Steel Fabricators
Chris Wend Cathy Reed.

25 AUG 2016
1200 -
1300

Location

South

1) duckweed on water surface

estimated high water mark
≈ 2' above current level

2) (weed canary) grass
unknown?

Russian olive above wetland

3) Cat tails

4) rushes

Willows on buffer so far

East side 5) unknown plantain
rose on highland

sawiac on highland

Northwest corner - ditch some surface water
saturated to surface

Willow &
Russian olive

Munsell - soil color chart 2.5Y 3/1

Matrix @ 8"

redox is 10yr 4/6 12%

east side of ditch

Northwest side 6) nightshade

point of shovel ≈ 1 ft above water estimated
extent of saturation picture taken