



Sewall Wetland Consulting, Inc.

PO Box 880
Fall City, WA 98024

Phone: 253-859-0515

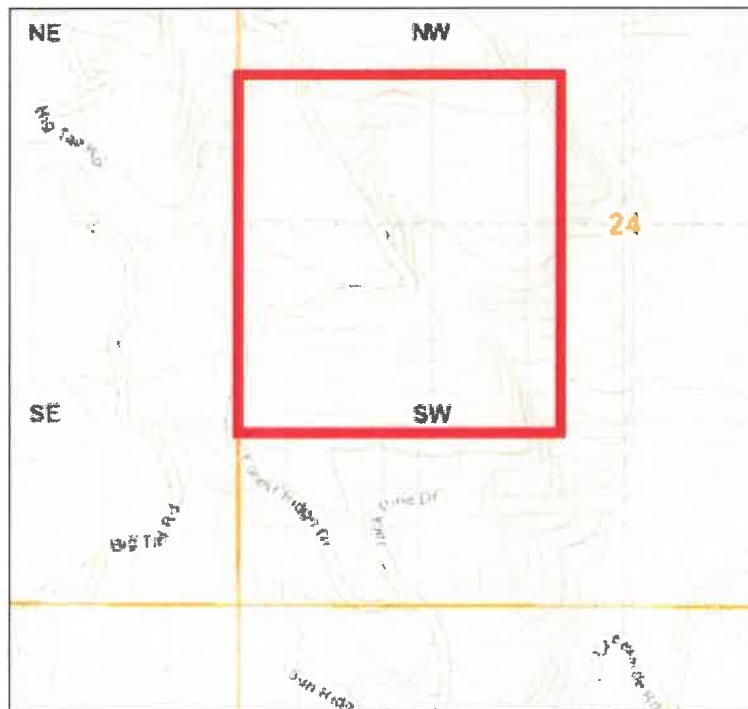
November 16, 2020

Sean Northrop
FRPP Phase I LLC
116 ½ Washington Street
Seattle, Washington 98104

RE: Critical Area Report – Creekside Road and Forest Ridge Drive
FRP Phase I
Kittitas County, Washington
SWC Job #20-171

Dear Sean,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 200' of the proposed Forest Ridge Road Phase I project located within a portion Section 24, Township 20 North, Range 15 East of the W.M in Kittitas County, Washington.



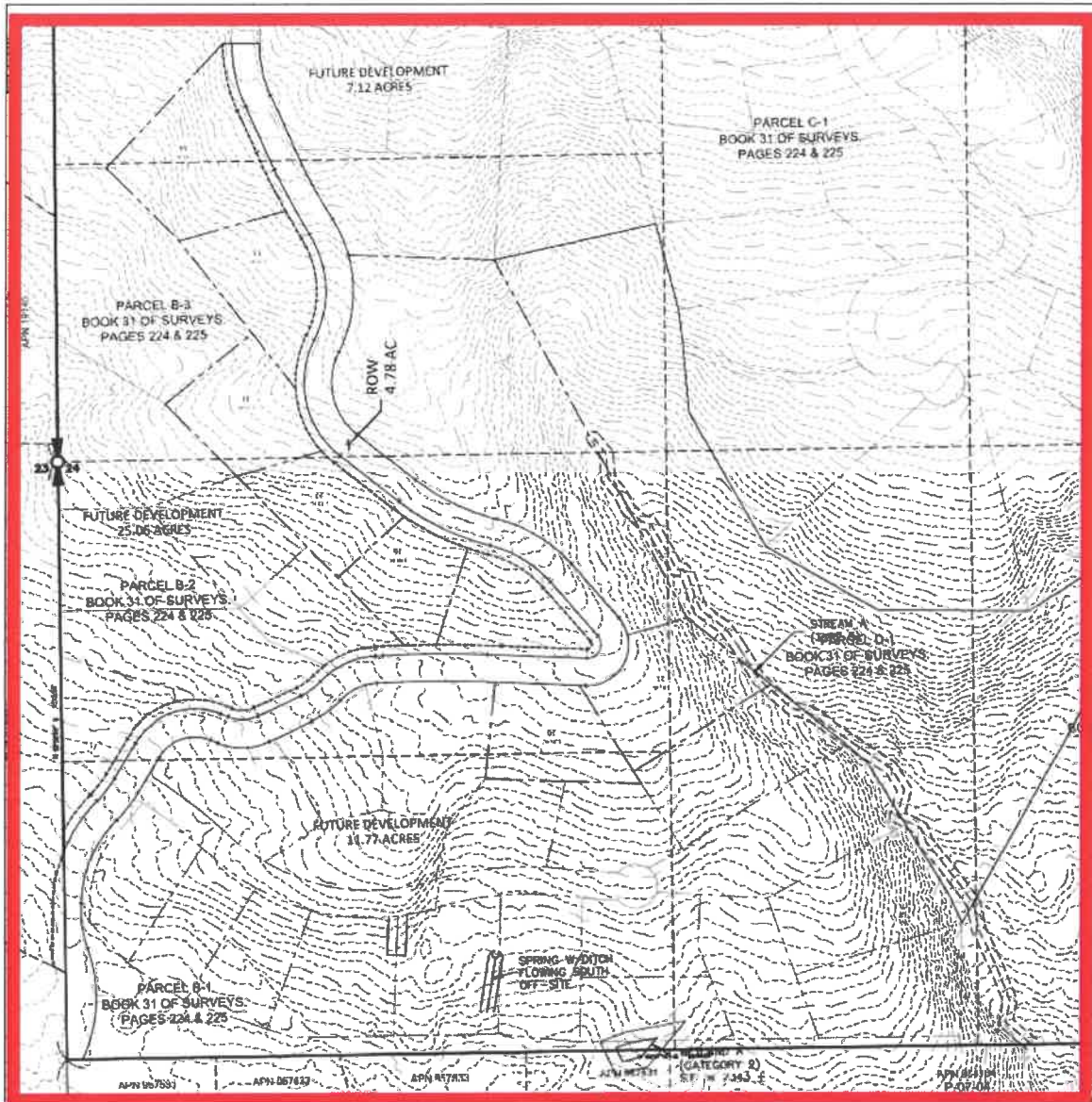
Above: Vicinity Map of site

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Kittitas Co. CDS



Above: Aerial photograph of the study area from Kittitas Mapsifter website with wetland and DNR water type layers activated.

