



Memo

Date: January 21, 2022

To: Joshua Fredrickson PE, Kittitas County Road Engineer

From: Ken Wilson PE SE, Integrity Structural Engineering, PLLC

RE: Elk Meadows Emergency Bridge Repair Project

Summary of Bridge and Project Request

The existing Elk Meadows HOA Bridge spans the Yakima River and is a timber glulam bridge that also supports the community's waterline and is in need of emergency repair. The bridge is supported upon deep pile foundations, with steel cap beams, steel connected glulam girders, and a timber deck and curb/rail system. The two main span glulam girders were irreparably damaged in December 2021 with a proposed repair via two steel W36x135 girders hoisted from the west approach with girders placed either side of the existing waterline, and bolted steel diaphragms at 1/3 points of the span. During deck re-installation the waterline will be adjusted to support off the steel girders and the temporary pole/come-along utility support will be removed. The heavy existing 6x12 timber decking will be attached to the steel girders via new galvanized carriage bolts through-connected at every deck member following the US Forestry Service details and includes added longitudinal running boards. Salvaged and new curb members and bridge rails will be installed, again following US Forestry Service type details as previously provided in the calculation package. The project request is for the repair of an existing bridge with no new grading, no additional impervious surfaces, no new shoreline or wetland impacts, and no in-water work. This is repair of an existing private transportation facility involving no expansions or changes in use beyond that previously approved by the County Road Engineer and Board of Commissioners.

The bridge is the sole access to area houses, including emergency service and fire trucks, mail deliveries, propane gas delivery, and access to homes by the residents. The bridge access was constructed in 1960 with signed approval by the Kittitas County Road Engineer and Kittitas County Board of Commissioners in July 1963. Area residents have depended upon the bridge for 62 years and since the recent accident, they have had to access their homes and cross the river at grave risk. The bridge repair is requested to allow for emergency services, maintenance of internet, power, water, and for the community to safely access their existing homes.

Attachments:

- Stamped Engineering Plan & Calculation Package.
 - Vicinity Map included on Engineering Plan.
 - No new Grading is proposed.
 - Floodplain Development Permit Application 01/21/22.
 - Hydraulic Project Approval (2022-3-1+01) issued 01/19/22.
 - Shoreline Substantial Development Permit Exemption Application 01/03/22.
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