LaBelle Wetlands

Puyallup, Washington

Abbreviated Wetland Delineation Report
June 2017

SCJ ALLIANCE

CONSULTING SERVICES

LaBelle Site Abbreviated Wetland Report

Project Information

Project:	**LaBelle Site Abbreviated Wetland Report**
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Reviewing Agency

Jurisdiction:	City of Puyallup

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1. INTRODUCTION

1.1 Project Overview

The purpose of this report is to provide an abbreviated wetland delineation report for a site located south of the intersection of 13th Street SE and 12th Avenue SE, in Puyallup, Washington (Figure 1). This information is intended to supplement information provided in the Critical Areas and Buffer Averaging report prepared by Talasea Consultants, Inc., dated February 26, 2015 (date stamped as being received by the City on March 2, 2015; TC2015 Report). The focus of this work was to define the northern wetland boundary only. Therefore, this report updates the wetland boundary location described in the TC2015 Report, but does not address the wetland rating results or comment on proposed mitigation.

According to the TC2015 report, the project area includes six parcels, listed as follows; 0420321161 (Parcel A), 0420341162 (Parcel B), 0420341163 (Parcel C), 0420341164 (Parcel D), 0420341105 (Parcel E), and 0420341135 (Parcel F). Based on a check of the current Pierce County map system, parcel numbers appear to have been reassigned at some point between now and when the TC2015 report was written. Wetland conditions were assessed on four parcels, and the current parcel numbers for the Study Area are: 0420341161, 0420341188, 0420341187, 0420341135. The delineated wetland boundary crossed some portion of all four parcels. The site is located within Section 34, T20N, R4E, Willamette Meridian.

According to local WETS station data (Tacoma #1), the average start of growing season date for this area is February 7. Wetland hydrology must persist for 2-3 weeks after the start of growing season in most years (on average) to meet the minimum standard for the area to be defined as a wetland. Because the

Figure 1. Site map and boundary, south of 13 St. SE and 12th Ave. SE, Puyallup, WA.

previous winter had recorded above average rainfall totals, field work was postponed, waiting for a period of time with normal or below average rainfall totals, to ensure that wetland hydrology was close to normal for the delineation work. The wetland hydrology observed on the day of our field visit was similar to that observed during site visits in previous years when weather conditions were considered to be normal (Figure 2).

SCJ Alliance staff (Lisa Palazzi, CPSS, PWS and David Cuffeld, field technician) delineated the wetlands onsite on April 6, 2017, following a weeklong period with minimal rainfall – less than an inch of rain was recorded over the previous 8 days. This weather pattern, in combination with effects of site vegetation fully leafed-out and transpiring (i.e., using groundwater) was considered adequate for the combination of natural and enhanced (agricultural) site drainage to normalize for purposes of delineation.

Figure 2. View of wetland east of central roadway.

2. METHODS

2.1 Wetland Delineation Regulations (federal and state)

Under the Washington Administrative Code (WAC) section 173-22-035, the Washington State Department of Ecology (Ecology) requires wetland identification and delineation be completed following the approved federal wetland delineation manual and applicable regional supplements, including but not limited to the 1987 Corps of Engineers Wetland Delineation Manual and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers 2010).

Data adequate to fill out the Field Data Forms was collected in the field, but to save time, digital Field Data Forms were not created and are not attached to this abbreviated wetland delineation report. They can be provided if needed, but it is assumed that the delineated boundary in combination with descriptions of field work provided in the report will suffice.

2.2 Wetland Rating, Classification, and Buffers

As mentioned above, a wetland rating was not carried out for this project. The rating previously provided by Talasea Consultants, and the buffer defined from that work is assumed to be sufficient.

2.3 Background Materials

To help determine the site conditions that might affect delineation and rating results, SCJ Alliance staff reviewed the following information to provide site information:

- Pierce County PublicGIS mapping system (Pierce County 2017).
- US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) map (USFWS 2017).
- USDA-NRCS/ UC Davis SoilWeb: Online Soil Survey database. (SoilWeb 2017).
- Precipitation data (US Climate Data 2017).
- Washington State Department of Natural Resources (DNR) FPARS stream mapping system (DNR 2017).
- Washington State Dept. of Ecology well logs (2017)
- Talasea Critical Areas Report and Buffer Averaging Plan, dated February 26, 2015
- Google Earth historic timeline aerial photos of the project area.