Specifically the site consists of Parcels #16034, # 22023, #22024, #173034, #203034, and portions of Parcels # 22025, #22026 & # 22027.



Above: The study area portion taken from the Encompass Engineering & Surveying site maps.

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site and areas within 200' on November 11, 12, 13 and 24 of 2009. The site was re-visited in November of 2020 to confirm that the characteristics of the critical areas observed had not changed.

The site was reviewed using methodology described in the **Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)** (USACOE September 2008) as required by the US Army Corps of Engineers starting in June of 2009. This is the methodology currently recognized by the Kittitas County for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990).

These wetlands on-site were rated using the Washington State Wetlands Rating System for Eastern Washington (Pub. #91-58) as required by Kittitas County.

The ordinary high water mark (OHWM) of stream was located based upon the criteria described in the *Washington Department of Ecology draft publication Determining The Ordinary High Water Mark on Streams In Washington State* (WADOE Publication 08-06-001, March 2008).

OBSERVATIONS

Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map, WDNR Fpars Stream Typing Map, Kittitas County flood mapping, WDFW Priority Habitats and Species Maps, and the NRCS Soil Survey online mapping and Data.

National Wetlands Inventory (NWI)

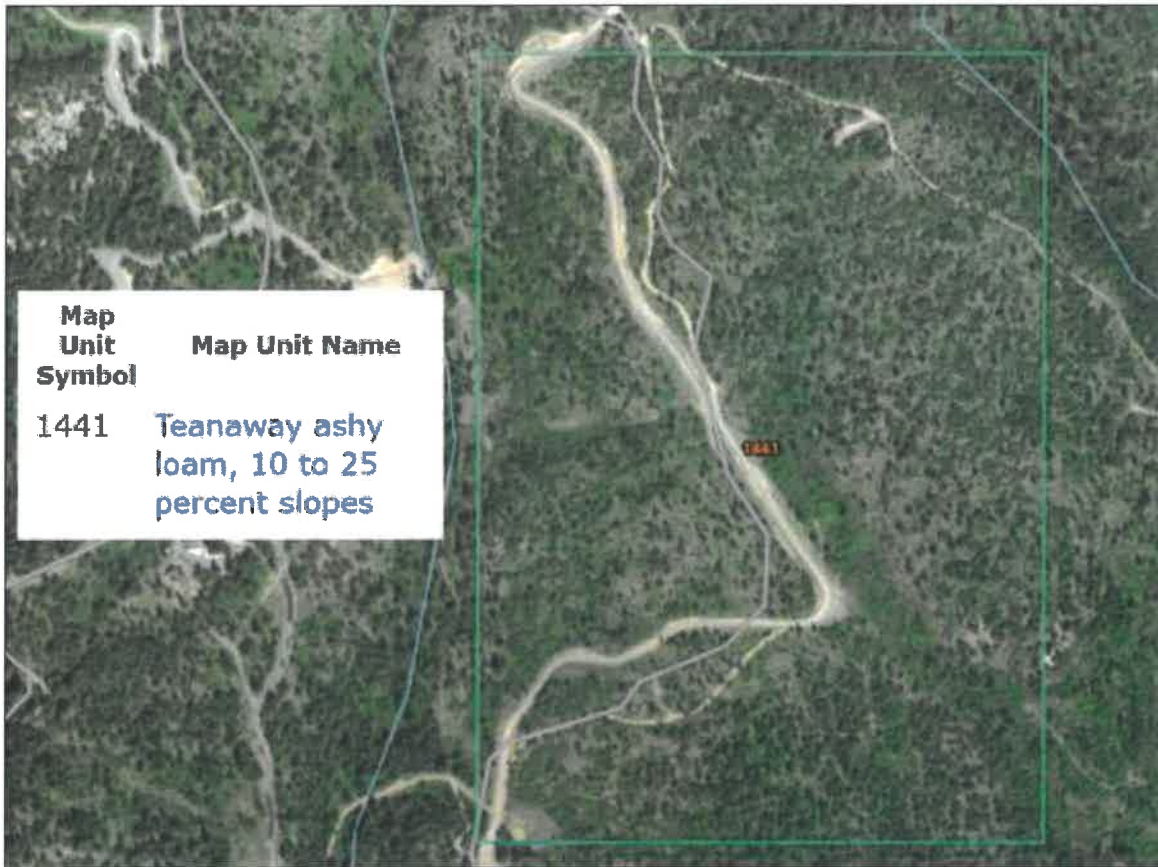
The NWI map depicts several streams crossing the site. No wetlands are depicted on the site.



