Pom Pom Road at Toppenish Creek Habitat restoration and fish passage project

Proposal for: WaterSMART Aquatic Ecosystem Restoration Projects for Fiscal Year (FY) 2023

Yakama Nation, PO Box 151, Toppenish, WA 98948

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Toppenish Creek channel in the Pom Pom Road habitat restoration project area. Photo shows simplified and entrenched channel with scant aquatic or riparian habitat. The main flow of the creek will be re-routed into an existing, historic channel with high quality fish habitat.

Contents

EXECUTIVE SUMMARY

Date: May 22, 2023

Applicant: Yakama Nation, Category A Tribal applicant

Task Area: B, Construction

City, County, State: White Swan, Yakima County, Washington State

The Pom Pom Road project is designed to restore aquatic habitat and full fish passage on Toppenish Creek, a tributary of the Yakima River that supports ESA Threatened middle Columbia River steelhead and Pacific lamprey. The steelhead population has been steadily declining in recent years, and urgent action is needed to restore the run before it reaches a critically low threshold. Restoration is necessary to meet Treaty fishing rights of the Yakama Nation, and could increase recreational fishing opportunities in downstream rivers as well. The project addresses stream habitat degradation caused by ill-advised creek re-routing in the early 1900s, and subsequent downcutting and disconnection of the floodplain from the channel. The current crossing of Pom Pom Road, a single undersized bridge, provides too little flood conveyance and sediment continuity for habitat forming processes to function, and the degraded stream channel offers little or no fish habitat as a result. Project objectives focus on restoring aquatic habitat quality and quantity and functioning stream processes, and on providing full passage at all flow conditions. Crossing infrastructure will be dramatically improved by installing a 150-foot bridge and 3 new box culverts, which cumulatively will increase flow conveyance width by 2.7 times over the current single bridge configuration. The increased conveyance will allow for natural stream processes and sediment transfer in the project reach. The channel will be moved out of its current artificial route back into 1.7 miles of historic channel, conferring instantaneous habitat benefits as this channel possesses complex stream habitat, is well connected to its floodplain, and traverses high-quality riparian forest. In addition, a coldwater springbrook one third of a mile long will be reconnected to this new channel alignment, as well as 0.4 miles of groundwater fed off-channel habitat. In total, the project will replace 1.6 miles of degraded, very low quality habitat with 2.4 miles of high quality, complex, rearing and spawning habitat. It will also correct passage problems through proper placement of the new, and larger, culverts and the larger bridge opening. In addition, it will reconnect 100 acres of floodplain forests to natural flooding. In sum, the Pom Pom Road project provides large scale and sustainable benefits for and ESA listed, and Tribally valued species, in an Integrated Plan high priority focus area.

PROJECT LOCATION

The Pom Pom Road at Toppenish Creek Habitat Restoration project is located within the Yakama Reservation, in Yakima County, Washington (46.341043, -120.711665). It lies approximately 3 miles southeast of the town of White Swan along both banks of Toppenish Creek.

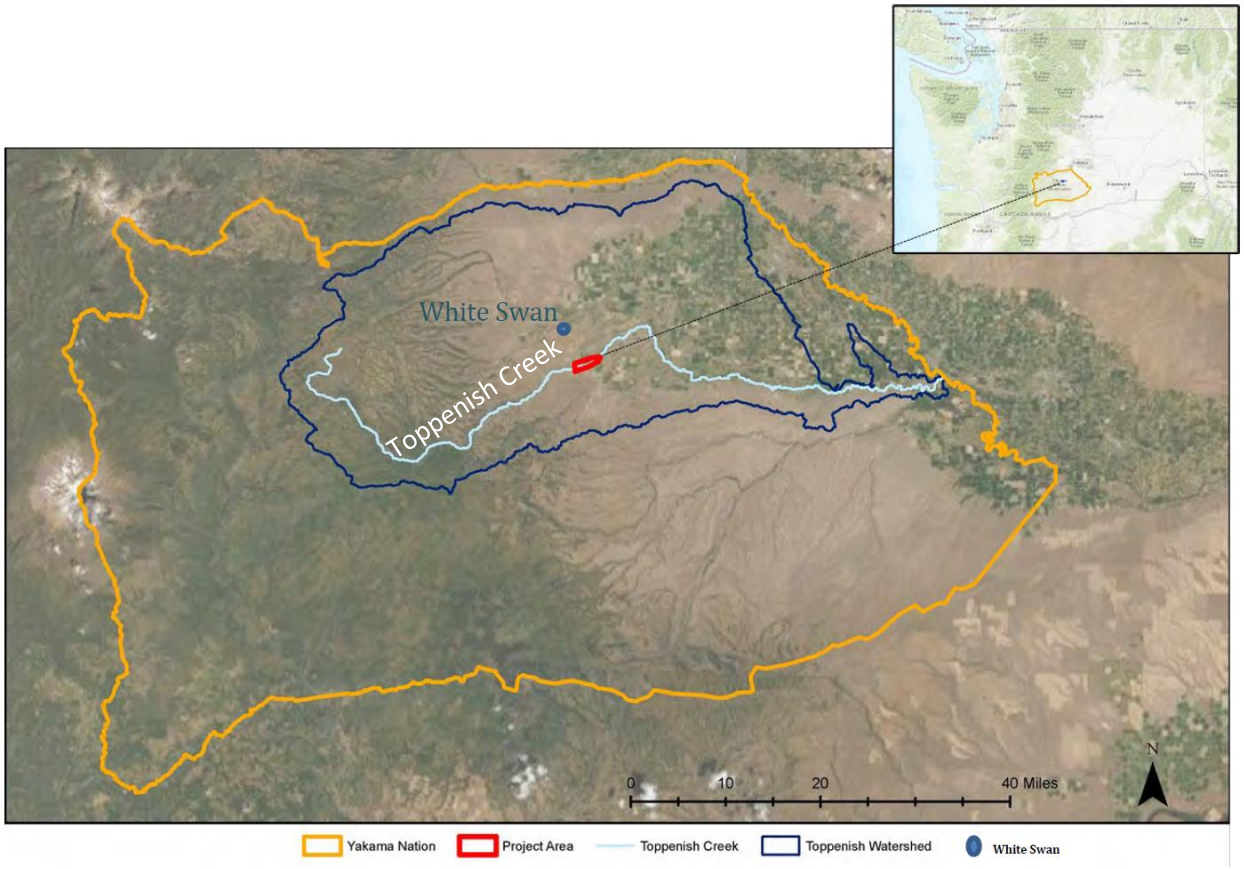


Figure 1. Location map of project showing the Yakama Reservation in the lower Yakima Valley. The town of Yakima is located immediately off the map to the north.

TECHNICAL PROJECT DESCRIPTION

Background and Site Description

The Toppenish Creek aquatic habitat restoration project area includes approximately 210 acres of historical floodplain along the Toppenish Creek between river miles 38.5 and 40.5 (figure 2). Toppenish Creek is about 70 miles long and is a tributary of the Yakima River. (Figure 1). NOAA designated critical habitat for middle Columbia River ESA threatened steelhead extends over 66 miles of the creek, including spawning and rearing habitat in the project area. Irrigation diversions, roads, bridges, and agriculture have disconnected the main channel of Toppenish Creek from its floodplain, and in the project area the main creek channel was shifted one half