3. FINDINGS

3.1 Project and Site Description Overview

The wetland was described previously in a Talasea Consultants report dated February 26, 2015 (Puyallup date-stamped March 2, 2015). The vegetation classes and wetland rating results defined in the Talasea Report (TC2015) were not re-evaluated. Only the wetland edge was re-delineated for this project and report. Therefore, the Talasea Report rating results have not been evaluated or revised, and thus, can be applied when developing a new mitigation plan for the project in relation to the wetland boundary delineated for this work and described below.

The northern wetland boundary was flagged, and hand-held GPS waypoints were marked at each flag location on April 6, 2017, by Lisa Palazzi, CPSS, PWS, assisted by David Cuffeld, field technician. The flags were surveyed and a map was provided for this report by Azure Green Consultants.

The LaBelle project site is described in the TC2015 report as six parcels: 0420321161 (Parcel A), 0420341162 (Parcel B), 0420341163 (Parcel C), 0420341164 (Parcel D), 0420341105 (Parcel E), and 0420341135 (Parcel F). However, these parcel numbers no longer exist in the Pierce County GIS system. It was assumed that the parcel number were reassigned since the TC2015 report was written. Wetland conditions along the northern wetland boundary were assessed and delineated on four parcels, totaling about 16.5 acres (the Study Area for this report). Based on the current Pierce County PublicGIS map system, the Study Area parcel numbers are: 0420341161, 0420341188, 0420341187, 0420341135.

3.1.1 Wetland Hydrology

Wetland conditions persist in the southern half of the Study Area – a broad, flat, post-glacial floodplain --, with onsite hydrology driven by surface and groundwater flowing to the north from ancient terrace uplands along the southern edge of the floodplain. The ground surface across the floodplain area slopes very gradually to the northwest, ranging from about 70 feet at the southern toeslope down to about 58 feet in the northwest Study Area corner. The groundwater table appears to slope as well, getting gradually deeper with distance from the southern toeslope. Eventually, this gradual slope of the groundwater table results in the water table being far enough below the ground surface that hydrology no longer meets the wetland hydrology definition. However, the transition from wetland to non-wetland is broad and gradual, and shallow groundwater conditions persist close to the surface north of the wetland edge, in areas not regulated as wetland. This condition will affect seasonal site drainage and site water management facilities.

Wetland hydrology was at or near the surface on the day of the field delineation in wetland areas (Figure 3). Within the blueberry patch east of the central roadway, soils were significantly disturbed from foot traffic associated with a nearby homeless encampment. This resulted in standing surface water in some areas that were not considered to be representative of the normal background hydrology condition. In those areas, the wetland boundary was defined by smoothing the transition between points outside of the disturbed areas, and by more careful assessment of hydric soil indicators.

Figure 3. Showing wetland hydrology at or near the surface on the day of the site visit.

3.1.2 Wetland Plant Community

The vegetation community in the wetland changes across the site, and wetland plants are often dominant on both sides of the delineated boundary, reflecting the transitional nature of the wetland hydrology and wetland edge (Figure 4). Some wetland areas and their buffers are dominated by planted blueberry bushes; some wetland areas resemble a wet pasture; and some wetland areas are dominated by Himalayan blackberry[1] (*Rubus armeniacus*). Species near the northern wetland boundary include, but are not limited to (i.e., not a complete list of all onsite wetland and buffer plant species):

Tree Species

- Red alder (*Alnus rubra)*
- Black cottonwood (*Populus tricocarpa)*

[1] Please note that Himalayan blackberry's (***Rubus armeniacus***) jurisdictional status changed from Facultative Upland (FACU) to Facultative (FAC) in the most recent 2016 update to the National Wetland Plant List, and is thus is now a wetland plant indicator species.

Shrub Species

- Red osier dogwood (*Cornus sericea*)
- Oregon crabapple (*Malus fusca*)
- Commercial blueberry (*Vaccinium corymbosum*).