Above: NWI map of the area of the site

Soil Survey

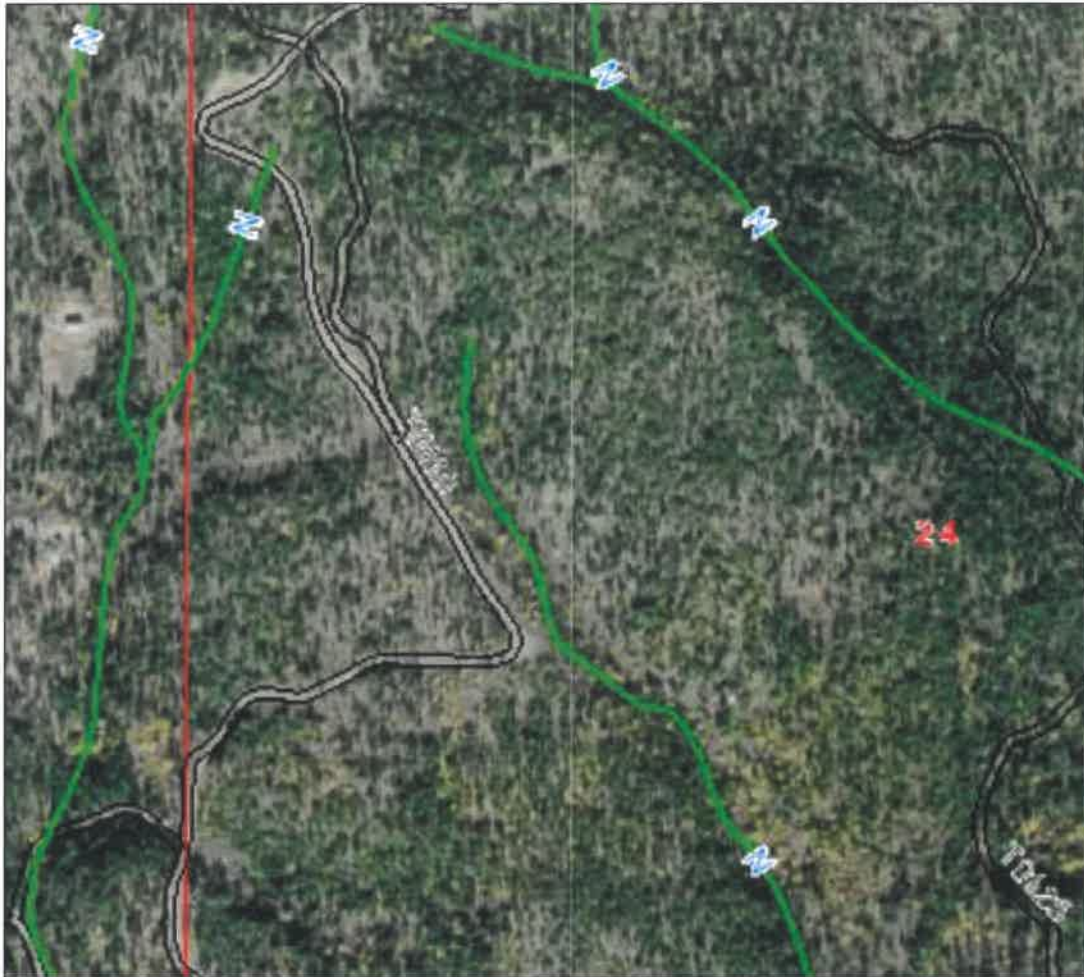
According to the NRCS Soil Mapper website, the site is mapped as entirely as Teanaway Ashy Loam 10%-25% slopes. This soils is a moderately well drained soil formed in loess over glacial till or outwash. Teanaway soils are not considered "hydric" or wetland soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).



Above: NRCS soil map of the site.

WADNR FPARS website

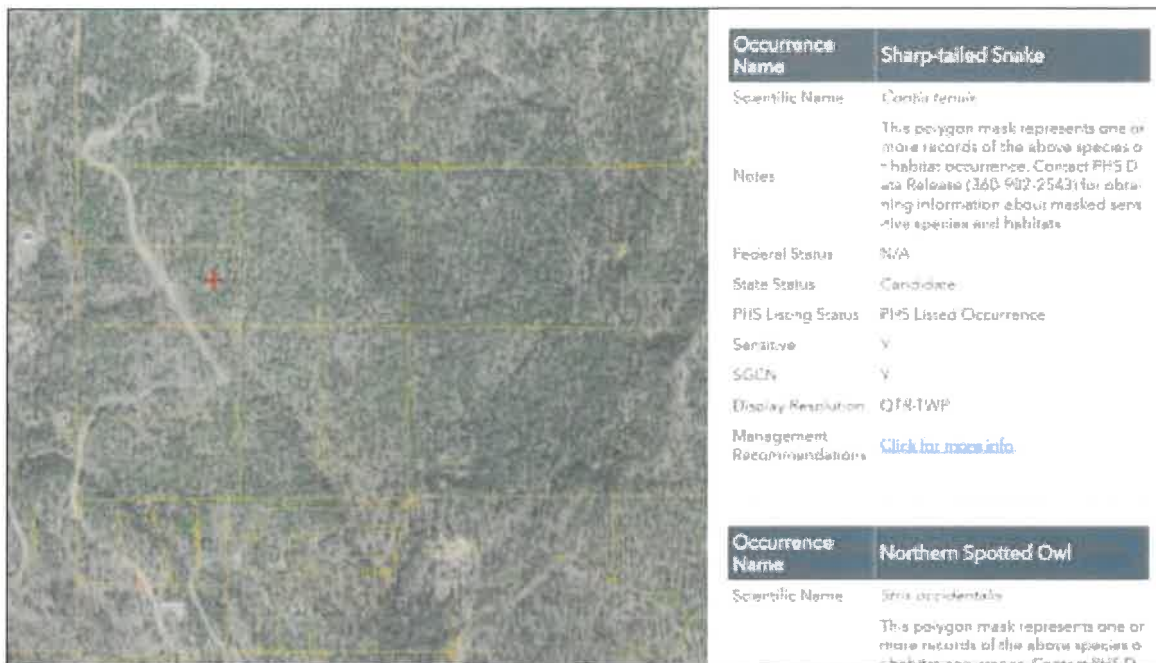
According to the WADNR FPARS website with stream types layers activated, there are portions of three (3) Type N streams passing through the site. These match the locations of the streams depicted on the NWI mapping as well as the County Mapping of Type 4 waters.



Above: WDNR Fpars Stream Mapping of the area of the site.

WDFW Priority Habitats and Species Maps

The WDFW Priority Habitats and Species mapping for the site depicts the site located within a Township that contains possible habitat for the Northern Spotted Owl, as well as potential habitat for sharp tailed snakes.



Above : WDFW Priority Habitat Mapping of the site (entire Township which site is part of has a light shading indicating these species).

Field observations

The site consists of a south sloping forested hillside covered with immature ponderosa pine and douglas fir with scattered cottonwoods. An existing road (partially paved and partially gravel) known as Forest Ridge Road passes through the site. The site has defined ravines with small seasonal streams flowing through them. The site was logged approximately 20 years ago and has had some past mining activity in the form of small prospect holes scattered throughout the site.

In addition to the trees noted above, understory species include clustered rose, snowberry, oceanspray, Oregon grape, kinnikinic, vine maple, bracken fern, knapweed and scattered clumps of quackgrass. Piles of old slash from past logging activities are found throughout the site.