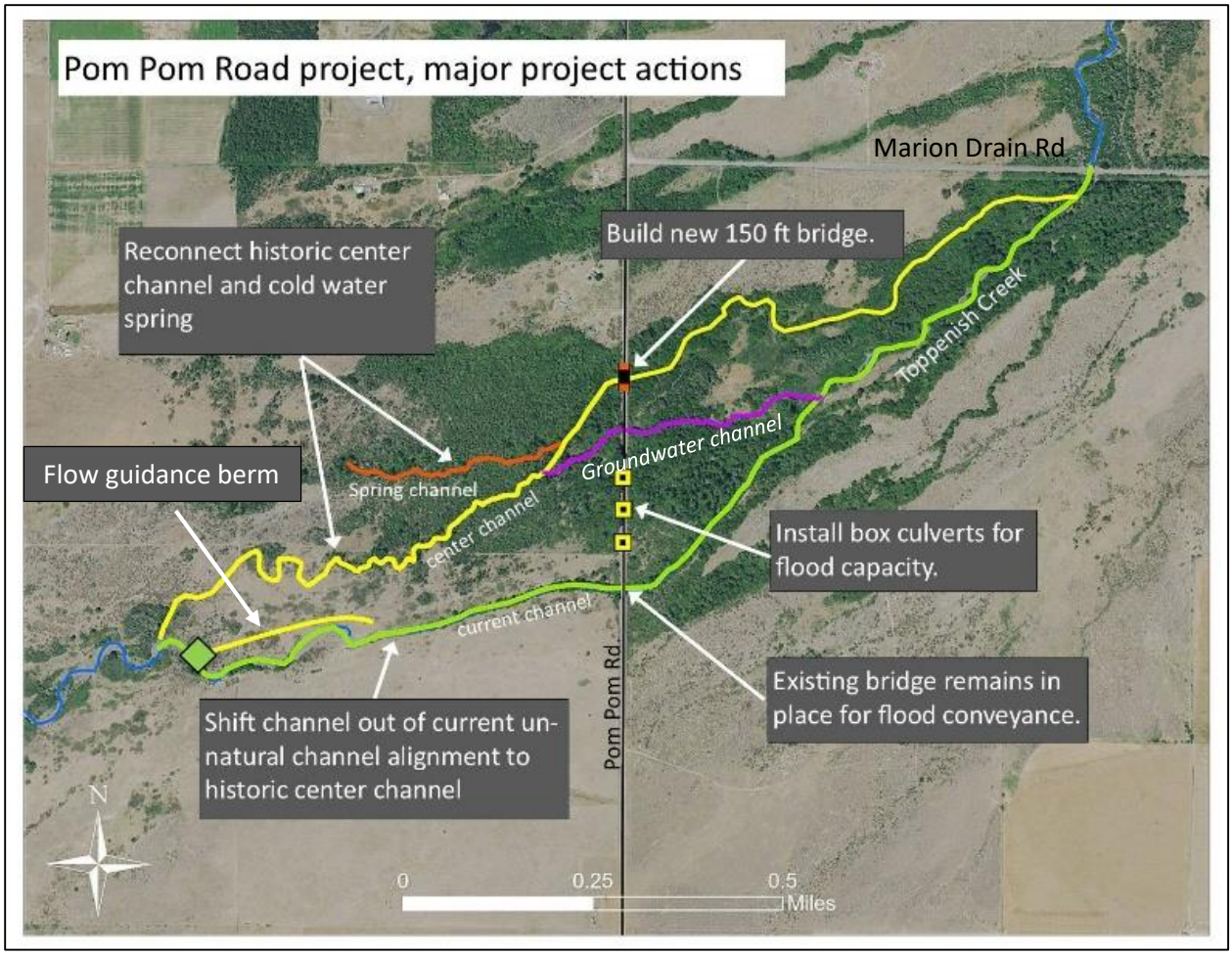


Figure 2. Project area showing major project elements. Green is the current degraded channel, yellow is the historic channel where the channel will be re-routed, orange is a springbrook, and purple is off-channel groundwater fed habitat.

mile to the south in the early 1900s, presumably to allow for larger areas of farming or grazing on the floodplain. An undersized bridge on Pom Pom Road crosses the creek and has combined with the unnatural channel alignment to cause channel incision of 15 feet over one half miles of channel, and essentially eliminate aquatic habitat in this reach. This is shown by the fact that in over 20 years of spawning surveys in which steelhead redds were counted, no redd has been found in the degraded reach; however, redds have been noted up and downstream of this reach (figure 3). This data conforms with observations of channel conditions; the reach upstream of Pom Pom road is extremely entrenched, with high water velocities during floods and a featureless channel bed with near zero habitat features such as pools, large wood, or riffles. In addition, the reach has little to no shade from riparian trees, leading to high water temperatures in the warm months. Figure 4 shows a representative section of this severely degraded stream reach.

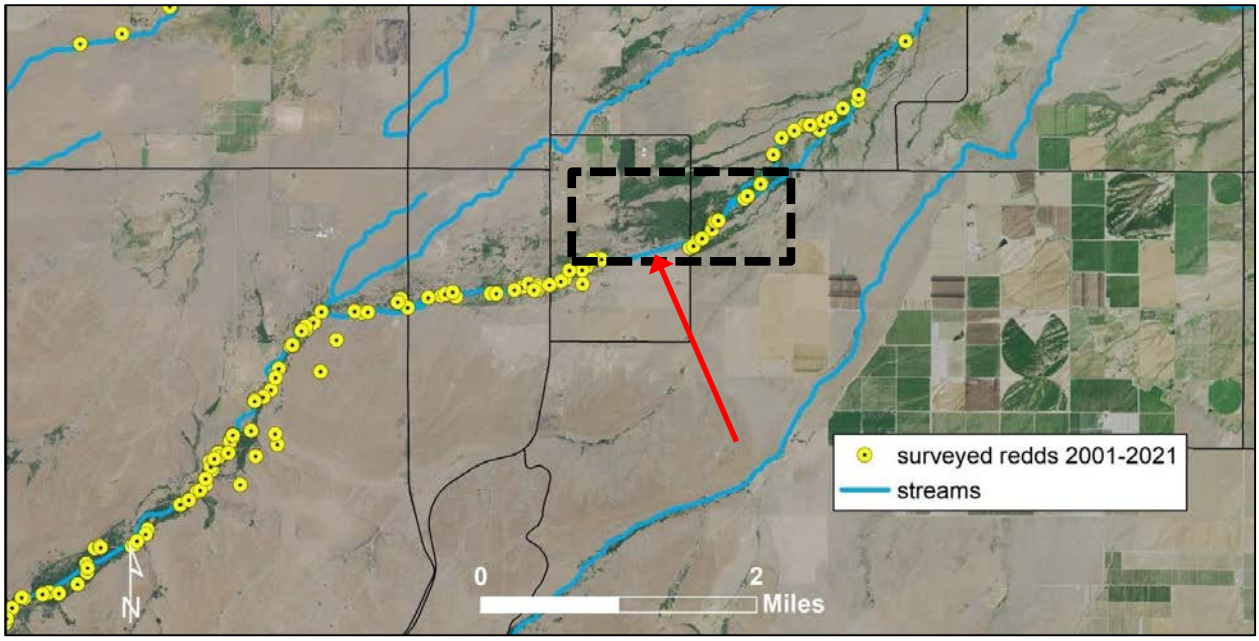


Figure 3. ESA Threatened middle Columbia steelhead redds counted over 20 years of surveys in and adjacent to the project site. Note that no redds have been detected in the degraded project reach, shown by the red arrow. Project area is shown by the black dotted line.

Figure 4. Degraded habitat in the south (current) main channel, where the stream was moved to in the early 1900s. The yellow dotted line shows the boundary between incised stream bed materials and fine overbank material in the topographically high area the channel was routed through.

Fortunately, Toppenish Creek has a natural flood regime, and instream flow rules have limited the impact of upstream irrigation diversions on low flow conditions. In addition, the historic stream channel still exists topographically, and has good channel conditions including complex habitat features, cold water side channels, a good connection to the floodplain, and dense riparian forest. Thus the idea of moving the creek back to the historic channel, and increasing flood conveyance to restore natural stream function, was an attractive concept for restoration at the site.

Goals and Objectives

The overarching goal of this project is to improve channel and floodplain conditions to restore high-quality habitat for native fish and wildlife, and to enhance wetland and riparian floodplain ecosystems. Objectives are:

1. to the extent possible, increase high quality spawning and rearing habitat for steelhead and lamprey over 2.4 stream miles
2. restore natural stream and floodplain functions through increasing flood conveyance width over 2.7 times under Pom Pom Road.
3. reduce or not increase flood hazard for properties adjacent to the project area.