Herbaceous and Vine Species

- Creeping buttercup *(Ranunculus repens*)
- Water parsley (*Oenanthe sarmentosa)*
- Soft rush (*Juncus effusus*)
- Field horsetail (*Equisetum arvense)*
- Reed canarygrass (*Phalaris arundinacea*)
- Misc. pasture grasses

Figure 4. Showing wetland area dominated by pasture grasses and buttercup in photo above, and by crabapple and Himalayan blackberry in photo below.

3.1.3 Wetland soils

The Pierce Soil Survey (Figure 5) indicates that the wetland area as well as the entire development site is mapped as three different hydric (wetland) soil types, Briscot loam, Shalcar muck and Semiahoo muck – list in order of decreasing "wetness". All of these soils have been drained to some degree, which lowers the water table, but does not always result in producing an upland condition. The Briscot loam is mapped farthest north, and is expected to be slightly better drained – as is verified by onsite conditions. The Briscot loam soils (in a drained condition) dominate the areas defined onsite as uplands and continue offsite into developed neighborhoods to the northeast. The sandier Puyallup soils dominate uplands offsite in the developed neighborhood farther northwest.

The Shalcar and Semiahoo are the mapped soils within the area delineated as wetland. Despite extensive drainage systems from past farming activities, these soils have maintained wetland hydrology to a great degree, as is often the case in these types of very wet hydric soils that are dominated by organic soil textures. Drainage may lower the water table enough to allow agricultural access earlier in the spring once the winter rains abate, but winter and early spring water tables are typically driven by winter storms, and are very difficult to effectively drain – particularly in areas like this that have only minimal relief (i.e., no low elevation area to receive and conduct away the drained water).

Table 1. Soil Survey Map Units (from Soil Survey Map in Fig. 5)

Soil Map Unit	Soil Series Name	Hydric? (Y/N)	Soil description
6A	Briscot loam	Yes	Very deep, poorly drained soils formed in recent alluvium on floodplains; Seasonal water table expected at 0-1 ft depth unless drained.
20C, 20D, 20F	Kitsap silt loam (8-15%, a5-30%, 30-65% slope)	No	Very deep, moderately well drained soils formed in lacustrine sediments on terraces and terrace escarpments; no water table expected within 6 feet of the soil surface.
31A	Puyallup fine sandy loam	No[2]	Very deep, well drained soils formed in recent alluvium on floodplains and low terraces; no water table expected within 6 feet of the soil surface, but may flood periodically.
37A	Semiahoo muck	Yes	Very deep, very poorly drained soils formed in herbaceous organic deposits in depressions on glacial outwash plains and broad flood plains; Water table expected at surface to +1ft from November through May, unless artificially drained.
38A	Shalcar muck	Yes	Very deep, very poorly drained soils formed in herbaceous organic deposits over alluvium in depressions on glacial outwash plains, oxbows and back swamps; Water table expected at or above surface during winter and into spring; near surface through summer, unless artificially drained.

[2] May have wetland inclusions in depressions within the greater map unit.

