

**Cashmere Levee Management Plan
Mitigation Plan**

December 2019

Submitted By: Chelan County Flood Control Zone District and City of Cashmere

This Mitigation Plan should be read in conjunction with the Cashmere Levee Management Plan (dated May 15, 2018) to demonstrate how the project complies with the required Washington Fish and Wildlife mitigation requirements. A link to this document is provided below:

<https://www.co.chelan.wa.us/flood-control-zone-district/pages/cashmere-levee-management-plan>

The City of Cashmere is protected by three levees which were constructed in the early 1950s by the Washington State Department of Transportation (WSDOT) and US Army Corps of Engineers (USACE) for the construction of US 2 Highway through Cashmere. To construct US 2 Highway, WSDOT and USACE had to shift and realign the Wenatchee River south to its current location. Levee Segments 1 and 2 currently protect over \$8 million of residential, commercial, and industrial development from Wenatchee River flooding, including a Chelan PUD substation. Levee Segment 3 currently protects the City's \$18 million waste water treatment plant, railroad mainline, and Kelly Road.

Vegetation on levees can benefit the river ecosystem through creation of habitat and shade. However, vegetation may pose a risk to the structural integrity of levees. For example, trees may threaten levee safety because roots could serve as a path for seepage, or trees could topple over in a storm or high water event and damage sections of a levee. Vegetation can also impede levee maintenance efforts and restrict the ability to inspect the levee surface and structure.

The Cashmere levees have not had vegetation maintained for numerous years, resulting in the growth of large trees and other vegetation. During the 2014 and 2016 USACE Continuing Eligibility Inspections, vegetation on Levee Segments 1, 2, and 3 was deemed unacceptable by inspectors. The USACE recommends that levee vegetation comply with ETL 1110-2-583, Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures (2014). As a result, Chelan County and the City of Cashmere are proposing to remove shrubs and approximately 50 trees, within the vegetation management zone of Levee #1 and #2 (see Cashmere Levee Management Plan for further details, including how minimization measures were utilized in this effort) in order to aid in inspections and decrease the likelihood of structural failure.

The disturbed vegetation management zone (shoreline) will experience several months to a few years of decreased shade from the removal of vegetation. The riparian corridor in the vegetation management zone sports a thin, discontinuous line of shrubs and trees of all sizes (both native and non-native), but the width and orientation of the river in the area means that trees only provide shade along the margin of the river.

As a result of maintaining Levee #1 and #2, mitigation is required. However, mitigating onsite is not feasible, as the goal of this project is decreasing the vegetation along the levee. As a result, the Chelan County and the City of Cashmere propose the following compensatory mitigation measures at two locations within the Wenatchee Basin (see enclosed project location figures):

Mitigation Location #1

Channel Migration Zone (CMZ) 12 & 13 is located at river mile 14.7 near Dryden, WA., in the Lower Wenatchee River basin (Township 24 North, Range 18 East, Section 36). In 2008, the Chelan County Natural Resource Department completed a project that included a levee breach, reconnection of off-channel habitat, and installation of large wood complexes in the existing high flow side-channel. This off-channel habitat restoration project introduced 1.7 acres of new off-channel refuge and enhanced 835 linear feet of high-flow channel habitat. Annual monitoring has indicated that additional riparian vegetation is warranted to provide increased shade. Native willow stakes are proposed to be harvested onsite and utilized for this effort. Approximately 100 live stakes will be planted throughout this location.

Mitigation Location #2

The Hagman Road mitigation site is located to the east of Hagman Road on a parcel owned by the City of Cashmere, within Chelan County (Township 24 North, Range 19 East, Section 32, parcel no. 241932430200). This site has been identified by the county's Natural Resource Department as a location adjacent to the Wenatchee River that lacks riparian shade cover, and as a result, additional vegetation is recommended. Native willow stakes are proposed to be harvested at CMZ 12 & 13 site and utilized for this effort. Approximately, 50 live stakes will be planted throughout this location.



N Cashmere Rd

US 2

Riparian Planting Area (approx.)