Project Design

Criteria:

A list of design criteria developed for the project area incorporates site conditions, project area objectives, construction impacts, infrastructure constraints, property owner concerns, and feasibility. Design criteria serve three primary purposes: 1) to clearly document and communicate specific project objectives and constraints, 2) to help inform and guide the design process so that objectives are met, and 3) provide a basis for future performance monitoring. The following criteria have been developed:

Ecology/Geomorphology/Hydrology

- Increase the quantity and quality of main channel and off-channel rearing, spawning, and migratory habitat for ESA threatened Mid-Columbia steelhead, and Pacific Lamprey
- Reactive historical flow paths to and off-channel habitat to reconnect groundwater seep at toe of Toppenish alluvial fan.
- Improve fish passage through the Pom Pom Rd crossing(s)
- Improve riparian vegetation corridor function and the habitat it provides.
- Uplift aquatic and terrestrial ecology, including wetlands relevant to current and projected hydrologic and geomorphic regimes

- Allow for naturally dynamic and deformable processes to operate, within the constraints imposed by infrastructure and safety considerations
- Increase the frequency, duration, and magnitude of floodplain inundation to the extent possible, but within necessary limitations to protect existing infrastructure, nearby private lands, and utilities.
- Reestablish floodplain vegetation for short and long-term functions (nutrients, habitat, large wood recruitment, etc.)
- Support establishment of riparian forests and retention of large wood inputs within the project area
- Increase spawning-gravel sediment retention and bed form complexity
- Halt existing process of floodplain disconnection associated with the south (current) channel mainstem location. Maintain a primary flow-path during low flow conditions to reduce water temperatures and maintain wetted flow connection, when possible.
- Crossing Configuration at Pom Pom Rd:
    - Defined mainstem at low-flow as single thread channel
    - Provide channel and floodplain grade control at the crossings
    - Provide fish passage at the crossings

Engineering and Risk

- Do not increase 100-year flood inundation extent or depth at Signal Peak Rd bridge or Marian Drain Rd bridge.
- Do not increase erosion potential at Signal Peak Rd bridge (upstream) or Marian Drain Rd bridge (downstream).
- Do not increase flood risk to private property to the north of the project area
- Potential to increase flood inundation of fields south of the project area – to be defined by YRWP. Increased flooding will have no negative effect but may improve pastures.
- Protect sensitive cultural resources identified by Yakama Nation at the site and design for cultural resource established buffers or otherwise.
- Provide access to water (off channel or on channel) for cattle of adjacent land-owner on south side of the project area
- Crossing Configuration at Pom Pom Rd:
- Maintain 3 feet of freeboard from bottom of bridge girders for modeled 100yr Q
- Maintain 0.5 ft freeboard at bridges for modeled 500 yr Q
- Request 0.5ft freeboard at culverts for modeled 500 yr Q, if possible
- Road can be raised at the north end to accommodate for modeled water surface elevations and to meet freeboard criteria request.

Construction Impacts

- Minimize impacts to native fish during the construction process by reducing the need for dewatering and worksite isolation during construction.
- Minimize impacts to native fish during construction by working with YN to perform fish salvage and relocation when needed.
- Locate and configure construction access routes to use existing access where possible and to minimize impacts to existing mature riparian vegetation, soil, and potential cultural resources.
- Work with onsite resources or plan floodplain alignments to take advantage of existing natural features where feasible (e.g., trees, low swales in landscape).
- Consider location of existing wetland and minimize impacts, where possible, while designing elements to uplift or expand the quantity of wetlands across the site.
- Work with YN to identify and conserve cultural resources.
- Construct new road crossings such that they pass the estimated 100-yr flood event and withstand the 500-yr.
- Build resilience into the planting plan by utilizing native species that are locally sourced and of diverse species composition.
- Retain all excavated material within YN properties.
- Do not increase risk of damage to existing infrastructure in proximity of project area.

Hydrologic Design Analysis-Peak Flow Analysis for Hydraulic Model Inputs

A hydrologic analysis that combines upstream gaged data with discrete discharge measurements and available past hydrologic analysis on Toppenish Creek was completed to develop an annual mean monthly discharge hydrograph and peak flood estimates for the project area. The Signal Peak Rd bridge at RM 40.9, immediately upstream from the project area, is the location selected for the hydrologic analysis because it represents the upstream contributing point to the project area. The nearest and most relevant gaged discharge data is from the USGS gage (USGS 12506000) approximately 5 miles upstream (RM 44.9) located immediately upstream from the Olney irrigation diversion and fish screen. The manual discrete discharge measurements were collected by Yakama Nation staff upstream of the Olney diversion, at the Signal Peak Road bridge, and downstream at the Shaker Church Road bridge from January 2015 to April 2020.

Peak flood discharge estimates at the upstream end of the project area (at Signal Peak Road) were completed using a variety of techniques. The design consultant performed a Log-Pearson Type III statistical distribution analysis using annual peak flood events to estimate flood frequency discharges (2, 5, 10, 25, 50, and 100-year flood events) at the Olney diversion using the USGS gaged data (USGS 12506000). The 1-yr and 2-yr flood events for

Olney were converted to flood discharge estimates at Signal Peak Rd using linear regression between flows at the two sites. Flood frequency discharges at Signal Peak Road were also estimated in StreamStats, which uses regional regression equations developed by the USGS (Mastin et al., 2016). The standard error reported for these estimates range between 77% for the 2-year return period event to 97% for the 100-year return period event. Another report also reported peak flow estimates in past assessment reports for generally the same location of the channel (Dickerson-Lange & Fischer, 2018). Due to standard and expected error inherent in the varied estimates, a flood event hydrograph was developed for hydraulic modeling purposes that includes discharges derived from the sources described above. The combined peak flood estimates are provided in Table 1.

Table 1. Peak flood event discharge estimates for the project site used in the hydraulic model. Source of estimate derivation provided.

Discharge (cfs)	Estimated Peak Flood Event	Source
472	2yr	1
756	2yr	2
819	2yr	3
839	2yr	4
1050	5yr	1
1600	10yr	2
2500	25yr	2
3350	50yr	2
4320	100yr	2

1. StreamStats at Signal Peak Rd (Mastin et al., 2016) – Inter-Fluve, this report (2020)
2. StreamStats at Pom Pom Rd – reported by NSD (Dickerson-Lange & Fischer, 2018)
3. Log Pearson III estimate – reported by NSD (Dickerson-Lange & Fischer, 2018)
4. Log Pearson III estimate for Signal Peak Rd (adjusted from USGS gage 12506000 Toppenish Creek near Fork Simcoe (above Olney Diversion)

Hydraulic Modeling

A hydraulic analysis was undertaken to explore multiple options and configurations for the project, including different sized bridges, different crossing routes for the new main channel, and different locations for new culverts. A wide range of flows were evaluated, from less than 1 year flows to 500 year floods.

The hydraulic analysis was conducted using a two-dimensional (2D) hydraulic model that was developed for existing and proposed conditions in the U.S. Army Corps of Engineers HEC-RAS 6.3.0 software (USACE, 2022), which can compute hydraulic properties related to the physical processes governing water flow through natural rivers and other channels. 2D hydraulic computations are typically superior to one-dimensional (1D) computations when detailed analysis of river systems with multiple channels or flow paths is required. 2D computations were chosen for the Toppenish Creek Pom Pom Road model to analyze flow routing, floodplain inundation, flow hydraulics, and the hydraulics associated with proposed design features. An existing conditions model was created to assess the current channel and floodplain dynamics, as well as assess the overall impacts of a wide range of flows on the existing landscape. Additionally, a variety (38) of proposed alternative conditions were modeled to assess implications of varying degrees of road removal and channel fill to support the selection and development of concept-level design treatments appropriate for the site and project design criteria. This analysis included estimating flood elevations used for sizing and cost analysis of bridge and culvert crossings. The chosen alternative is discussed further in Section 3.5.10.

HEC-RAS 6.3.0 was used in its two-dimensional (2D) unsteady flow simulation mode with the capacity to model complex flow patterns, on-site water storage, and temporally variable boundary conditions. The 2D hydraulic model calculates depth averaged water velocities (including magnitude and direction), water surface elevation, and mesh cell face conveyance throughout the simulation. Other hydraulic parameters, such as depth, shear stress, and stream power, can be calculated after the simulation. The model does not simulate vertical variations in velocities or complex three-dimensional (3D) flow eddies.

The project reach model extends from approximately 0.5 miles upstream of the project area at Signal Peak Rd bridge and 0.3 miles downstream to the Marion Drain Rd bridge. The model domain extends laterally to elevations high enough to contain the modeled 500-year flood.

