THE WATERSHED COMPANY

SCIENCE & DESIGN

July 24, 2007

Mr. Costas Antonopoulos
3400 Fremont Avenue North
Seattle, WA 98103

Re: **Wetland and Stream Delineation Study, TWC Ref# 070712**

Dear Mr. Antonopoulos:

On July 17, 2007, The Watershed Company Ecologists Mike Foster and Nell Lund conducted a wetland and stream delineation study on the property located at 20003 – 24th Avenue NE in the City of Shoreline (parcel 0100100110) and the adjacent Ballinger Open Space (parcel 0426049046), which is owned by the City.

This letter summarizes the findings of this study and details applicable federal, state, and local wetland regulations. The following attachments are included:

- Wetland Delineation Sketch
- Wetland Determination Data Forms

Methods

The subject property was evaluated for wetlands using methodology from the *Washington State Wetlands Identification and Delineation Manual* (Manual) (Washington Department of Ecology [Ecology] 1997). Wetland boundaries were determined on the basis of an examination of vegetation, soils, and hydrology. Areas meeting the criteria set forth in the Manual were determined to be wetland. Soil, vegetation, and hydrologic data were sampled at several locations on the property to make the determination. We recorded data at two of these locations.

Wetland delineation points are marked with pink- and black-striped flags. The eastern boundary of Wetland A, adjacent to the subject property, is marked with 8 flags. Data points are marked with yellow- and black-striped flags.

The wetland was classified according to Shoreline Municipal Code (SMC 20.80.320). Field observations and aerial photos from King County's GIS mapping website (iMap) were used to rate wetlands found on the subject site.

The stream ordinary high water mark (OHWM) on the subject property was determined based on the definition provided by the Washington Department of Fish and Wildlife (WDFW) and WAC 220-110-020(57). The OHWM is located by examining the bed and bank physical characteristics and vegetation to ascertain the water elevation for mean annual floods. Areas meeting the WDFW definition were determined to be the OHWM edge.

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The eastern bank OHWM of Stream A, adjacent to the subject property, was marked with 7 blue- and white-striped flags. The stream was classified according to SMC 20.80.470. We used field observations and King County watershed maps to classify the subject stream.

Findings

The subject property is north of Lake Washington in the Cedar-Sammamish watershed (WRIA-08). No wetlands were found on the subject property, which is vegetated with ornamental shrubs, lawn grasses, white clover (*Trifolium repens*) and dandelion (*Taraxacum officinale*). However, the adjacent City-owned parcel contains a wetland and stream, referred to here as Wetland A and Stream A.

Stream A is a perennial unnamed tributary of McAleer Creek. The bed of Stream A is composed of gravel and sand and the stream bed slopes down gradually to the south. Stream A is approximately 4 feet wide. The presence of salmonids in the McAleer Creek watershed (site A432) has been noted by King County Department of Natural Resources (DNR) per studies conducted by Kerwin 2002.

Wetland A is a riverine wetland; the primary sources of hydrology are overbank flooding and groundwater. Wetland A contains palustrine forested and palustrine scrub-shrub vegetation patches. Forest cover is dominated by red alder (*Alnus rubra*) and black cottonwood (*Populus balsamifera*). Western red cedar (*Thuja plicata*) is also present. The understory and shrub patches are dominated by salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus*) and twinberry (*Lonicera involucrata*). Emergent cover is composed of giant horsetail (*Equisetum telmateia*), lady fern (*Athryium filix-femina*), false-lily-of-the-valley (*Maianthemum dilatatum*) and skunk cabbage (*Lysichiton americanus*). The soil at a 10 inch depth inside Wetland A (see Delineation Sketch, DP-1) is a black (10YR 2/1) sandy loam with a strong sulfidic odor. The soil was saturated to the surface and free water was at an 8 inch depth on the day of our site visit.

West of the wetland boundary (see Delineation Sketch, DP-2) the soil is a very dark brown (10YR 2/2) sandy loam. The soil was not saturated on the day of our site visit. Himalayan blackberry and giant horsetail dominate the area. Morning glory (*Convolvulus* sp.), Canada thistle (*Cirsium arvense*) and lady fern are also present.

A rip-rap armored ditch runs east-west along the south property boundary. The ditch contains Himalayan blackberry, cattails (*Typha latifolia*), sedges (*Carex* spp.) and watercress (*Rorippa* sp.). Where the land was not excavated on either side of the ditch, lawn grasses, dandelion and clovers vegetate the area. The ditch receives culvert runoff channeled from paved roads on slopes north and east of the property. The ditch is a man-made feature that appears to have created wetland beyond the delineated historic wetland boundary. The ditch was not flagged as wetland.

Local Regulations

The City of Shoreline regulates wetlands and streams through the Shoreline Critical Areas Ordinance. Wetland and stream buffers are determined based on the type associated with the wetland or stream. Wetland classification is based on local significance, habitat complexity and size in accord with SMC 20.80.320. Streams classification is based on the City of Shoreline Master Program, salmonid use and flow conditions (SMC 20.80.470).

Stream A is not identified as a Shoreline of the State. However, it is a fish passable tributary of McAleer Creek as its gradient is less than 16 percent and it has a channel width exceeding 2 feet. Therefore, Stream A is a Type II stream. Type II streams in the City of Shoreline require a standard buffer width of 115 feet. The standard stream buffer may be reduced to the minimum buffer width of 75 feet if the applicant shows that "the small buffer is adequate to protect the stream functions and implements one or

more enhancement measures to result in a net improvement to the stream and buffer" (SMC 20.80.480(C)). Stream enhancement measures may include planting native vegetation in the buffer, adding snags or large woody debris to create habitat for waterfowl and fish.

