

Exhibit C-4: Samish River
Ordinary High Water Mark
(OHWM) /Wetland Edge Report;
Prepared by: Graham-Bunting &
Associates (May 18, 2015)



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May 18, 2015

Concrete Nor'West
Dan Cox
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Re: Samish River (Ordinary High Water Mark/Wetland Edge)

Graham-Bunting Associates accompanied Dan Cox (Concrete Nor'West) and John Semrau (Semrau Engineering & Surveying) on a preliminary reconnaissance along the left bank of the Samish River on March 25, 2015. The purpose of the reconnaissance was to determine the OHWM of the river in conjunction with future permitting of the Grip Road Gravel Pit. The OHWM of the river was assessed consistent with the statutory definition contained in the Shoreline Management Act (RCW 90.58) and the Skagit County Shoreline Master Program (SCC 14.26).

"Ordinary high water mark (OHWM) on all lakes, streams, and tidal water is that mark that will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971 or as it may naturally change thereafter: PROVIDED, that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water."

In addition, recent guidance developed by the Washington State Department of Ecology to assist in identification of the OHWM relative to riverine environments including mean high water and peak flow data were also considered.

The slope east of the mine site was traversed to the floodplain and the active channel of the Samish River. The distance between the channel and toe of slope varies from between 50 and 300 feet. The left bank exhibits recent active erosion and indications of periodic overbank flooding west to the toe of slope. Surface hydrology was observed in saturated soils mapped as Samish silt loam (Soil Survey, 1989) and shallow ponding to the toe of slope. The area between the active channel and toe consists of hydrophytic vegetation communities dominated by red alder (*Alnus rubra*), salmonberry (*Rubus spectabilis*), skunk cabbage (*Lysichiton americanum*) and slough sedge (*Carex obnupta*). The slope consists of a mixed forest canopy dominated by conifers including Western red cedar (*Thuja plicata*) with an understory of sword fern (*Polystichum munitum*). The soil survey maps the slope as Hoogdal silt loam, a non-hydric moderately well-draining soil typically occurring on terrace escarpments.

The OHWM was identified at the toe of slope along the transition from standing water and hydrophytic vegetation to upland dominated plant communities. While isolated uplands exist in the area between the channel and toe the “presence and action” of waters has left a distinct line upon the land which is reflected in the character of the soil and vegetation communities. The topographic location of the OHWM at the toe of slope provides an easily distinguishable point of reference for review purposes.



Photo 1 - View north showing active channel and cut left bank. Note erosion and recruitment of woody debris into channel.



Photo 2 – View north showing OHWM (dashed line) at toe of slope from 50 to 300 feet west of active channel.

It is our opinion that the area of shoreline management jurisdiction extends 200 feet landward of the OHWM as identified in the field and depicted on the site plan prepared by Semrau Engineering and Surveying.

Sincerely,

A handwritten signature in black ink, appearing to read "Oscar Graham". The signature is fluid and cursive, with the first name "Oscar" being more prominent than the last name "Graham".

Oscar Graham
Principal Ecologist/Shoreline Planner

References

Klungland M. W. and M. McArthur. 1989. Soil Survey of Skagit County Area, Washington. U.S.D.A. Soil Conservation Service, 372 pp. + maps.

Pojar J. and A. MacKinnon, 1994. Plants of the Pacific Northwest Coast Washington, Oregon, British Columbia & Alaska. Lone Pine Publishing, Vancouver B. C., 528 pp.

U.S. Soil Conservation Service. 1998. Skagit County Area Hydric Soils List. U.S. Department of Agriculture, 35 pp.

Washington State Department of Ecology, April 15-16, 2009. How to Determine the Ordinary High Water Mark; Coastal Training Program.