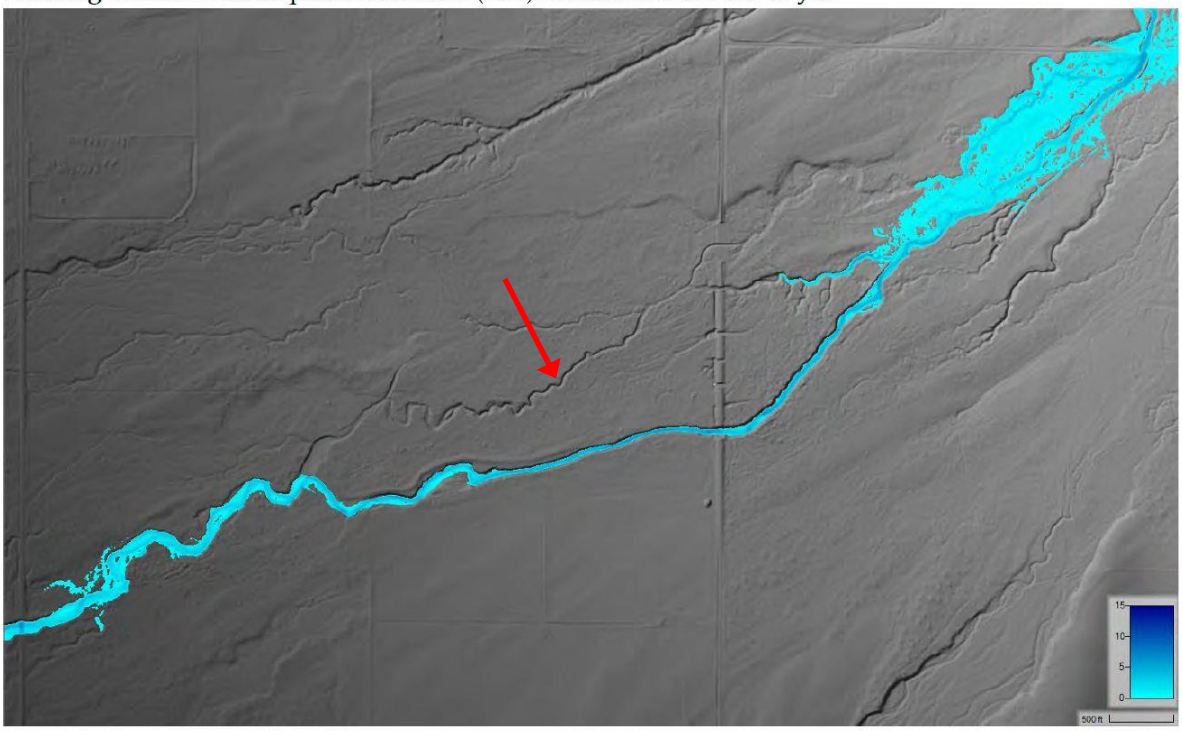
The existing conditions model terrain was developed using both ground/bathymetric survey data collected by Inter-Fluve staff in 22020 (See Section 3.2) along with aerial LiDAR acquired in 2017- 2018 (Quantum Spatial, 2018). The LiDAR provided a one-meter (3.28 feet) horizontal resolution bare earth digital elevation model (DEM) raster. The ground and bathymetric survey data (points and break lines) were used to create a triangulated irregular network (TIN) surface for the surveyed areas. The ground survey surface was then resampled to a 1-foot resolution DEM raster and pasted over the LiDAR DEM to create the existing conditions model terrain. The concept surface condition model terrains incorporated the design grading TIN surfaces into the existing conditions terrain following a similar process. The model terrains are projected on the Washington State Plane South Zone, North American Datum 1983 (NAD83), coordinate system

with US feet distance units. The terrain elevations are in US feet relative to the North American Vertical Datum of 1988 (NAVD88).

The model terrain was created using 2018 LiDAR data (Figure 24) and survey data collected by Inter-Fluve in June 2020. The computational mesh consists of grid cells ranging from 5-30 feet, with the smallest grid cells utilized to provide higher resolution results closer to the channel. Breaklines were added along topographic high points to align cell faces along high ground and to appropriately represent the underlying terrain. Although the average computation mesh size was greater than the terrain resolution, the modeling capabilities of HEC-RAS 6.3.0 integrate the sub-grid terrain into the computations, thus allowing results to be well visualized at the terrain resolution.

Modelling results showed that the proposed design would effectively accomplish project objectives of reconnecting the floodplain and newly re-occupied historic channel, would significantly increase flood conveyance, restore full fish passage at all flows, and would maintain (or reduce) the current flood risk. Figure 5 shows results of modelling the 2-year flood of 839 cubic feet per second (reference table 1).

Existing Conditions: Depth/Inundation (feet) at modeled **839 cfs (2-yr)**



Proposed Conditions: Depth/Inundation (feet) at modeled **839 cfs (2-yr)**

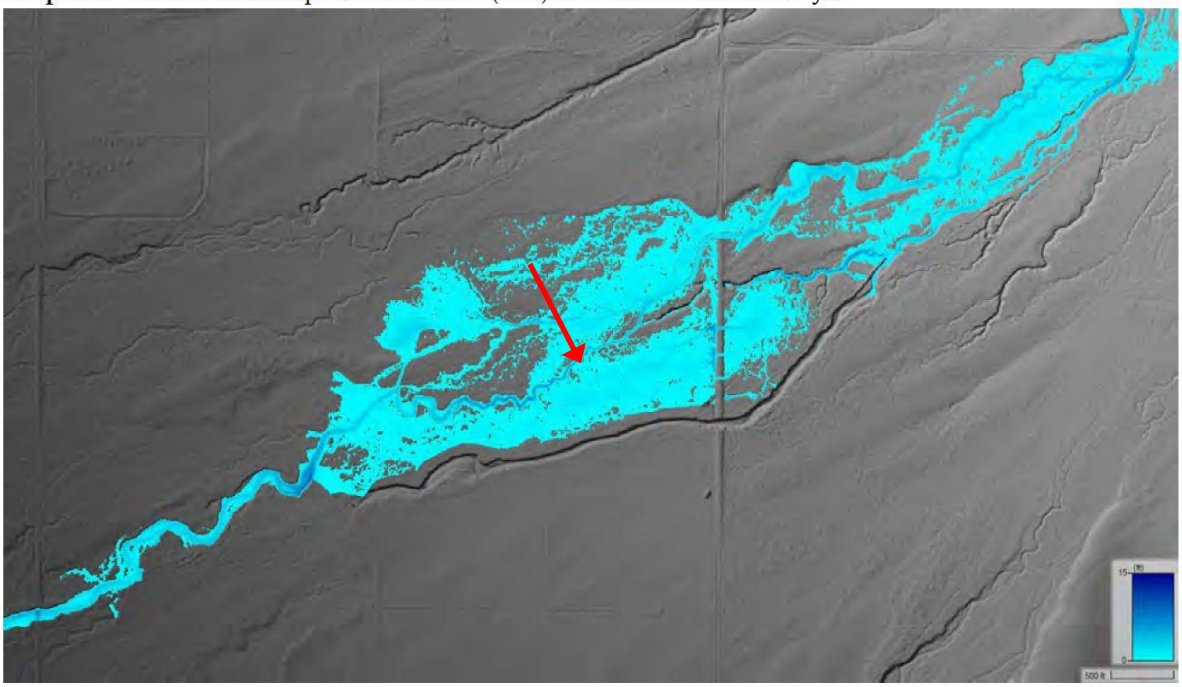


Figure 5. 2D hydraulic modelling results for current (top) and proposed (bottom) conditions. Red arrow shows the channel re-alignment into the historic channel. 2-year floodplain inundation increases from essentially nil in the project area to approximately 50 acres.

Design Components

The following section provides a basic description of each design feature in the project, how it meets the design criteria, and how it will improve aquatic habitat according to the limiting factors and project objectives. Figure 2 shows an overview of the major project elements described below. It is important to note that several alternatives were evaluated before the final design was determined. A leading alternative was to permanently close and remove the one half mile section of Pom Pom Road that crosses the Toppenish Creek floodplain. However, Tribal leaders informed project staff that the route along Pom Pom Road has ceremonial and cultural significance, and as such needed to remain open to avoid disrupting community practices. Therefore, the current approach of increasing flood conveyance with new infrastructure was chosen as the best balance between restoring natural resources and maintaining critical tribal cultural resources.

New Bridge

Approximately 0.45 miles of Pom Pom Road currently bisects the historical floodplain. To retain the road and meet the design criteria for restoration at the site, additional crossings need to be installed into the road to provide adequate conveyance after flow is rerouted into the historical flow routes and across the historical floodplain. The new bridge will provide a 150' wide opening for the reactivated / reconstructed historical channel and floodplain to utilize. The bridge is a single span structure with supports at each end to minimize impact on the channel and its floodplain. The road approaching the bridge on both sides will be raised to accommodate the water surface elevations modeled at the 100-yr and 500-yr estimated flood discharge events. Wingwalls, bridge, and bridge support protection will be designed to withstand modeled flows for the estimated 500-yr event. The water-main pipe will be attached to the bridge girders for easy access and maintenance. The road raise will be done within the existing roadway easement boundary. The bridge and related road surfaces are designed in conjunction with the reconnected channel to meet the design criteria for conveyance and to provide infrastructure stability.

