THE WATERSHED COMPANY

February 26, 2016

Jon Regala
City of Kirkland Planning Department
123 5th Avenue
Kirkland, WA 98033

Re: Village at Totem Lake, Wetland and Stream Delineation Review

The Watershed Company Reference Number: 140622.37

Dear Jon:

This letter presents our peer review findings of the wetland and stream delineation study for the proposed Totem Lake Mall redevelopment (*Totem Lake Mall Redevelopment, Kirkland, Washington Existing Site Conditions.* Talasaea Consultants, Inc. September 28, 2015) (Talasaea Study). Also reviewed was the *Totem Lake Twin 42-inch Culvert Replacement Project – Wetland and Stream Assessment* (CH2MHILL, October 8, 2012) (CH2MHILL Study). The Talasaea Study identified and delineated one wetland (Wetland A) and one stream (Stream 1). The CH2MHILL Study identified but did not delineate one wetland/stream (Wetland B – Settling Basin), in addition to other wetland and stream features that were not assessed as part of this review. Talasaea's Wetland A was outside the CH2MHill study area. Stream 1 (Talasaea Study) and Wetland B – Settling Basin (CH2MHILL Study) are the same feature. I conducted a field review of these features on February 9, 2016.

Wetland A

The Talasaea Study identified and delineated a "marginal" slope-type wetland (Wetland A) in the northeast corner of the study area, despite a lack of wetland hydrology at the time of their study. Following a review of the delineated wetland, we confirm that the flagged wetland boundary is accurate. Surface soil saturation and a very high groundwater table was present at the time of the early February review inspection. Talasaea classified Wetland A as a Type 3 wetland with a standard 50-foot buffer. We agree with the classification; however, one additional point should be added to the total score of 14 points:

- Question #6 – Habitat features: The Talasaea Study did not identify any habitat features for this question. However, there are "*at least 3 downed logs per acre*" in Wetland A. This question should receive one point, and the total score revised to 15 points.

The Talasaea Study also prepared the *Western Washington Wetland Rating System 2014 Update* (Washington Department of Ecology, January 2015) and determined Wetland A is a Category IV

wetland. We agree with the Category IV classification, although two minor discrepancies are noted:

- Question H 1.3. Richness of plant species: Talasaea recorded fewer than five species, allocating zero points. We observed more than five species, including red-osier dogwood, black cottonwood, cascara, English hawthorn, Himalayan blackberry, and soft rush. The correct answer to this question is "*5-19 species*," and one point should be allocated.

- Question H 1.5. Special habitat features. Talasaea recorded one special habitat feature, "*Invasive plants cover less than 25% of the wetland area in every stratum of plants,"* allocating one point. The wetland also contains "*large, downed woody debris within the unit (>4 inches diameter and 6 ft long)*" (see Photo 1). One additional point should be added to this question, for a total of two points.

- The total score for H 1 should be revised to five points to reflect the changes above. Five points still qualifies as "low" function, and the change does not reflect the cumulative scoring or classification of Wetland A.

- No figures were provided with the rating form. Ecology will not accept the 2014 rating form without the required figures. These should be completed and included with a revised report.

Kirkland Zoning Code (KZC) Chapter 90.40.3.b requires a professional survey depicting the wetland boundary and its buffer on a map. The Talasaea Report does not appear to contain a survey of Wetland A. The surveyed map should be added to a revised report.

Stream 1 / Wetland B – Settling Basin

Talasaea identified and delineated this feature (Stream 1) as an open channel segment of a small, unnamed tributary to Juanita Creek, noting that the alternately piped and open channel segments convey flow from Totem Lake to Juanita Creek. Talasaea classified Stream 1 as a fish-bearing (Class A) stream, per KZC. CH2MHILL identified this feature (Wetland B – Settling Basin) as both a wetland (Type 3) and a stream (Class B). Following completion of the field review, it is our determination that the feature does not satisfy wetland criteria, and Talasaea was correct in delineating the feature as a stream. No soil saturation was present above the OHWM during the February 2016 review inspection. Vegetation commonly associated with wetlands (red-osier dogwood, willows) is present along the stream margins, but the roots are located below the ordinary high water mark (OHWM). Dominant vegetation above the OHWM is generally composed of facultative-upland plant species, such as snowberry, osoberry, and Himalayan blackberry, with some facultative-wetland species interspersed (reed canarygrass and spirea); however, the most of the plants appear to be part of a managed plant community, and the reed canarygrass and spirea are aggressive species that are often found outside of

wetlands. Conditions in the feature have changed significantly since the CH2MHILL Study, likely a result of the culvert replacement project for which the study was performed. Vegetation has been removed and added; soil has been disturbed, steel sheet piles have replaced the previous banks; and water fluctuations are likely significantly altered. Therefore, the previously-confirmed wetland conditions are no longer present.

