Technical Memorandum

To: San Juan County Land Bank
Tim Clark
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Re: Wetland Reconnaissance/ Delineation at Lopez Channel Preserve on Tax Parcel Numbers 240421005000, 240421006000 & 240421007000, on Lopez Island, WA.

Date: April 16, 2018

Rozewood Environmental Services, Inc. (Rozewood) conducted a wetland reconnaissance/ delineation on March 9th and March 12th, 2018 at Lopez Channel Preserve on a 4.99-acre property (Tax Parcel No.240421005000), a 4.27-acre property (Tax Parcel No. 240421006000) and a 0.40-acre shoreline property (TPN 240421007000). All of the parcels border each other and have beach access on the southwest part of Lopez Island, San Juan County, Washington. The two larger parcels are forested, with one, small, historic clearing, a drainage ditch near the property boundaries of TPN 240421005000 and 240421006000, an unimproved (dirt, mowed grass) access road parallels the ditch through the parcels from east to west, and a partially graveled driveway spurs off Meadow Lane and leads onto Parcel 240412010000 to the south. The properties have several old, overgrown skid roads that branch off the rudimentary roads.

The San Juan County Land Bank plans to create a management plan for Lopez Channel Preserve that will include trail construction. The desire is to build a network of trails that could extend from a proposed parking area in the southeast of TPN 240421006000 to the shoreline in the western portion of the properties. This pedestrian footpath would provide visitors an opportunity to pass through native plant communities on the way to the shoreline.

The wetland reconnaissance/delineation focused on the entirety of the Lopez Channel Reserve with acknowledgement of a proposed parking area and trail system that will be designed to facilitate natural resources management and passive recreation with the creation of a trail network. While the County wetland inventory data layer did not show wetlands onsite, Land Bank Steward Tim Clark’s traverses through the parcels have identified small wetlands in various areas.

Methods and criteria described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (U.S. Army Corps of Engineers, 2010) were used to identify and delineate the onsite wetlands. Vegetation data, soil sampling observations, and hydrology indicators were collected at each flagged wetland area. Summaries of field data are described in this technical memorandum, but field data sheets are not specifically attached. Wetlands were rated applying the Washington State Wetland Rating System for Western Washington: 2014 Update (Hruby, 2014). Wetland rating sheets are also not specifically attached to this memorandum, but rating forms are available upon request. If agencies desire to field-verify conditions, Rozewood could meet onsite, if helpful. Figures 1-3 “Wetlands Reconnaissance” are attached to this report. Photographs of onsite conditions were taken, and some representative photos are also attached.
Online Resources and Literature Review

The San Juan County wetland inventory (‘possible wetlands’) map shows no wetlands on the three Lopez Channel Preserve parcels; 4.99-acre TPN 240421005000, 4.27-acre TPN 240412003000 and 0.40-acre TPN 240421007000, but does show a small freshwater wetland occurring on the adjacent property to the north TPN 253343007000 (San Juan County, online) [see attached Figure 1]. The National Wetlands Inventory Map identified no freshwater wetlands onsite (U.S. Dept. of Interior, online). The County’s Polaris geographic information system (GIS) did highlight the shoreline soils as Subclass ‘e’ which are susceptibility to erosion, and the shoreline slopes as unstable, though the GIS did not specifically call out unstable bluffs (San Juan County, online). The Washington State Coastal Zone Atlas identified the steep slopes along the shoreline as “Unstable”, but did not indicate mapped wetlands onsite (Washington State Department of Ecology, online).

The USDA NRCS Soils map shows that a majority of the eastern portions of the two larger parcels is mapped as Mitchellbay-Sholander-Bazel complex, 0-8% slopes; this mostly non-hydric (non-wetland) soil complex does include up to 10% inclusions of Bazal soil, which is recognized as a hydric (wetland) soil (Websoil Survey, online). NRCS has a small area immediately adjacent to the shoreline mapped as Beaches-Endoaquents, tidal-Xerorthents association, 0-5% slopes; this map unit contains up to 25% hydric soils, usually as tidally-flooded, brackish marsh soils. In the western majority of the two larger parcels, the soils grade into a well drained soil type, specifically Everett sandy loam, warm, 3 to 20% slopes.

Findings

Five wetland areas and three excavated ditches or swale-like features were identified and mapped on the two larger parcels (see Figures 1, 2, and 3). The summary table on the following page (Page 3) lists the wetlands’ estimated sizes, Cowardin habitat classes, hydrogeomorphic classification, and wetland ratings. The County does not require buffers for wetlands in areas where trail construction is planned.