New Culverts

The three new culverts will be installed in suitable locations to reconnected historical

floodplain flow routing through Pom Pom Road. The culverts are three-sided cement structures with buried footings. The bed of the culvert is constructed for scour protection and topped with streambed material with gradients that support fish passage

Reactivate / Reconstruction of Historical Channel(s)

The mainstem channel will be re-routed to occupy an historical channel pathway (North Channel). Minor excavation at the inlet of the historical route is required to connect the existing incised channel at low-flow discharge. The South Canal fill plug will support flow routing into the reactivated channel (North Channel).

The reactivated mainstem channel has a meandering planform that will support geomorphic complexity (pools, bars, and riffles). An existing access road plug in the historical channel (North Channel) will be removed for connectivity and fish passage. LW placement treatments will provide additional habitat complexity and channel structure. Historical floodplain routing through the new culverts will be designed with streambed material to support potential future fish passage and prevent scour. Connector channel will be constructed to reestablish the flow routing under the new bridge and into historical flow routes. The hydraulic model shows the North Channel geometry will produce annual floodplain connectivity/inundation that will promote riparian and floodplain vegetation. It also is connected to a cold-water springbrook that will provide prime rearing habitat. It is expected that activation of historical channel flow route(s) and frequent floodplain inundation will initiate process evolution towards increased ecologic (aquatic and terrestrial) and geomorphic variability (channel habitat complexity, nutrient exchange, channel evolution, etc.), including high-flow multi-threading. Increased floodplain connectivity is expected to provide high-flow habitat complexity and nutrients.

Center Channel

Plugging the existing culvert at the Center Channel serves to 1) redirect flow onto historical floodplains and into historical flows routes upstream of the road prism and 2) provide high-quality off-channel habitat for lamprey and salmonids downstream of the road prism. The entrenched section of the existing Center Channel is wetted via groundwater inputs along the toe of the Toppenish alluvial fan and ponded by beaver dam activity. This unique off-channel habitat will remain in place and be connected as high-quality off- channel habitat to the mainstem. It and the downstream section

of the Center Channel will be enhanced by annual surface water inputs from the reactivated historical floodplain and channels fed by the new culverts.

Plug South Canal (existing mainstem)

The existing South Canal (existing mainstem) was constructed in a surface higher in elevation than the historical floodplain. Toppenish Creek was diverted into the canal to efficiently capture and direct flow down a single over-sized channel and under the Pom Pom Road bridge. The bed of the channel in the canal section is deeply entrenched within steep vertical banks 10-15 feet high. The channel in this section is an elongate plane-bed glide with very low-quality aquatic habitat and no connected floodplain (see Figure 4A). Incision through the canal section, maintained by the existing bridge and road confinement, has perpetuated channel entrenchment into a streambed of coarse cobble lag. Contact with the cobble has instigated lateral erosion that is resulting in widening of the canal. Plugging the South Canal section and re-routing the mainstem into the meandering historical flow routes will improve the geomorphic condition, provide habitat complexity for low and high-flow conditions, and reconnect the channel with its historical channel(s)and floodplain.

Large Wood Placement

Large Wood (LW) structures in the channel will be installed to support channel function (i.e., maintain scour holes, promote lateral processes, promote leeside deposition) and provide aquatic habitat (cover, nutrients, hydraulics). LW placement on the floodplain will add surface roughness, disperse surface water, promote fine sediment deposition, and promote vegetation establishment, especially in areas disturbed during construction (i.e., road removal areas). LW structures/placements provide fish security from predation, increase habitat suitability, and increase carrying capacity.

Ditch Fill and Floodplain Micro-topography

Surface grading is designed to maximize inundation across the historical floodplain and minimize or deflect flow routing away from artificially created preferential routes. Ditches and associated incised extension gullies along the toe of the existing Pom Pom Rd prism will be selectively and partially filled to control surface water routing pathways. The existing double track dirt access road that runs west from Pom

Pom Rd along a fence line in the middle of the project area will be graded to match adjacent floodplain topography to remove unnatural / unwanted preferential surface water routing pathways. Excavation of a small secondary flow channel (~450 ft long) that extends off the reactivated North Channel at Sta 80+00 will direct seasonal high flows onto the historical floodplain and into historical high-flow channels. Entrances and exits to the three new floodplain culverts will be graded to both tie-into the existing floodplain surface and distribute floodplain flow downstream across the historical floodplain. Floodplain micro-topography (<3-ft) along the plug and South Canal is designed to deflect floodplain inundation flow from being recaptured by the South Canal. Areas of disturbance will be minimized and no material will be removed from the site. This treatment supports dispersed multi-threaded shallow flow-routing across the floodplain to maximize floodplain connectivity and improve overall floodplain function.

Revegetation.

Native plant revegetation for areas disturbed during construction and those areas of the historical floodplain that will be reconnected. Revegetation plans are designed to support soil stability/retention, nutrient source replenishment, resilience and diversity, cultural priorities, and to reduce invasive species establishment. Revegetation plans consider long-term resilience of the site and the expected conversion of currently disconnected floodplains to annually connected floodplain surfaces.

Exclusion Fence.

Livestock exclusion fencing is laid out to allow vegetation establishment on newly constructed features and reconnected landscapes. If maintained over the long term, it provides a buffer of protection from the impacts of cattle grazing (soil compaction, invasive weeds, bank destabilization, channel bed degradation, water quality impairments, riparian vegetation browsing, etc.). The fencing layout at the project includes consideration of seasonal water access (groundwater fed pools) for cattle downstream of the new channel plug in the South Canal. Access is obtained via the downstream side of the channel plug and fencing directs cattle into the canal and limits their access to other areas of the project site. Fencing will be used to exclude cattle during the wet season.

Seasonal Off-Channel Livestock Water Access

Provide seasonal access to the South Canal as an off-channel watering source for cattle at groundwater fed pools. Access is obtained via the downstream side of the channel plug and fencing directs cattle into the canal and limits their access to other areas of the project site. The purpose is to provide a seasonal water source for livestock in an attempt to reduce the current impacts caused by grazing on the channel and its banks, floodplain soils, vegetation, and quality of aquatic habitat. Design evolution may occur in future design phase based on additional communication with cattle rancher.

D. 2.2.3. BUDGET PROPOSAL

Funding sources	**Amount**
Non-Federal entities	
Toppenish Creek Corridor 638 agreement-**required match**	**$1,626,154 (35%)**
Voluntary match funds-Toppenish Creek Corridor 638	**$1,839,300**
Voluntary match funds-Yakama Nation Roads 638 BIA	**$2,000,000**
Voluntary match funds-multiple other sources	**$3,606,218**
Non-Federal subtotal	**$1,626,154**
REQUESTED Reclamation funding	**$3,020,000 (65%)**

Total project cost is **$9,071,672. (**Project cost without cost escalation, in 2022 dollars, is $6.4 million) Please see attached engineer's cost estimates and the budget narrative form for documentation and details.

D.2.2.4. ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

H.1 Environmental and Cultural Resource Considerations

- Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Earth disturbing work includes excavating selected portions of the historic channel that have become plugged, installing large wood jams, constructing flow guidance berms, plugging the old channel pathway, and earthwork associated with the bridge, road, and culverts. This work will produce dust and equipment will release diesel exhaust and noise. This work will temporarily

disturb nearby wildlife. All work will be conducted during dry conditions or in water bodies isolated from fish use by screens or cofferdams. Best management practices will be used to minimize water quality degradation.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

  - Middle Columbia Steelhead, ESA Threatened
  - Bull Trout, ESA endangered

These species will not be affected by project activities because work areas will be isolated from fish use during the project.

- Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States"? If so, describe and estimate any impacts the proposed project may have.

Yes, there are approximately 3 acres of jurisdictional wetlands (WOTUS). Project will avoid earth moving activities in the wetland areas, so we do not anticipate any direct impacts from construction. Floodplain reconnection may improve the hydrology of the wetlands through more frequent inundation.

- When was the water delivery system constructed? N/A, water system work is not a part of this project.
- Will the proposed project result in any modification of, or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously. N/A, irrigation system work is not a part of this project.
- Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question. No, not to our knowledge.
- Are there any known archeological sites in the proposed project area? Yes, the cultural survey determined that there are some archeological sites in the project area. These will be buffered, marked on the ground, and entirely avoided by construction or other disturbing activities.
- Will the proposed project have a disproportionately high and adverse effect on low income or minority populations? No, restoring side channels and wetlands is unlikely to have a disproportionately high adverse effect on minority populations. Restoring fish populations and floodplain ecosystem services will have a positive effect on the local White Swan community and the larger Yakama tribal community.
- Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on Tribal lands?