We also agree with Talasaea that the Stream 1 should be classified as a Class A stream. Juanita Creek and downstream portions of Stream 1 are documented salmon-bearing streams. A man-made flow control structure just upstream of 103rd Place NE serves as a complete fish passage barrier, and several culverts serve as partial fish passage barriers. However, as man-made barriers, these structures could feasibly be removed, thus re-establishing coho salmon and cutthroat trout usage in upstream segments of Stream 1. There are no natural migration barriers anywhere along Stream 1 that would otherwise preclude fish use in the study area. For the purposes of municipal stream classification, the City of Kirkland interprets "salmonid use" to include upstream segments of documented salmon-bearing streams in which salmonid usage is only limited as a result of man-made barriers (Jeremy McMahon, City of Kirkland, personal communication 1/13/2014).

The CH2MHILL Study notes that the ponded, low-flow conditions present in Stream 1, particularly during the summer months, lead to water quality concerns (increase pollutants, low dissolved oxygen, high water temperatures, and algal blooms) that are not conducive to use by salmonid fish. The CH2MHILL Report concludes, "*These types of conditions are not conducive for use by native fish, such as salmonids or sculpins, and even limit the use by non-native fish and amphibians due to a lack of food production. Therefore, if downstream fish passage issues are ever resolved, the current state of the stream habitat would not be able to support a native resident or anadromous fishery. Given the topography and urbanization of the area, however, it is likely that a native resident population of trout, sculpins, sticklebacks, and some minnow species would probably be the most likely scenario.*"

In the event that downstream fish passage issues were resolved, migration between the current salmonid bearing stream segments, the beaver pond wetland areas associated with Stream 1 just west of I405, and access to Totem Lake would be restored. If connectivity were restored, Totem Lake would provide quality rearing habitat for juvenile coho salmon, which prefer to overwinter in low energy systems, such as beaver ponds. Stream 1 in the study area could provide winter habitat or, at a minimum, serve as a migration corridor for overwintering juvenile coho salmon, if downstream barriers were removed. High temperatures, low dissolved oxygen, and algal blooms are not as problematic when water temperatures are low during the winter months. Furthermore, as the CH2MHILL Study notes, "*it is likely that a native resident population of trout*" could return to the system. KZC 90.30.12 defines "salmonids" as "*a member of the fish family Salmonidae, which include chinook, coho, chum, sockeye, and pink salmon; rainbow, steelhead, and cutthroat trout; brown trout.*" Class A stream designations are not dependent upon

anadromous fish, only on members of the Salmonidae family. Therefore, Stream 1 in the study area is considered a Class A stream, per KZC. Class A streams in a primary basin (e.g., Juanita Basin) are required to have a standard buffer width of 75 feet, as described in the Talasaea Report. The CH2MHILL Study incorrectly classifies the feature as a Class B stream with a 50-foot buffer. While The Watershed Company participated in some aspects of the culvert replacement project, we were not asked to review the findings of the CH2MHill delineation study.

While we agree with the classification of Stream 1, the OHWM flags placed by Talasaea are generally too far outside the channel, particularly along the northern (right) bank. Several of the OHWM flags are tied to the fence surrounding Stream 1, and the majority of those tied to vegetation are significantly higher than the OHWM, encompassing most of the vegetated area within the fencing. As evidenced by the water marks on the sheet piling in Photo 2, the OHWM is approximately one to two feet outside the water levels present during the review inspection. Several of the Talasaea OHWM flags are located five to six feet above the water levels on the north bank (Photo 3). The OHWM flags should be relocated to more accurately reflect the existing condition.

Please call (425) 822-5242 if you have any questions or if we can provide you with any additional information.