Wetlands A through E are small wetlands all under 3,000 square feet, with several occurring as seasonal freshwater wetland-upland mosaics or complexes, composed of numerous wet depressions and higher, drier mounds and raised lobes. Wetland areas A and B have similar plant communities as palustrine forested systems containing red alder (Alnus rubra), slough sedge (Carex obnupta), sword fern (Polystichum munitum), and trailing blackberry (Rubus ursinus), with their edges containing Douglas fir (Pseudotsuga menziesii), grand fir (Abies grandis), salal (Gaultheria shallon), oceanspray (Holodiscus discolor), small bedstraw (Galium trifidum) and bracken fern (Pteridium aquilinum). Wetland areas C, D and E have similar plant communities as palustrine scrub-shrub systems containing soft rush (Juncus effuses), slough sedge, salmonberry (Rubus spectabilis), trailing blackberry, Nootka rose (Rosa nutkana), swordfern, and western crabapple (Malus fusca).

Three manmade drainage ditches or swales were identified and mapped on TPN 240421005000 and TPN 240421006000, one transects the property boundary and runs from east to west with a shoreline outfall on TPN 240421007000. This particular ditchline is the prominent drainage feature onsite, and transmits concentrated runoff from the Port of Lopez Airport. Another historically-excavated swale arcs to the northwest with its origin beginning as the outflow from mapped Wetland D. Along the northern property boundary of TPN 240121005000, a ditch had been excavated which carries excess spillway waters from a small offsite pond; this pond shows on the County database as a possible non-tidal wetland on the adjacent property TPN 253343007000.

As illustrated on Figures 1 and 2, Wetland A is located on TPN 240421006000 and is approximately 1,575 sq. ft. in size. This wetland was delineated with bright pink flagging labeled A1 through A7, and GPS data points were collected and mapped with ArcGIS. Wetland B occurs nearby on sloping ground with a 3% grade. Wetland B was delineated with pink flagging labeled B1 through B11. Wetland C is on the boundary of TPN 240421005000 and 240421006000 at the inlet of a 12-inch-diameter culvert crossing the access road in the southwest of TPN 240421005000. This small wet spot alongside the access road was marked with a single pink flag marked ‘Wet Spot’. Wetland C is approximately 225 square feet in size.
Table 1: Wetlands Summary Table

<table>
<thead>
<tr>
<th>Wetland ID</th>
<th>Estimated Size</th>
<th>Cowardin Habitat Types(^1)</th>
<th>Hydrogeomorphic Classification</th>
<th>Wetland Ratings(^2)</th>
<th>Wetland Buffer(^3)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B</td>
<td>1,575 sq. ft. &amp; 2,700 sq. ft.</td>
<td>PFO</td>
<td>Slope</td>
<td>Category IV</td>
<td>N/A, 25 ft for low-intensity uses</td>
<td>Forested wetland-upland mosaic upgradient.</td>
</tr>
<tr>
<td>C</td>
<td>225 sq. ft.</td>
<td>PSS</td>
<td>Slope</td>
<td>Category IV</td>
<td>N/A</td>
<td>Wet spot by access road with 12” culvert.</td>
</tr>
<tr>
<td>D</td>
<td>780 sq. ft.</td>
<td>PSS</td>
<td>Slope</td>
<td>Category IV</td>
<td>N/A</td>
<td>Scrub-shrub wetland-upland mosaic. Approx. 2-5% slope. Include portion of old skid road</td>
</tr>
<tr>
<td>E</td>
<td>540 sq. ft.</td>
<td>PSS</td>
<td>Depressional</td>
<td>Category IV</td>
<td>N/A</td>
<td>Scrub-shrub wetland-upland mosaic.</td>
</tr>
</tbody>
</table>

\(^1\) PSS = Palustrine scrub-shrub wetland; PFO = Palustrine forested wetland.  
\(^3\) Under the regulatory size threshold, so does not specifically trigger buffer requirements, per *San Juan County Code Chapter 18.35.100*. 

Illustrated on Figures 1 and 3, Wetland D is in the west-central portion of TPN 240421005000 and encompasses a slope wetland that connects to a manmade swale with a 12-inch culvert outlet on the boundary with TPN 253343007000. This palustrine scrub shrub wetland is bisected by an old skid trail, or as the rudimentary “proposed driveway” that leads to a small clearing that had historically been established to make the lot more appealing and salable as a potential ‘homesite with a view’. The rudimentary driveway is now partially overgrown with mostly native herbaceous and shrub species. Wetland D was delineated with bright pink flagging labeled D1 through D8, and GPS data points were collected and mapped with ArcGIS. The wetland is approximately 780 square feet. Wetland E lies nearby to Wetland D, and occurs as a small (540 sq. foot) depressional wetland. It appears this wetland may have been created by the excavation (blading) of an old logging skid road. Wetland E was delineated with bright pink flagging labeled E1 through E6.

Two other marginal wet spots were observed onsite, one being less than 70 square feet in size and lacking hydrophytic vegetation, and the other being a sloped patch of slough sedge easily visible from the access road. This patch of slough sedge did not have hydric soil indicators. While single identifier flags were hung, these locations were not identified as jurisdictional wetlands.