Soils throughout the majority of the site consist of gravelly loams with soil colors of 10YR3/3-3/4 with no hydric soil indicators or evidence of wetland hydrology.

Wetlands

There are two small wetland areas that were identified on the site on the southern boundary east of the existing road. Below is a description of these wetlands;

Wetland A

Wetland A is a 2,343sf isolated scrub-shrub wetland located in a small depression. This wetland was flagged with pink flagging labeled A1-A5. Vegetation noted within this wetland includes willow, hardhack, and an unidentified sedge (*Carex* spp.).

Soil pits excavated within this wetland area revealed a clay loam with a color of 10YR 2/1 with few, fine, faint, redoximorphic concentrations. Soils saturated at the surface during our non-growing season observation of the wetland.

Wetland A was rated using the Washington State Wetlands Rating System for Eastern Washington (Pub. #91-58) as required by Kittitas County. Using this system Wetland A rates as a Category III wetland, with Wetland A receiving 15 overall points.

According to Kittitas Municipal Code Chapter 17A.04.020, Category III wetlands >10,000sf in size have a 20'-80' buffer. Wetland A is < 10,000sf and would therefore not have any prescribed buffer.

Wetland B

Wetland B is a small scrub shrub wetland (Flags B1-B4) located approximately 200' northwest of Wetland A. This wetland is similar to Wetland A in that it is a very small (approximately 500sf) isolated depression covered with shrubs such as willow, rose, and sedge.

Soil pits excavated within this wetland area revealed a clay loam with a color of 10YR 2/1 with few, fine, faint, redoximorphic concentrations. Soils saturated at the surface during our non-growing season observation of the wetland.

Wetland B was rated using the Washington State Wetlands Rating System for Eastern Washington (Pub. #91-58) as required by Kittitas

County. Using this system Wetland A rates as a Category III wetland, with Wetland B receiving 15 overall points.

According to Kittitas Municipal Code Chapter 17A.04.020, Category III wetlands >10,000sf in size have a 20'-80' buffer. Wetland B is < 10,000sf and would therefore not have any prescribed buffer.

Streams A & B

Stream A originates near the north-central of the site to the east of Forest Ridge Road in a well defined ravine. This channel is approximately 12" wide and is surrounded by a mix of vine maple, hazelnut, willows and snowberry. The channel appears to flow only during snow melt in the spring and flows over some areas of exposed sandstone bedrock. No water was observed in the channel during our site visits but is assumed to flow in the spring during snow melt.

Stream B is similar in character to wetland A and is also 12"-24" in width and had no flow during our site visits.

WADNR has mapped these streams as a Type N water which appears appropriate as the channel is <3' in width and flows down areas exceeding 16% slope which would preclude any fish migration into this small drainage.

Streams A & B on-site meets the criteria of a Type 4 water due to lack of fish sue and channel width below 2'. This equates to a Type N water in the new stream typing system. According to KCMC 17A.07.010, Type 4 waters have a *"10- 20 feet from the intersection with a Type 1, 2 or 3 water for a distance of 40 to 500 feet. From the point at which the buffer ends (40 - 500 feet upstream from the confluence), there shall be a 15-foot structural setback from the ordinary high water mark."*

These streams appear to be over 500' from the intersection with the Type 3/F water and therefore would have the 15' structural setback.

Stream C

Stream C originates near the northwest corner of the site near Forest Ridge Road, and is a very small seasonal drainage approximately 12" in width. The feature is very poorly defined and may not flow at all during

some years depending on the amount and intensity of snow melt. We never observed any flow in this poorly defined channel.

WADNR has mapped this stream as a Type N water which appears appropriate as the channel is <3' in width and flows down areas exceeding 16% slope which would preclude any fish migration into this small drainage.

Stream C on-site meets the criteria of a Type 4 water due to lack of fish sue and channel width below 2'. This equates to a Type N water in the new stream typing system. According to KCMC 17A.07.010, Type 4 waters have a *"10- 20 feet from the intersection with a Type 1, 2 or 3 water for a distance of 40 to 500 feet. From the point at which the buffer ends (40 - 500 feet upstream from the confluence), there shall be a 15-foot structural setback from the ordinary high water mark."*

This segment of Stream C appears to be over 500' from the intersection with the Type 3/F water and therefore would have the 15' structural setback.

Proposed Project

No impacts to wetlands streams or buffers are proposed.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at esewall@sewallwc.com .

Sincerely,
Sewall Wetland Consulting, Inc.