Sincerely,

Ryan Kahlo, PWS
Ecologist

Enclosures

Photo 1: Wetland B, facing northeast

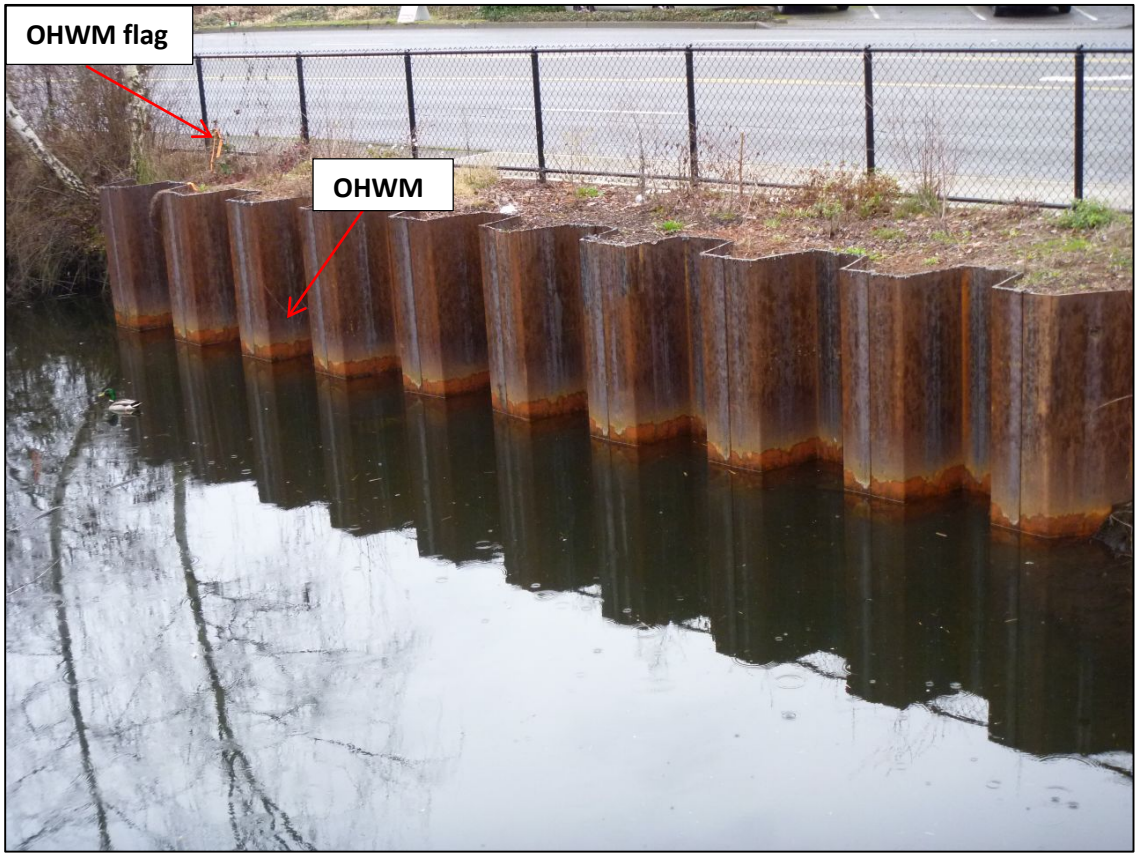

Photo 2: Stream 1, south (left) bank, facing southeast

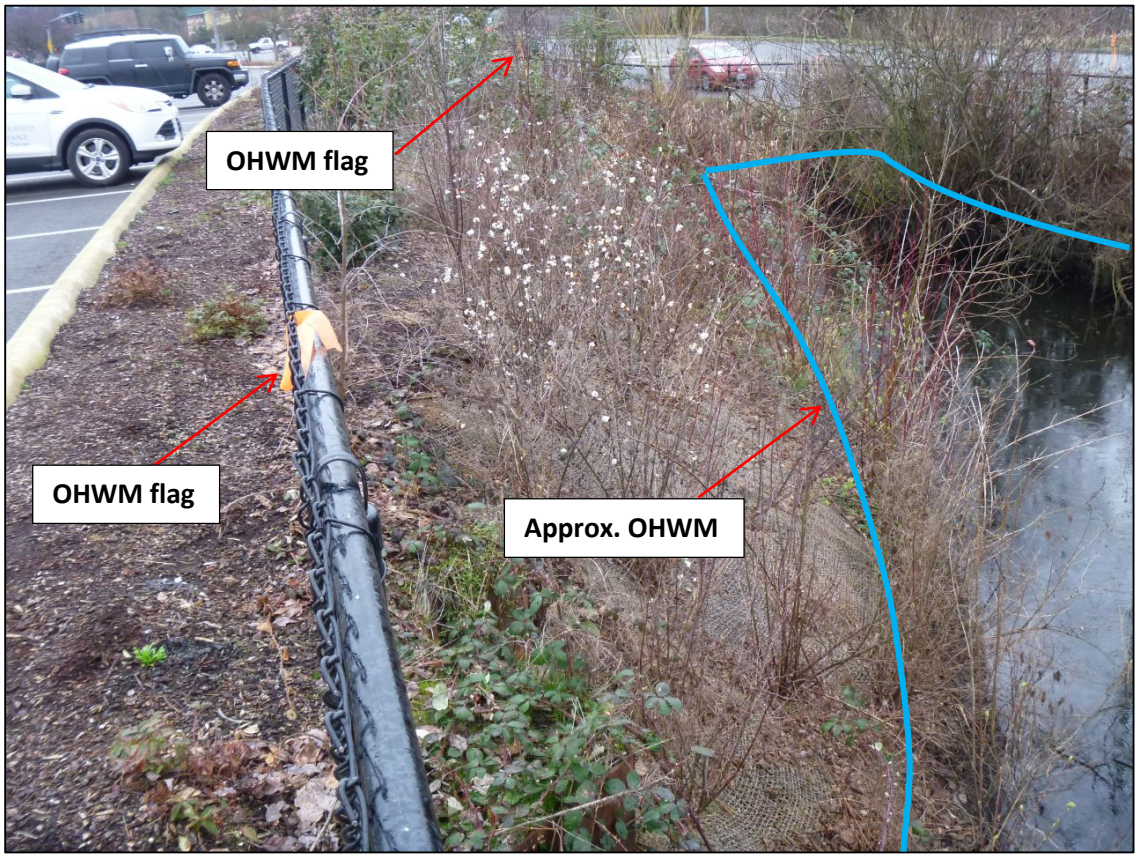

Photo 3: Stream 1, facing east

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