No, project will not impede access or use of sacred sites. It was specifically designed to maintain access to ceremonial sites. Otherwise it will have positive impacts on Tribal natural and cultural resources such as fish, wildlife, and traditionally used plants.

- Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No, best management practices will be used to ensure that equipment used for the project does not bring in invasive species propagules.

D.2.2.5. Required Permits or Approvals

The following approvals/permits and the lead entity for obtaining them are listed below:

Permit	Lead Entity
Landowner permissions	Yakama Nation, already obtained
Section 106 cultural approval	Yakama Nation, survey completed, approval in progress
Clean Water Act 401 and 404 permits	Yakama Nation, wetland surveys completed, permit will be submitted by September 2023
Endangered Species Act	Bonneville Power Administration-in progress
NEPA	Bonneville Power Administration HIP IV programmatic, in progress
Yakama Nation Water Code permit	Yakama Nation, submitted by September 2023
Yakima County Roads permit	Yakama Nation, submitted by September 2023

D.2.2.6. Overlap or Duplication of Effort Statement

To our knowledge, this project does not overlap or duplicate other efforts in the Yakima River basin with respect to activities, costs, or commitment of key staff.

Yakama Nation may apply for funding for this project under the Federal Highway Administration Tribal Transportation Program. This proposal would be submitted in the summer of 2023 and the funding decision date is unknown. If we are awarded funding through this pathway we will notify USBR immediately.

D.2.2.7. Conflict of Interest Disclosure and Notification

No conflict of interest is declared.

D.2.2.8. Uniform Audit Reporting Statement

Audit will be submitted.

D.2.2.9. SF-LLL Disclosure of Lobbying Activities (if Applicable)

Lobbying form has been uploaded to Grants.gov.

D.2.2.10. Letters of Support and Letters of Partnership

A letter of support from the Yakima Basin Integrated Plan partners is attached.

D.2.2.11. Letter of Partnership

Not applicable as a Category B applicant.

D.2.2.12. Official Resolution

Draft attached. The signed version will be submitted should we be awarded funding

D.2.2.13. Letters of Funding Commitment

Attached.

E.1. Evaluation Criteria

E.1.1 Evaluation Criterion A- Project Benefits (30 Points)

Sub Criterion A.1., General Project Benefits

What are the critical issues of concern in the watershed? Provide documentation and support for how the critical issues were identified. The 2009 Yakima Basin Steelhead Recovery Plan lists numerous factors for watershed and fish population declines: Floodplain development and alteration, reduced connectivity between streams and adjacent riparian areas, floodplains, and uplands, elevated fine sediment yields and water temperatures, reduced large woody debris to trap sediment, stabilize banks and form pools, reduced vegetative canopy to minimize solar heating of streams and provide bank stability and food, modified streams channels with reducing rearing habitat and increasing water temperature fluctuations.

Explain how your project will benefit aquatic ecosystems, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems. For example, will your project create new habitat, improve water quality, improve stream or riparian conditions, restore fish passage and connectivity, or otherwise benefit aquatic ecosystems. This project will improve stream and riparian habitat conditions, improve water quality, create new habitat, restore fish passage and connectivity, and benefit aquatic ecosystems by providing space for natural stream processes.

Does the project affect water resources management in 2 or more river basins (defined as a minimum HUC-10 level)? Explain how and identify the area benefitted (provide a map). Yes, project improves stream function and flood capacity that affects water resources in 3 HUC 10s: 1703000306, 1703000310, and 1703000312. The main affects are increased and more frequent flood storage, and 1703000306 and 310 more natural sediment conveyance for habitat formation. (Figure 6.)

Does the project provide regional benefits, in addition to fish or habitat restoration, including: o Supporting water needs for multiple water uses (i.e., agricultural, municipal, Tribal, environmental, recreational)? o Reducing water conflicts? The project does provide regional

benefits other than fish habitat restoration. Notably it will create floodplain inundation at the 1-year flow, in contrast to current conditions where the 10-year flow does not connect to the floodplain. Therefore, the project will increase flood frequency by a factor of 10, and flood area at the 10-year flow increases by 90 acres. This frequent and greater flooding will substantially increase aquifer recharge, potentially increasing flow in nearby springs and springbrooks, and for tribally important riparian and wetland plants. It will also increase the abundance of beaver habitat by making the floodplain wetter. The project will create jobs during the two years of construction, and will improve the safety of the current road by reducing the chance of bridge failure, and adding guardrails to the steep sided road prism.

Describe how this project fits within the strategy and how it will continue to provide benefit.

This project is part of the larger Toppenish Creek Corridor Plan, authorized in the 1994 Yakima River Basin Water Enhancement Plan. This plan aims to restore 70 miles of Toppenish and Simcoe Creeks on the Yakama Reservation. The current project falls under the plan's "Restore incised reaches" task, which is described in the Toppenish Corridor Plan as approved by USBR. Restoring the project reach will help reach the Toppenish Creek plans objectives of substantially improving and increasing fish habitat and stream function. The Toppenish Creek Corridor Plan is available on request, but is too large to attach.

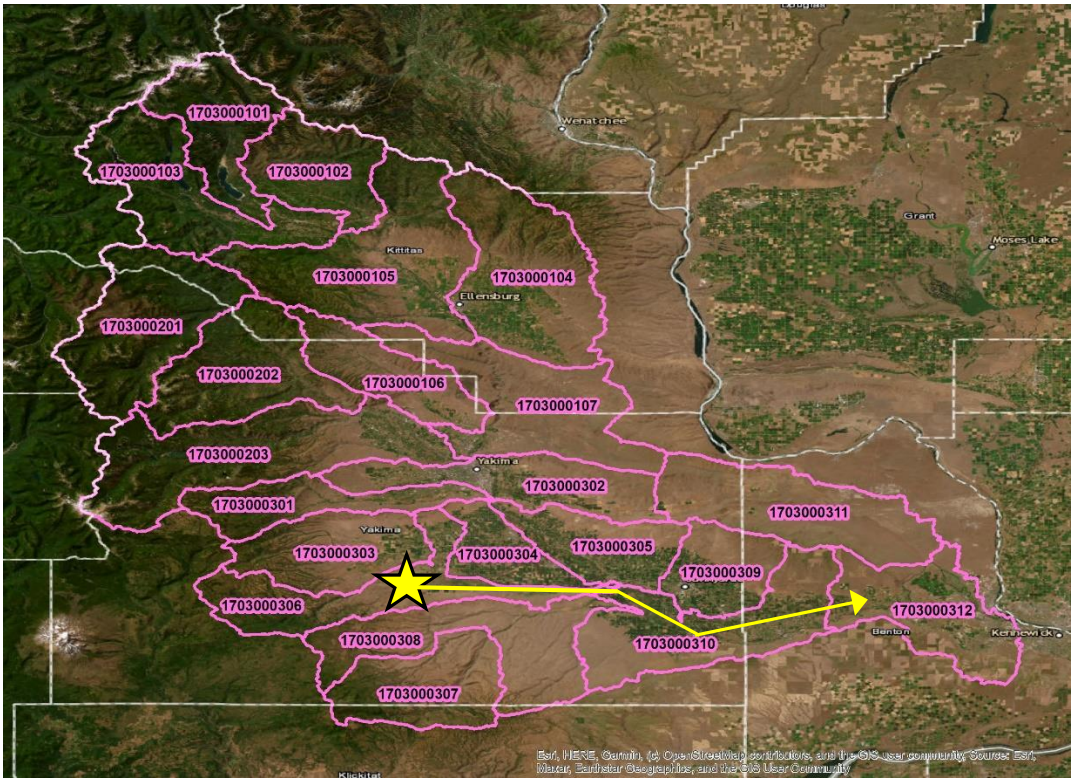


Figure 6. HUC 10 map of the Yakima Basin. Project is shown by yellow star, and yellow arrow shows affected downstream HUCs.

Describe the status of the species and/or habitat that will benefit from the project: o Does the project contribute to the restoration of species listed under the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.)? □ Does the project contribute to the restoration of listed anadromous fish? □ Are the species subject to a recovery plan or conservation plan under the ESA? □ Has there been a designation of critical habitat? If so, how does the proposed action benefit such critical habitat? o If the species are not listed under the ESA, please describe their status. For example, are they native species, game species, at-risk species, species of greatest conservation need, species of Tribal significance, or state listed?

