

Technical Memo

WEST Consultants, Inc.
2601 25th St. SE
Suite 450
Salem, OR 97302-1286
(503) 485 5490
(503) 485-5491 Fax
www.westconsultants.com



Name: Eric Yakovich, MBA
Economic Development Manager

Company: Port of Kalama

Date: October 27, 2017

From: Hans R. Hadley, P.E., L.G., CFM
Senior Hydraulic Engineer

Subject: Review of Central Port Stormwater Management Improvements Project with Respect to Potential Impacts to the FEMA Base Flood Elevations for the Columbia River



Expires 12/5/18

The Port of Kalama is planning to improve the stormwater management facilities in the Central Port area, located at approximately 1253 NW 3rd Street, in Kalama, Washington. A review of the proposed project, developed by Carpenter Engineering, Inc. (dated 10-24-2017), was conducted to understand if the planned improvements would have any impacts to the FEMA base flood elevations for the Columbia River. The project involves two primary elements; the abandonment and fill of an existing stormwater collection ditch and the construction of stormwater infiltration ponds.

The existing stormwater collection ditch is located in the 100-year (1-percent annual chance) floodplain of the Columbia River (see **Figure 1**). It will be filled with approximately 1,000 cubic yards of material and topped with asphalt such that the new ground surface will be more or less at the same elevation as the existing surrounding ground. The existing ditch does not provide for conveyance of flood waters and the top elevation of the fill will be below the base flood elevation. This will allow the interaction of flood waters between the main channel and the overbank area to be essentially the same as under the existing condition. Therefore, the fill is not expected to cause a rise in the 100-year flood elevation. The volume of the proposed fill is considered to be

insignificant compared to the volume of flood waters that are conveyed down the Columbia River during the 100-year flood. Therefore, the minute loss of floodplain storage is not expected to cause a measureable change in the downstream flow rate and is therefore not expected to result in a measureable rise in downstream base flood elevations.

The stormwater infiltration ponds (see **Figure 1**) will be located outside of the effective FEMA 100-year floodplain. Therefore, there will be no impact to the effective FEMA base flood elevations due to the construction of the stormwater infiltration ponds.

In summary, it is my professional opinion that the Central Port Stormwater Improvements project will not cause a rise in the FEMA base flood elevation for the Columbia River. A No-Rise Certification is provided in **Figure 2**. If you have any additional questions or concerns, please do not hesitate to contact me at 503-485-5490 or hhadley@westconsultants.com.