Ed Sewall
Senior Wetlands Ecologist PWS #212

Attached: Data sheets & Rating Forms
Site Maps

REFERENCES

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

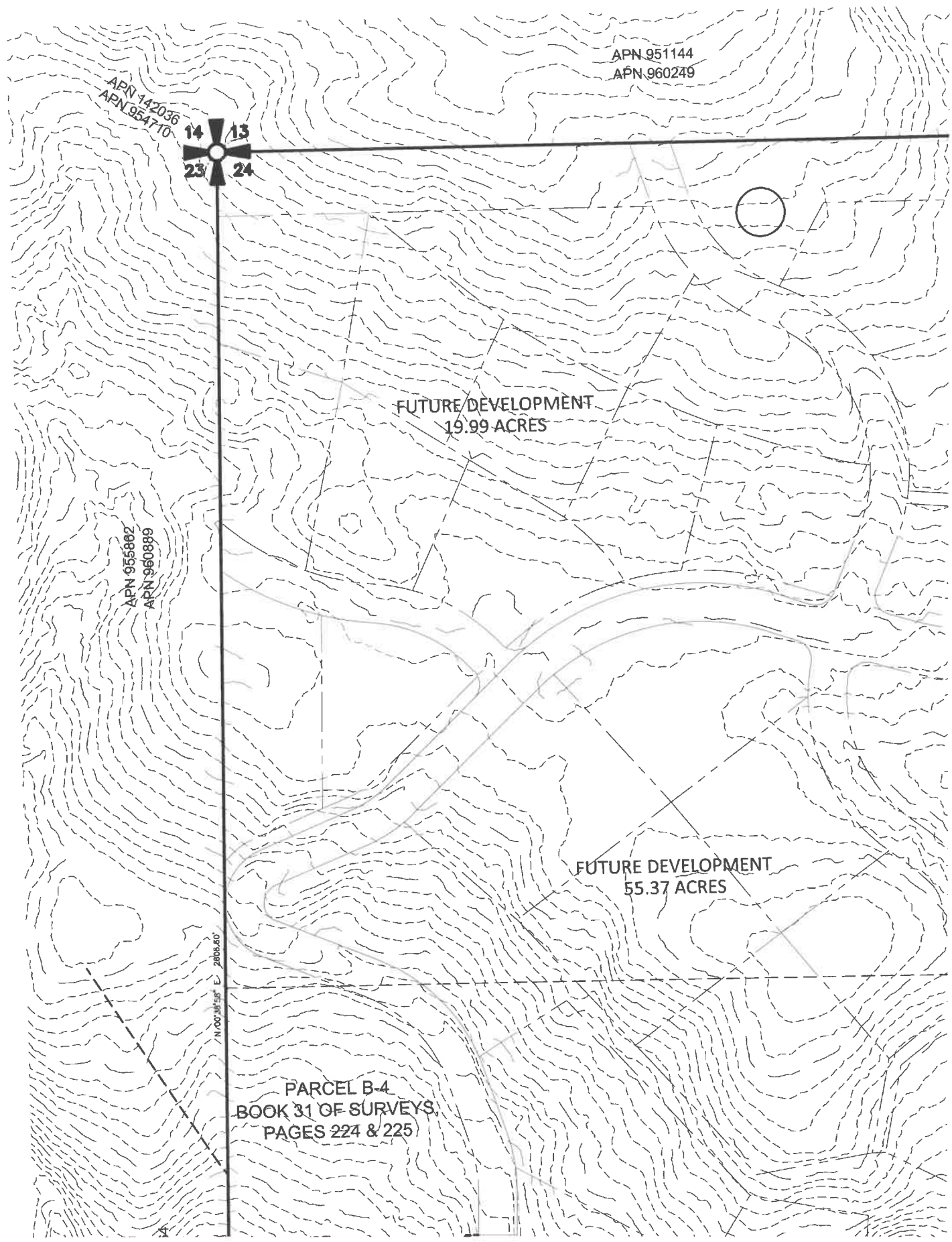
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National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1



APN 951144
APN 960249

APN 442036
APN 954770



FUTURE DEVELOPMENT
19.99 ACRES

APN 956862
APN 960889

FUTURE DEVELOPMENT
55.37 ACRES

PARCEL B-4
BOOK 31 OF SURVEYS
PAGES 224 & 225

N 00° 10' 58" E 2808.40''

wetland A

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Forest Ridge Phase I City/County: Kittitas Sampling Date: 11-4-09
 Applicant/Owner: _____ State: WA Sampling Point: DP1
 Investigator(s): Ed Semell Section, Township, Range: S24 T20N R15E
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Teamawey silt loam 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. <u>Salix sitchensis</u>	<u>25</u>		<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Spirea douglasii</u>	<u>70</u>		<u>FACW</u>	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
Total Cover: _____				UPL species _____ x 5 = _____
Herb Stratum				Column Totals: _____ (A) _____ (B)
1. <u>Carex spp</u>	<u>60</u>		<u>FACW</u>	Prevalence Index = B/A = _____
2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
3. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
4. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
5. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present.
Total Cover: _____				
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			
Remarks:				

SOIL

Sampling Point: D11

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		
1/4	10YR 2/1		Few Fin Faint			silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 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 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.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Thin Muck Surface (C7)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

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

Remarks:

upland near wet A

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Forest Ridge Phase I City/County: Kittitas Sampling Date: 11-4-09
 Applicant/Owner: _____ State: WA Sampling Point: DP#2
 Investigator(s): Ed Seaman Section, Township, Range: S24 T20N R15E
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Teanaway silt loam 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 _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Pinus ponderosa</u>	<u>20</u>		<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____				Prevalence Index worksheet:
Total Cover: _____				Total % Cover of: _____ Multiply by: _____
<u>Sedgework Stratum</u>				OBL species _____ x 1 = _____
1. <u>Symphoricarpos alba</u>	<u>30</u>		<u>FACW</u>	FACW species _____ x 2 = _____
2. <u>Cotyledon cornuta</u>	<u>20</u>		<u>FACU</u>	FAC species _____ x 3 = _____
3. _____				FACU species _____ x 4 = _____
4. _____				UPL species _____ x 5 = _____
5. _____				Column Totals: _____ (A) _____ (B)
Total Cover: _____				Prevalence Index = B/A = _____
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:
1. _____				___ Dominance Test is >50%
2. _____				___ Prevalence Index is ≤3.0 ¹
3. _____				___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____				___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: _____				¹ Indicators of hydric soil and wetland hydrology must be present.
<u>Woody Vine Stratum</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

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		
10	10YR 3/3						loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks: *No indicators*

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No

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

Remarks: *no indicators*

wet B

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Forest Ridge Phase I City/County: Kittitas Sampling Date: 11-4-09
 Applicant/Owner: _____ State: WA Sampling Point: DP#3
 Investigator(s): Ed Semel Section, Township, Range: S24T20N R15E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Teaway silt loam 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:			

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
Total Cover: _____				Total % Cover of: _____ Multiply by:
Sapling/Shrub Stratum				OBL species _____ x 1 = _____
1. <u>Rosa pisocarpa</u>	<u>30</u>	<u>FAC</u>	<u>FACW</u>	FACW species _____ x 2 = _____
2. <u>Salix sitchensis</u>	<u>20</u>	<u>FACW</u>	<u>FACW</u>	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
Total Cover: _____				Prevalence Index = B/A = _____
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Carex sp.</u>	<u>20</u>	<u>FACW</u>	<u>FACW</u>	___ Dominance Test is >50%
2. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				¹ Indicators of hydric soil and wetland hydrology must be present.
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		
Remarks:				

SOIL

Sampling Point: DP #3

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		
1/4	10/12 Z/1		Dark Fine Fine				lean	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
--	---	--

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): 4"

Wetland Hydrology Present? Yes No

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

Remarks:

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: Ed SemM Affiliation: Small Wetland Cons Date: 11/09

Name of wetland (if known): Wetland A - Forest Ridge

Government Jurisdiction of wetland: Kittitas Co

Location: 1/4 S: _____ of 1/4 S: _____ SEC: _____ TOWNSHIP: _____ RANGE: _____

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: USGS Topo Map: NWI map: Aerial Photo: Soils survey:

Other: Describe: _____

WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE:

Q.1. High Quality Natural Heritage Wetland.