Hagman Rd

Cashmere

Evergreen Dr

Sunset Hwy

Fleming Ct

Goodwin Rd

Ruby St

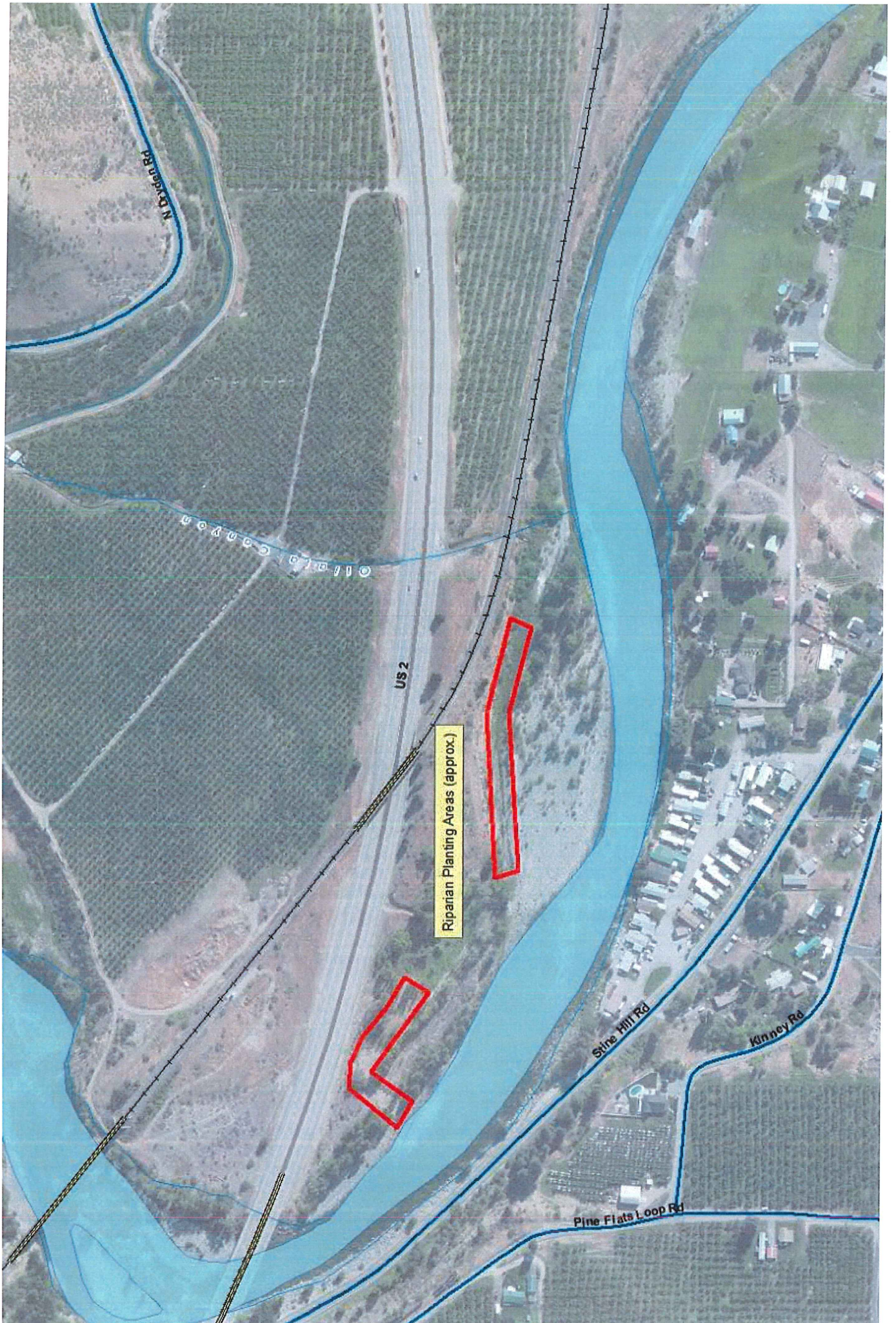
Larson St

Vale Rd

Simburst Ln

Hwy Canyon Rd

Wapiti River



N Cooper Rd

Olive Canyon

US 2

Riparian Planting Areas (approx.)

Sine Hill Rd

Kinney Rd

Pine Flats Loop Rd