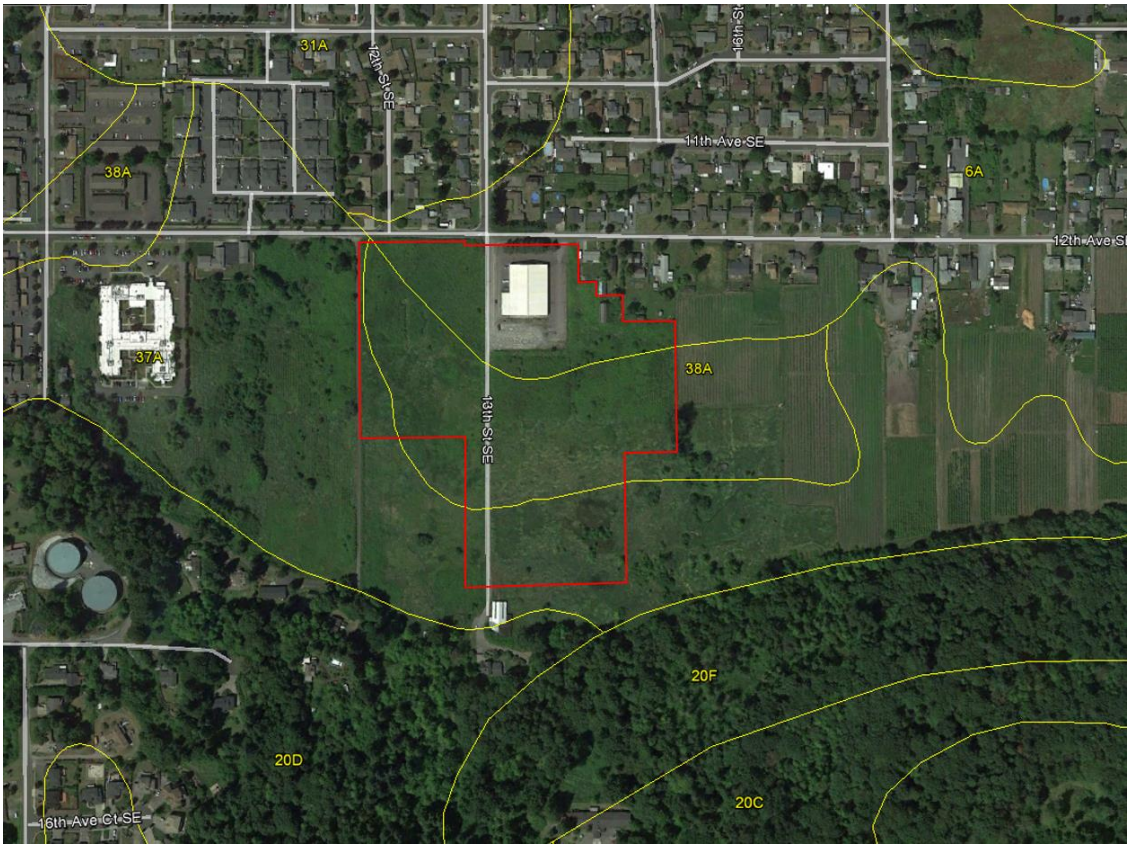

Figure 5. Soil Survey Map showing soil map units in project area.

The soils observed onsite along the wetland boundary had muck surfaces with massive, poorly drained silt loam substrates, typical of the Shalcar soil series. Hydric Soil Indicator characteristics observed along the northern edge of the wetland included A2 (Histic Epipedon) in organic soil dominated areas, and A-11 in areas with a depleted mineral soil layer within 12 inches of the surface. Typically, the surface was organic soil, with significant changes in coloration and texture at 10+ inches (Figure 6).

A few small areas had a sandy substrate below the muck cap, which was stained black with organics, and possibly also from manganese oxidation (Figure 7).

As mentioned previously, some soils within the blueberry patches were severely damaged from surface traffic, trapping surface water in places that did not appear to otherwise exhibit wetland conditions comparable to other areas observed onsite. In those areas, great care was taken to document the hydric soil characteristics when defining the wetland boundary, and the delineated boundary line was drawn to connect known wetland areas located to the west and east of the disturbed area (Figure 7).

Figure 6. Showing depleted substrates observed below a muck surface.

Figure 7. Photo above shows soil with sandy texture, but stained black, either from Mn oxidation or organic material; Photo to right shows disturbed soils within blueberry patch, which required extra care with soil assessment for correct delineation.

4. SUMMARY

The northern wetland boundary was delineated applying current technical methods acceptable to the local, state and federal agencies. The boundary defined in the attached map in Appendix 1 provides a baseline for subsequent mitigation plans and site development decisions. No wetland rating or mitigation is provided in this report.

5. REFERENCES

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US Fish and Wildlife Service National Wetlands Inventory Mapper, 2017 (for NWI wetland mapping): http://www.fws.gov/wetlands/Data/Mapper.html .

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Washington State Department of Natural Resources FPARS mapping system, 2017 (for stream typing): http://fortress.wa.gov/dnr/app1/fpars/viewer.htm.

APPENDIX A
WETLAND BOUNDARY MAP

Figure A 8. Wetland boundary map, surveyed and provided by Azure Green Consultants.