**Regulatory Considerations**

In accordance with the County’s *Unified Development Code* [UDC] (San Juan County, online), direct wetland impacts are to be avoided unless permitted and compensated through mitigation. The onsite wetlands all rate as Category IV wetlands. The minimum regulatory size threshold for Category IV wetlands in San Juan County that would trigger buffer provisions is 2,500 square feet; therefore Wetlands A, C, D, and E are under the regulatory threshold. Only Wetland B would trigger buffer provisions and other County regulatory measures. For low-intensity, open space and unpaved trails, the buffer would be 25 feet on Wetland B.
The San Juan County Land Bank desires to install footpaths through TPN 240421005000 and TPN 240421006000, traversing east to west to the shoreline. From a regulatory prospective, the construction of trails, stairs, or raised walkways are allowed inside buffers and wetlands, provided that the improvement: (i) Is designed to direct sheet flow runoff into adjacent vegetation; (ii) Prevents adverse impacts to the wetland from runoff and eroding soils; (iii) Does not exceed five feet in width; (iv) Is constructed of nontoxic materials; (v) Does not totally circumnavigate the wetland perimeter; (vi) Does not include the placement of fill; and (vii) Is consistent with the application requirements of subsection (F) Road and Trail Crossings of UDC subsection 18.35.100 Wetlands – Protection Standards.

Because the wetlands are small, the Land Bank may wish to avoid bisecting through any particular wetland. The one exception might be for Wetland D, which already has a previously created roadbed (skid trail?) through a portion of the wetland. This roadbed is partially overgrown now with dense shrub cover along the edges and herbaceous plants within the roadbed core. If the Land Bank would like to convert this skid trail into a pedestrian path, there is some rationale for that alignment. Where crossings of localized wet depressions or subtle wet swales are necessary, a wooden walkway or puncheon-style elevated boardwalk could be installed, which allows seasonal flow or stormwater flow to be unimpeded as it trickles down towards the adjacent, connected swale. Nontoxic building materials and a maximum width of 5 feet are the design constraints. In segments of trails that might traverse near to, but not through wetlands, local woodchips may be the logical, nontoxic best alternative. The woodchips may have to be reapplied every two or three years as decomposition occurs.

Conclusions

Five small, Category IV wetlands occur on Lopez Channel Preserve. Two additional small, ephemeral wet spots were also found but these did not qualify as jurisdictional wetlands. San Juan County Land Bank desires to install some meandering footpaths or trails, traversing east to west to the shoreline. From a regulatory prospective, the construction of trails are allowed inside buffers and wetlands. The onsite wetlands are small and could be easily avoided with trail alignments, however Wetland D already is bisected by a historic skid road. An elevated boardwalk or puncheon-style trail crossing could be installed along Wetland D’s skid road at the lowest topographic dip in the terrain to allow intermittent surface water to trickle slowly to the north and west. Rozewood does not anticipate increased adverse impacts to any of the wetlands under the idea of proposed trail construction. None of the wetlands have conditions that would be conducive for amphibian breeding; onsite inundation is too shallow and ephemeral (short-term) for such breeding. Trail installations should be done during drier times of the year.

If anyone has questions or needs additional information, please do not hesitate to contact me.

Attachments:

References
Figures 1, 2, and 3
Two photo pages with four representative photos of wetland conditions.
References:


Google Earth, online. Various Imagery dates.


Figure 1: Wetlands Reconnaissance
Figure 2: Wetlands Reconnaissance

- County Possible NonTidal Wetlands
- Wetlands
- Swales/Ditches
- Lopez_Preserve_Parcel

1 inch = 100 feet
Figure 3: Wetlands Reconnaissance

- County Possible_NonTidal_Wetlands
- Wetlands
- Swales/Ditches
- Lopez_Preserve_Parcehs

1 inch = 100 feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Photo 1: Standing alongside Wetland A looking south. Photo shows a small, sloped wetland with micro-depressions, with an alder overstory, and a salmonberry-slough sedge understory. Date: 3/12/2018.

Photo 2: Viewing the eastern end of Wetland B, facing south. Red alder in the overstory, and slough sedge and swordfern in the understory. This sloped wetland was primarily saturated, with very minor amounts of shallow inundation in small divots and micro-depressions. Date: 3/12/2018.
Photo 3: Representative photo showing segment of ditched drainage that flows east to west along the length of the preserve. This drainage carries stormwater runoff from Port of Lopez Airport and discharges it out along the shoreline. Flows vary depending on storm events and drier periods. Date: 3/9/2018.

Photo 4: Viewing the eastern end of Wetland D, along the portion where an old skid road or rudimentary driveway had bisected through the seasonal wetland. This small, sloped system is a scrub-shrub wetland with salmonberry, trailing blackberry, salal, mixed grasses, and dense soft rush. Date: 3/12/2018.