Wetland A is not a natural heritage wetland, is not documented as habitat for a priority species, does not contain large patches of open water, and does not have rare plant communities characteristic of a bog. Since Wetland A is larger than one acre and does not meet the Type I wetland criteria, it is therefore a Type II wetland. Type II wetlands in the City of Shoreline require a standard buffer width of 115 feet. The standard wetland buffer may be reduced to the minimum buffer width of 75 feet if the applicant can demonstrate that the proposed land use is low impact and wetland buffer enhancement results in equal or greater buffer functions. Low impact land uses would not include parking, use of machinery or storage of chemicals. Enhancement may involve removing invasive plant species, planting native vegetation, etc. Any plan to reduce standard buffer widths must be approved by the City of Shoreline.

State and Federal Regulations
Wetlands and streams are also regulated by the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act. Any filling of Waters of the State, including wetlands (except isolated wetlands), would likely require notification and permits from the Corps. The Corps would not consider this wetland isolated. Federally permitted actions that could affect endangered species (i.e. salmon or bull trout) may also require a biological assessment study and consultation with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service. Application for Corps permits may also require an individual 401 Water Quality Certification and Coastal Zone Management Consistency determination from Ecology.

In general, neither the Corps nor Ecology regulates wetland buffers.

Please note that the findings of this letter, including wetland classification and resulting buffer width predictions, are subject to the verification and agreement of local, state and/or federal regulatory authorities.

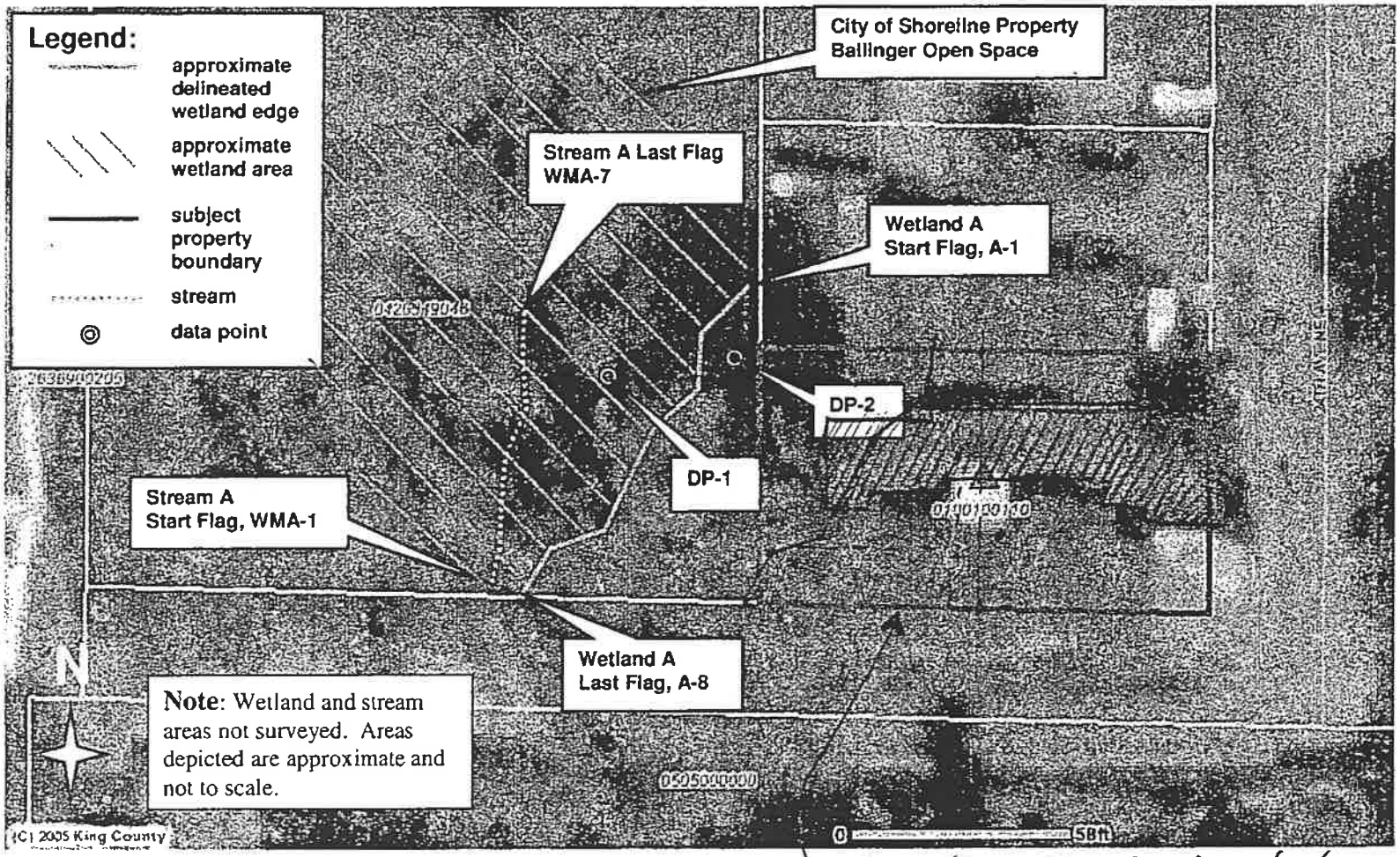
Please call if you have any questions or if we can provide you with any additional information.

Sincerely,

Nell Lund

Nell Lund
Ecologist

Enclosures



can driveway be located on this side?

Wetland Delineation Sketch
(parcel number 0100100110)
20003 – 24th Avenue NE
City of Shoreline, Washington
Prepared for Costas Antonopoulos
July 17, 2007

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