Circle answers:

Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.

1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes could include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: 1039201

Yes: go to Q.3.
No: go to 1b.

1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____

Yes: go to Q.3.
No: go to 1c.

1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____

Yes: go to Q.3.
No: Possible Category I

<p>Q.2. Regionally Rare Native Wetland Communities</p> <p>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.</p>	
<p>Q.3. Irreplaceable Ecological Functions:</p> <p>Does the wetland:</p> <ul style="list-style-type: none"> - have at a least 1/2 acre of contiguous peat wetland; - <u>or</u>, have a forested class greater than 1 acre ; 	<p>No to <u>both</u>: go to Q.4.</p> <p>Yes: go to 3a.</p> <p>Yes: go to 3b.</p>
<p>Q.3a. Peat Wetlands.</p> <p>3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, <u>and</u> have < 80% areal cover of <i>Spirea douglasii</i>?</p>	<p>Yes: Category I No: go to Q.4.</p>
<p>Q.3b. Mature forested wetland.</p> <p>3b1. Is the average age of dominant trees in the forested wetland > 80 years?</p> <p>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, <u>and</u> is the structural diversity high as characterized by a multi-layer community of trees > 50' tall <u>and</u> trees 20'-49' tall <u>and</u> shrubs <u>and</u> herbaceous groundcover? ..</p> <p>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list? ..</p>	<p>Yes: Category I No: go to 3b2.</p> <p>Yes: go to 3b3. No: go to Q.5.</p> <p>Yes: go to Q.5. No: Category I</p>
<p>Q.4. Category IV wetlands</p> <p>4.1. Is the wetland: less than 1 acre <u>and</u>, hydrologically isolated <u>and</u>, comprised of <u>one</u> vegetated class that is dominated (> 80% areal cover) by <u>one</u> species from the list in guidance p.18.</p> <p>4.2. Is the wetland: less than two acres <u>and</u>, hydrologically isolated, with <u>one</u> vegetated class, and > 90% of areal cover is <u>any</u> combination of species from the list in guidance p.19.</p>	<p>Yes: Category IV <u>No: go to 4.2</u></p> <p>Yes: Category IV <u>No: go to Q.5.</u></p>

O.5. Significant habitat value. Answer all questions and enter data requested.		Circle scores that qualify																																							
<p>5a. <u>Total wetland area</u></p> <p>Estimate area, select from choices in the near-right column, and score in the far column:</p> <p>Enter acreage of wetland here: <u>0.05</u> acres, and source: <u>Survey</u></p>	<p><u>acres</u></p> <p>> 20.00 10 - 19.99 5 - 9.99 1 - 4.99 0.1 - 0.99 <0.1</p>	<p>Yes=6 Yes=5 Yes=4 Yes=3 Yes=2 Yes=1</p>																																							
<p>5b. <u>Wetland classes</u>: Circle the wetland classes below that qualify:</p> <p><u>Open Water</u>: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: _____</p> <p><u>Aquatic Beds</u>: if the area of aquatic beds > 10% of the <u>open water</u> area <u>or</u> > 1/2 acre.</p> <p><u>Emergent</u>: if the area of emergent class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Scrub-Shrub</u>: if the area of scrub-shrub class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Forested</u>: if area of forested class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p>Add the number of wetland classes, above, that qualify, and then score according to the columns at right.</p> <p>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column.</p>																																									
	<p><u># of classes</u></p> <p>1..... 2..... 3..... 4..... 5.....</p>	<p>Yes=1 Yes=3 Yes=5 Yes=8 Yes=11</p>																																							
<p>5c. <u>Plant species diversity</u>.</p> <p>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.</p> <p>Score in column at far right:</p> <p>e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.</p>	<table border="1"> <thead> <tr> <th>Class</th> <th># of species</th> <th></th> </tr> </thead> <tbody> <tr> <td><u>Aquatic Bed</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>"</td> <td>" 3...</td> <td>Yes=2</td> </tr> <tr> <td>"</td> <td>" >3...</td> <td>Yes=3</td> </tr> <tr> <td><u>Emergent</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>"</td> <td>" 3-4...</td> <td>Yes=2</td> </tr> <tr> <td>"</td> <td>" >4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Scrub-Shrub</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>"</td> <td>" 3-4...</td> <td>Yes=2</td> </tr> <tr> <td>"</td> <td>" >4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Forested</u></td> <td>1...</td> <td>Yes=1</td> </tr> <tr> <td>"</td> <td>" 2...</td> <td>Yes=2</td> </tr> <tr> <td>"</td> <td>" >2...</td> <td>Yes=3</td> </tr> </tbody> </table>	Class	# of species		<u>Aquatic Bed</u>	1-2...	Yes=1	"	" 3...	Yes=2	"	" >3...	Yes=3	<u>Emergent</u>	1-2...	Yes=1	"	" 3-4...	Yes=2	"	" >4...	Yes=3	<u>Scrub-Shrub</u>	1-2...	Yes=1	"	" 3-4...	Yes=2	"	" >4...	Yes=3	<u>Forested</u>	1...	Yes=1	"	" 2...	Yes=2	"	" >2...	Yes=3	<p>Yes=1 Yes=2 Yes=3 Yes=1 Yes=2 Yes=3 Yes=1 Yes=2 Yes=3 Yes=1 Yes=2 Yes=3</p>
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<u>Forested</u>	1...	Yes=1																																							
"	" 2...	Yes=2																																							
"	" >2...	Yes=3																																							

5d. Structural diversity.