The project area is entirely within NOAA designated critical habitat for middle Columbia River ESA threatened steelhead, and the project will contribute to recovery of this species. Project actions are reflected in priority strategies and actions described in the 2009 Yakima Basin Steelhead Recovery Plan (https://ybfwrb.org/wp-content/uploads/2017/09/YakimaSteelheadPlan.pdf). The project benefits middle Columbia steelhead by increasing and improving instream and off-channel habitat, including cold-water refuge areas and increased large wood. In total 2.4 miles of high quality rearing and spawning habitat will be created, and natural stream processes restored by the project will maintain them sustainably. The project also improves spawning and rearing habitat for the Pacific lamprey, a tribally important species.

A.2.2. Task B: Construction applicants only.

• **Species and Habitat Benefits.** Quantify and provide metrics for the extent to which the project will benefit the species and/or habitat, and provide support for your response: o To what extent will the project benefit species health and/or species populations? Quantify the benefits, including: □ Any projected increases in species populations or species health projected to result from your project, □ To what extent will the project benefit a species listed under the ESA, or otherwise improve the status of listed species?
Provide support for your response, including references to species population information, relevant analyses, statistical data, and other support.
o To what extent will the project improve habitat through restoration activities or improved fish passage? Quantify the benefits, including:
□ The number of acres of habitat to be restored or reconnected,
□ New spawning habitat created,
□ The quality and permanence of additional habitat,
□ Or other metrics demonstrating improved habitat or fish passage.

The project will create 2.4 miles (3800 meters) of high quality rearing habitat, of which 2 miles (3200 meters) is high quality spawning habitat. This will replace 0.25 miles of a zero habitat reach and 0.5 miles (1200 meters) of moderately good spawning and rearing habitat, for a gain

of 1.65 miles, or 4.6 acres. These numbers were calculated from 30% construction plans, aerial photos, and lidar topographical maps. The additional area is estimated to support additional steelhead redds and juvenile rearing habitat, leading to increased steelhead production, as shown in the tables below.

Gain in Redd numbers	**existing**	**proposed**
redds/meter	0.004	0.004
meters of channel	1200	3200
number of reds	4.8	12.8
gain in redds		**8**
smolts/red		480
smolt production		3840
survival to mouth of creek (0.1)		384
returning adults (0.03 SAR)		**11.52**

Gain in Juvenile rearing habitat	**existing**	**proposed**
stream width (meters)	7	7
stream length (meters)	1200	3800
stream area (sq. meters)	8400	26600
proportion usable (sq. meters) - 0.25	2100	6650
juvenile density/100 sq meters - 2.0	4200	13300
Proposed minus existing		9100
minus local production from additional redds (3840)		5260
smolts surviving to mouth (0.1)		526
returning adults (0.03 SAR)		**15.78**

The total calculated gain in returning adult fish is estimated to be 26, which is more than a 10% increase over the 200 fish annual return over the last 10 years. This number has large uncertainty due to necessary assumptions and year to year variation, but shows that the additional fish production from the project is likely to be significant.

For these calculations, all data comes from unpublished Yakama Nation fish monitoring data, including 22 years of redd counts, 7 years of juvenile fish abundance monitoring, and 15 years of juvenile fish trapping and tagging with Passive Integrated Transponders. Some of this data is compiled in the draft 2022 Yakima Basin Steelhead Recovery Plan Update for Satus and Toppenish Creek, prepared by the Yakama Nation. A copy is available on request.

In addition, migration passage will be improved during high water by removing a perched culvert that blocks adults. New culverts will be installed, and hydraulic modelling indicates that velocities at almost all flows will be passable by steelhead.

• **Watershed Benefits.** Quantify and provide metrics for the extent to which the project will provide watershed benefits, and provide support for your response: o To what extent will the project improve water quality? Quantify the benefits, including: Any anticipated improvement of water quality (e.g., dissolved oxygen, nutrient pollution, improvement of temperature variations, eliminating violations to water quality standards, etc.).
o To what extent will the project benefit ecological function? Quantify the benefits, including: Information about reconnection of floodplains, Improvement of sediment ransport, Wetland recovery or wetland/ marsh creation.
o To what extent will the project build ecosystem resiliency? Quantify the benefits, including: The reduction of impacts of climate change, The reduction of impacts of development, Removing invasive species, protection against invasive species, and restoration of native species, Improvement of habitat fragmentation, Or assistance in helping aquatic ecosystems recover from disturbances such as floods, wildfire, or drought.

This project will improve water quality, reconnect the floodplain, improve sediment transport, and help in floodplain wetland recovery, benefit ecosystem function, and build ecosystem resiliency.

1) Water quality will improve as a function of floodplain reconnection. The project increases the area flooded by approximately 50 acres at the 2 yr flood, and increases flood frequency from 1 in 25 years to once each year. Nutrients and contaminants are removed from the stream by floodplains as a function of sediment trapping. The rate of sediment trapping in the project area will increase approximately 100 times as a result of the project, as shown in the table below.

2)

Sedimentation	**current**	**proposed**
rate (mm/yr)	1	1
area (sq m) *	50585.75	202343
years **	2	50
total sedimentation (mm)	2	50
area in hectares	5.1	20.2
Total soils stored (cu m)	101	10,117
ratio of storage proposed/current	**100**	

* The area is determined from the hydraulic models of the 25-year flood in current conditions, vs the 1-year flood in post-project (proposed) conditions
** Number of years is determined by flood rates shown in hydraulic models. Currently flooding occurs only once every 25 years.

3) Ecosystem function will be restored through much greater floodplain reconnection, sediment transport, and enhanced wetland hydrology. Hydraulic modelling shows that 50 acres will flood every year, and 90 acres every 10 years, as opposed to approximately 12 acres every 25 years. Sediment transport will be greatly enhanced through increasing flood conveyance width by a factor of 2.7, from the current 80 feet (one bridge) to 213 feet (new bridge plus 3 culverts). Hydrology will be enhanced in the 15 acres of mapped wetlands in the project area by greater floodplain connectivity and more frequent inundation.

4) Ecosystem resiliency will be increased through increased soil moisture and vegetation water supply, increased habitat connectivity along Toppenish Creek, and increased quality of habitat. As show above, the floodplain and associated wetlands in the project area will have much more frequent inundation over a larger area. This additional moisture in the riparian zone will increase riparian plant vigor and growing season moisture, helping to resist and recover from wildfires. Additionally, increased beaver habitat should augment fire resistance further through encouraging dam building that will pond water. Increased riparian health will maintain stream shading, helping to buffer water temperatures against climate change. Further, the new channel alignment through dense riparian zones as opposed to the current alignment through grassland and sparse trees will increase shading and buffer stream temperature even more extensively and immediately. (See figure 2 for riparian cover conditions.)

References for this section:

Kristina G. Hopkins, Gregory B. Noe, Fabiano Franco, Emily J. Pindilli, Stephanie Gordon, Marina J. Metes, Peter R. Claggett, Allen C. Gellis, Cliff R. Hupp, Dianna M. Hogan, A method to quantify and value floodplain sediment and nutrient retention ecosystem services, Journal of Environmental Management, Volume 220, 2018, Pages 65-76.
https://www.sciencedirect.com/science/article/abs/pii/S0301479718305322

U.S. Environmental Protection Agency, Region 10, 2015. Floodplain Sedimentation Rates Developed from One-Dimensional Model Results, Lower Basin of the Coeur d'Alene River (OU3).
https://semspub.epa.gov/work/10/100019995.pdf

Yakama Nation, 2022. Pom Pom Road Crossings & Toppenish Creek Restoration Preliminary Basis of Design Report. Attached.

• **Water Supply Benefits.** Quantify and provide metrics for the extent to which the project will increase water supply to an aquatic ecosystem, and provide support for you. Project. To what extent will the project make more water available, or make water available at a more advantageous time or location? Quantify the benefits, including: The estimated amount of water conserved (in acre-feet per year), The total amount of new water made available for instream flow, The relocation of water to optimize timing and quantity of water supplies for ecosystem health,

 The extent of benefits to fish and wildlife, habitat, or other ecological benefits resulting from the improved water availability.