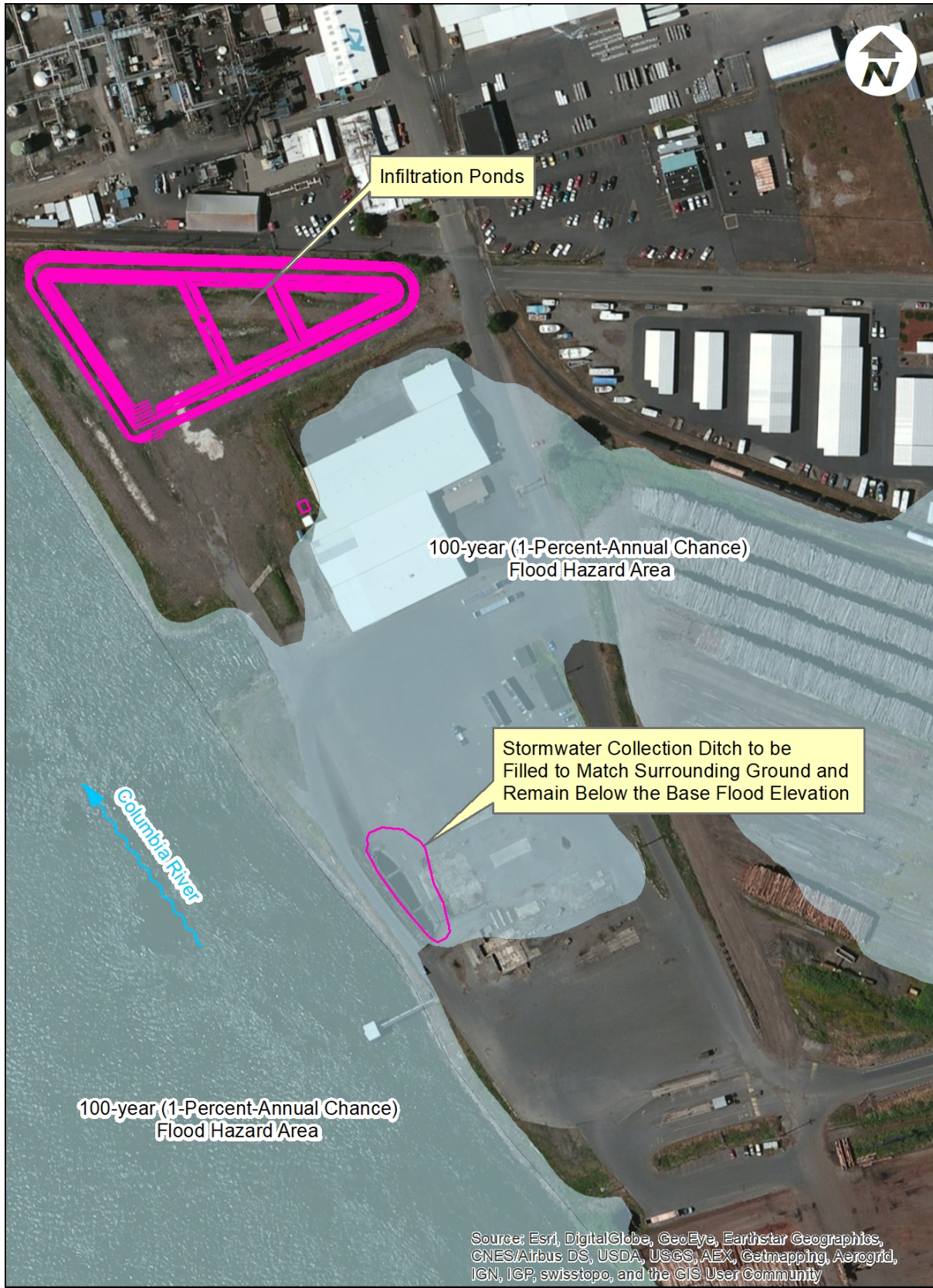


Figure 1 – Map showing location of primary features of proposed Stormwater Improvements Project

FIGURE 2 - ENGINEERING NO-RISE CERTIFICATION

This is to certify that I am a duly qualified engineer licensed to practice in the State of Washington.

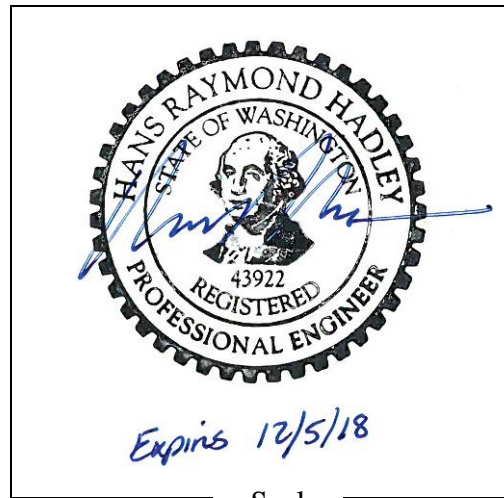
It is to further certify that the proposed Central Port Stormwater Improvements Project located at approximately 1253 NW 3rd Street, in Kalama, Washington will not impact the 100-year flood elevations at published cross sections in the Flood Insurance Study for Cowlitz County, WA dated 12/16/2015 and will not impact 100-year flood elevations at unpublished cross sections in the vicinity of the proposed project.

Hans R. Hadley, P.E., CFM
Name

Senior Hydraulic Engineer
Title

WEST Consultants, Inc.
2601 25th Street SE, Ste 450
Salem, OR 97302
Address

October 27, 2017
Date



Seal