If the wetland has a forested class, add 1 point for each of the following:

- trees > 50' tall Yes=1
- trees 20'- 49' tall Yes=1
- shrubs. Yes=1
- herbaceous ground cover. Yes=1

4

5e. Decide from the diagrams below whether interspersion between wetland classes is high, moderate, low or none?

5f. Habitat features.

Answer questions below, circle features that apply, and score to right:

- Is there evidence of current use by beavers? No Yes=3
- Is a heron rookery located within 300'? No Yes=2
- Are raptor nest/s located within 300'? No Yes=1
- Are there at least 3 standing dead trees (snags) per acre? No Yes=1
- Are any of these standing dead trees (snags) > 10" in diameter? No Yes=1
- Are there any other perches (wires, poles or posts)? No Yes=1
- Are there at least 3 downed logs per acre? Yes=1

5g. Connection to streams. (Score one answer only.)

- Is the wetland connected at any time of the year via surface water:
- to a perennial stream or a seasonal stream with fish; Yes=6
- or, to a seasonal stream without fish; Yes=4
- or, is not connected to any stream? Yes=0

5h. Buffers.

STEP 1

Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary.

Then multiply the %/s by the factor(s) below and enter result in column to right:

STEP 2

Multiply result(s) of step 1:
by 1, if buffer width is 25-50';
by 2, if buffer width is 50-100';
by 3, if buffer width is >100'.

Enter results below and add subscore:

roads, buildings or parking lots:

% x 0 =

0

lawn, grazed pasture, vineyards or annual crops:

% x 1 = x =

ungrazed grassland or orchards:

% x 2 = x =

open water or native grasslands:

% x 3 = x =

forest or shrub:

% 10 x 4 = 400 x 3 = 1200

Add Buffer total = 1200

STEP 3. Score points according to table at right :

Buffer total

900-1200...
600-899....
300-599....
100-299....

Yes=4
Yes=3
Yes=2
Yes=1

5i. Connection to other habitat areas:

- Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor > 100' wide with good forest or shrub cover to any other habitat area?.....
- Is there a narrow corridor < 100' wide with good cover or a wide corridor > 100' wide with low cover to any other habitat area?.....
- Is there a narrow corridor < 100' wide with low cover or a significant habitat area within 0.25 mile but no corridor?.....
- Is the wetland and buffer completely isolated by development and or cultivated agricultural land?.....

Yes = 6

Yes=4

Yes=1

Yes=0

NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total.
Is the Total greater than or equal to 22 points.

Total = 15
Yes: Category II
No: Category III

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: Ed Scull Affiliation: Scull Wetland C-Intl. Date: 11/20 + 11/09

Name of wetland (if known): Wetland B - Forest Ridge

Government Jurisdiction of wetland: R. Krutas Co

Location: 1/4 S: _____ of 1/4 S: _____ SEC: _____ TWSHP: _____ RNGE: _____

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: USGS Topo Map: NWI map: Aerial Photo: Soils survey:

Other: Describe: _____

WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE:

Q.1. High Quality Natural Heritage Wetland.

Circle answers:

Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.

1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes could include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: logged

Yes: go to Q.3.
No: go to 1b.

1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____

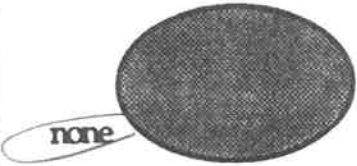
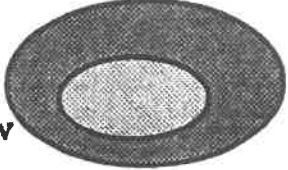
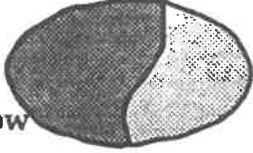
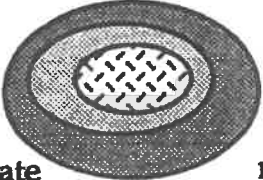
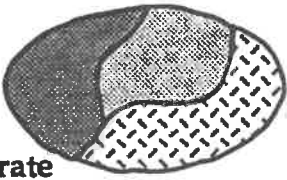
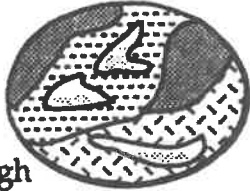
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Yes: go to Q.3.
No: Possible Category I

<p>Q.2. Regionally Rare Native Wetland Communities</p> <p>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.</p>	
<p>Q.3. Irreplaceable Ecological Functions:</p> <p>Does the wetland:</p> <ul style="list-style-type: none"> - have at a least 1/2 acre of contiguous peat wetland; - <u>or</u>, have a forested class greater than 1 acre ; 	<p>No to <u>both</u>. go to Q.4.</p> <p>Yes: go to 3a.</p> <p>Yes: go to 3b.</p>
<p>Q.3a. Peat Wetlands.</p> <p>3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, <u>and</u> have < 80% areal cover of <i>Spirea douglasii</i>?</p>	<p>Yes: Category I No: go to Q.4.</p>
<p>Q.3b. Mature forested wetland.</p> <p>3b1. Is the average age of dominant trees in the forested wetland > 80 years?</p> <p>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, <u>and</u> is the structural diversity high as characterized by a multi-layer community of trees > 50' tall <u>and</u> trees 20'-49' tall <u>and</u> shrubs <u>and</u> herbaceous groundcover? ..</p> <p>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list? ..</p>	<p>Yes: Category I No: go to 3b2.</p> <p>Yes: go to 3b3. No: go to Q.5.</p> <p>Yes: go to Q.5. No: Category I</p>
<p>Q.4. Category IV wetlands</p> <p>4.1. Is the wetland: less than 1 acre <u>and</u>, hydrologically isolated <u>and</u>, comprised of <u>one</u> vegetated class that is dominated (> 80% areal cover) by <u>one</u> species from the list in guidance p.18.</p> <p>4.2. Is the wetland: less than two acres <u>and</u>, hydrologically isolated, with <u>one</u> vegetated class, and > 90% of areal cover is <u>any</u> combination of species from the list in guidance p.19.</p>	<p>Yes: Category IV No: go to 4.2.</p> <p>Yes: Category IV No: go to Q.5.</p>

O.5. Significant habitat value. Answer all questions and enter data requested.		Circle scores that qualify																																							
<p>5a. <u>Total wetland area</u></p> <p>Estimate area, select from choices in the near-right column, and score in the far column:</p> <p>Enter acreage of wetland here: <u>500sf</u> acres, and source: _____</p>	<p><u>acres</u></p> <p>> 20.00 10 - 19.99 5 - 9.99 1 - 4.99 0.1 - 0.99 <0.1</p>	<p>Yes=6 Yes=5 Yes=4 Yes=3 Yes=2 <u>Yes=1</u></p>																																							
<p>5b. <u>Wetland classes</u>: Circle the wetland classes below that qualify:</p> <p><u>Open Water</u>: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: _____</p> <p><u>Aquatic Beds</u>: if the area of aquatic beds > 10% of the <u>open water</u> area <u>or</u> > 1/2 acre.</p> <p><u>Emergent</u>: if the area of emergent class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Scrub-Shrub</u>: if the area of scrub-shrub class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Forested</u>: if area of forested class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p>Add the number of wetland classes, above, that qualify, and then score according to the columns at right.</p> <p>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column.</p>																																									
	<p><u># of classes</u></p> <p>1..... 2..... 3..... 4..... 5.....</p>	<p><u>Yes =1</u> Yes =3 Yes =5 Yes =8 Yes =11</p>																																							
<p>5c. <u>Plant species diversity</u>.</p> <p>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.</p> <p>Score in column at far right:</p> <p>e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.</p>	<table border="1"> <thead> <tr> <th>Class</th> <th># of species</th> <th></th> </tr> </thead> <tbody> <tr> <td><u>Aquatic Bed</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>3...</td> <td>Yes=3</td> </tr> <tr> <td><u>Emergent</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Scrub-Shrub</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td><u>Yes=2</u></td> </tr> <tr> <td>" "</td> <td>>4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Forested</u></td> <td>1...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>2...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>2...</td> <td>Yes=3</td> </tr> </tbody> </table>	Class	# of species		<u>Aquatic Bed</u>	1-2...	Yes=1	" "	3...	Yes=2	" "	>3...	Yes=3	<u>Emergent</u>	1-2...	Yes=1	" "	3-4...	Yes=2	" "	>4...	Yes=3	<u>Scrub-Shrub</u>	1-2...	Yes=1	" "	3-4...	<u>Yes=2</u>	" "	>4...	Yes=3	<u>Forested</u>	1...	Yes=1	" "	2...	Yes=2	" "	>2...	Yes=3	
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<p>5d. Structural diversity. If the wetland has a forested class, add 1 point for each of the following:</p> <ul style="list-style-type: none"> -trees > 50' tall -trees 20'- 49' tall -shrubs -herbaceous ground cover. 	<p>Yes=1 Yes=1 Yes=1 Yes=1</p> <p style="text-align: right;">0</p>
<p>5e. Decide from the diagrams below whether interspersions between wetland classes is high, moderate, low or none?</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>none</p> </div> <div style="text-align: center;">  <p>low</p> </div> <div style="text-align: center;">  <p>low</p> </div> <div style="text-align: center;">  <p>moderate</p> </div> <div style="text-align: center;">  <p>moderate</p> </div> <div style="text-align: center;">  <p>high</p> </div> </div> <p style="text-align: right;">High=3 Moderate=2 Low=1 None=0</p>	
<p>5f. Habitat features.</p> <p>Answer questions below, circle features that apply, and score to right:</p> <ul style="list-style-type: none"> Is there evidence of current use by beavers? ^{no} Is a heron rookery located within 300'? ^{no} Are raptor nest/s located within 300'? ^{no} Are there at least 3 standing dead trees (snags) per acre? ^{no} Are any of these standing dead trees (snags) > 10" in diameter? ^{no} Are there any other perches (wires, poles or posts)? ^{no} Are there at least 3 downed logs per acre? ^{no} 	<p>Yes=3 Yes=2 Yes=1 Yes=1 Yes=1 Yes=1 Yes=1</p> <p style="text-align: right;">Yes=1</p>
<p>5g. Connection to streams. (Score one answer only.)</p> <p>Is the wetland connected at any time of the year via surface water:</p> <ul style="list-style-type: none"> to a perennial stream or a seasonal stream <u>with</u> fish; or, to a seasonal stream <u>without</u> fish; or, is not connected to any stream? 	<p>Yes=6 Yes=4 Yes=0</p>

5

5h. Buffers.

STEP 1
 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary.
 Then multiply the %/s by the factor(s) below and enter result in column to right:

STEP 2
 Multiply result(s) of step 1:
 by 1, if buffer width is 25-50';
 by 2, if buffer width is 50-100';
 by 3, if buffer width is >100'.
 Enter results below and add subscore:

roads, buildings or parking lots:	% <u> </u> x 0 =	0
lawn, grazed pasture, vineyards or annual crops:	% <u> </u> x 1 =	_____ x _____ = _____
ungrazed grassland or orchards:	% <u> </u> x 2 =	_____ x _____ = _____
open water or native grasslands:	% <u> </u> x 3 =	_____ x _____ = _____
forest or shrub:	% <u>700</u> x 4 =	<u>400</u> x <u>3</u> = <u>1200</u>
Add Buffer total = <u>1200</u>		

STEP 3. Score points according to table at right :

Buffer total	
900-1200...	Yes=4
600-899....	Yes=3
300-599....	Yes=2
100-299....	Yes=1

- 5i. Connection to other habitat areas:
- Is there a riparian corridor to other wetlands within 0.25 of a mile, or a corridor > 100' wide with good forest or shrub cover to any other habitat area? **Yes=6**
 - Is there a narrow corridor < 100' wide with good cover or a wide corridor > 100' wide with low cover to any other habitat area? **Yes=4**
 - Is there a narrow corridor < 100' wide with low cover or a significant habitat area within 0.25 mile but no corridor? **Yes=1**
 - Is the wetland and buffer completely isolated by development and or cultivated agricultural land? **Yes=0**

NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total. **Total = 15**
 Is the Total greater than or equal to 22 points. **Yes: Category II**
No: Category III