This project will provide water supply benefits to the aquatic ecosystem in the project area by optimizing the timing and quantity of water for the floodplain ecosystem. This will improve fish and wildlife habitat on over 90 acres of floodplain. At the 2-year flood, approximately 50 acres of floodplain will be inundated as a result of the project, as opposed to zero acres currently. The flood depth will be 1 foot deep, resulting 50 acre-feet of water being applied to riparian and wetland systems in the floodplain. This number is a minimum because the 50 acre feet will be dynamic and flowing, not ponded. At the 10-year flood, 90 acres will be inundated as opposed to 30 acres currently, an increase of 60 acres. The 10-year flood depth will average 1.2 feet deep, resulting in an additional 72 acre-feet of water being applied to the floodplain every 10 years. Over 10 cumulative years, the total additional water supplied to the floodplain would be

4*50=200 + 72, for a total of 272 additional acre-feet. This assumes four 2 year floods and one 10 year flood every 10 years. The benefit of this water is multi-fold: it will reinvigorate growth and regeneration in the riparian forest, enhance wetland hydrology, and increase habitat for riparian and wetland birds and mammals such as deer, waterfowl, and beavers. The timing of the floods would be natural, in the spring, when it will help move out-migrating steelhead and lamprey swiftly downstream, and provide off-channel habitat for rearing juvenile fish. In addition, the water would sub-irrigate nearby pastures, causing increased grass growth and better forage for tribally owned cattle.

• **Other Quantifiable Benefits.** Are there other quantifiable project benefits not addressed in the preceding questions? If so, what are these benefits? Provide support for your response, including citations to relevant studies or statistics, and other metrics. For example, will your project benefit:o Improvements in public safety (reduce/eliminate flood risk, dam breach, road damage), o Reductions in long t erm management costs (culvert and dam maintenance), o Job creation or economic opportunity (design or construction jobs, development of new recreation jobs, commercial fishing opportunities),o Improvements in safe access to nature or recreational opportunities.

The project will reduce flood risk to the road by providing 2.7 times more flood conveyance, as described earlier, and by reconnecting the floodplain for increased flood water storage. It will reduce long term maintenance cost through the installation of modern infrastructure and increased flood passage, and restoration of natural stream processes. During construction the project will increase jobs to the community.

E.1.1.1. Evaluation Criterion B- Prior Restoration Planning and Stakeholder Involvement and Support (30 or 40 points).

Sub-Criterion B2: Task B: Construction Stakeholder Support and Prior Restoration Planning (30 points)

• Prior Planning, Study, and Design: To be eligible for Task B: Construction, applicants must have conducted study and design activities resulting in a design package at a 60% design level. See Attachment A: Design Level Guidance, for more information on 60% design. The following sub criteria request specific information about those prior planning efforts. o Describe the planning effort that supports your proposed project, i.e., planning that took place before you submitted your proposal. Describe the specific planning, strategy, study, and design document(s) (plan(s)) that support your project. Explain when the plan was prepared and for what purpose.

The planning effort for this project began with a reach level habitat assessment (Yakama Nation 2012, Upper Toppenish Creek Reach Assessment), that identified the project area as a priority restoration project. This was followed by a site investigation in 2018 that assessed alternative approaches and conducted preliminary hydraulic modelling. These assessments described current site conditions and restoration potential, and provided concepts for several different

restoration approaches. **Design plans are currently at the 30% level and will be at the 80% to 100% percent level by September 2023.**

 Does the proposed project contribute to a regional or watershed scale fish passage or aquatic ecosystems strategy or priority restoration efforts (e.g., Federal, State, Tribal, or other association priority plan or designated critical habitat)? If so, name and briefly describe the strategy or effort.

The project contributes to multiple regional and watershed plans and strategies. 1) It is part of the Yakima Basin Integrated Plan, a Yakima basin scale effort that coordinates activities among stakeholders and aims to improve water supply and fish habitat over 30 years and $3 billion. 2) The project is part of the Toppenish Creek Corridor Plan, authorized by the 1994 Yakima River Basin Water Enhancement Project (Federal Legislation). The Toppenish Corridor plan provides for 10 to 20 years of funding to restore the lower 70 miles of Toppenish Creek and its major tributaries, specifically as relates to fish populations, floodplains, and wetlands.

 What was the scope of the planning effort that supports your project? Describe the geographic extent and types of issues (e.g., water quantity, water quality, and/or issues related to ecosystem health or the health of species and habitat within the watershed).

The assessments listed above extended over 10 stream miles including and adjacent to the project site. They identified reach-wide impacts from transportation infrastructure, stream confinement, fish passage, irrigation diversions, and riparian degradation.

o Was the plan developed collaboratively? What stakeholders were involved in preparing the plan and do they represent diverse interests (e.g., agricultural, municipal, tribal, environmental, recreational interests)? What process was used to solicit and incorporate stakeholder input?

The project plans were developed primarily by the Yakama Nation, the major stakeholder within the Yakima Reservation on Tribal Trust lands, where the project is sited. Tribal Council, the Tribal community, and Tribal staff were involved in crafting the site plans. The Yakima Basin Integrated Plan and the Toppenish Creek Corridor plan were developed with input from multiple stakeholders, including Federal agencies, agricultural interests, State and local agencies, and the Yakama Nation.

 If the plan was prepared by an entity other than the applicant, explain why it is applicable.

 Please describe the process for stakeholder involvement and comment on the planning and design effort supporting your project. Describe the how comments were requested, the types of comments received, and how they were considered.

All plans went through an internal Yakama Nation approval process, including Tribal Council review. The Yakima Basin Integrated Plan is approved through an EIS (https://apps.ecology.wa.gov/publications/documents/1212002.pdf) with extensive stakeholder involvement.

o Describe how the plan provides support for your proposed project. Does the proposed project address a goal or need identified in the plan?

Plans call for aquatic habitat restoration and increases in fish runs. Project addresses both goals. Yakima Basin Integrated Plan Habitat Action Plan identifies Toppenish Creek as a priority stream.

 Describe how the proposed project is prioritized in the referenced plan.

Project was selected from others for high potential to increase fish runs. It rates high in all the listed plans. The reach assessment used a Reach-Based Ecosystem Indicators (REI) analysis that

compared key metrics across potential project sites on the basis of impairment and restoration potential.

o How did you select the proposed project from among other project alternatives? Describe the process you used to compare alternatives. The selected approach was a compromise between the need to fully restore stream function and the need to maintain road access across the floodplain. Restoration metrics and social benefits were considered with strong community input to the process.

 Did you compare the benefits of different project alternatives (e.g., through a decision matrix, triple-bottom-line analysis, or rapid benefit indicators)? Did you do a qualitative or quantitative comparison of project benefits? If so, please describe the process and the outcomes. We did a semi-quantitative benefits analysis. The greatest ecosystem and fish benefits came from closing and removing Pom Pom Road across the floodplain. This approach would allow full natural movement and maximum room for the stream and floodplain. However, the community desired continued road access across the floodplain, therefore our approach was to create the most flow conveyance and least intrusive infrastructure design with respect to stream processes. The analysis was conducted by Yakama Nation staff, working with our consulting engineers. Much of the quantitative information used to make the decision came from 2D hydraulic modelling of different design configurations. The primary limit on conveyance (bridge width) was the prohibitive cost of building maximal bridges, over 150 feet wide.

• Stakeholder Support for the Proposed Task B: Construction Project o Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the project? Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).

Yes, there is widespread support. The Yakama Tribal council supports the project, and has provided $2,000,000 towards its construction (Resolution attached). The State of Washington and the Federal Government have provided funding for design, as has the Bonneville Power Administration. The US Bureau of Reclamation, through the Toppenish Creek Corridor 638 agreement, is providing over $2,000,000 in funding (letter of commitment attached). The Yakima Basin Integrated Plan supports the project and has provided a letter of support (attached).

 Are any stakeholders contributing to the project cost-share? Yakama Nation, U.S. Bureau of Reclamation, State of Washington, Bonneville Power Administration.

o Is there opposition to the proposed project effort? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points. Some community members are worried that the project will disrupt a redundant water main or cause flooding. The water main is incorporated into designs for the bridge and culverts, which call for the same or improved water service through the main. Flood risk has been analyzed by extensive 2D hydraulic modelling based off of ground surveyed bathymetry meshed with upland high-density LiDAR elevation models. Flood risk will not increase for any adjacent property.

E.1.2. Evaluation Criterion C— Project Implementation and Readiness to Proceed (15 points) *Sub-Criterion C2: Task B: Construction Readiness to Proceed*

• Describe the implementation plan for the proposed construction project. Please include an estimated project schedule that shows the stages and duration of the proposed construction work, including major tasks, milestones, and dates. This may include, but is not limited to, design, environmental and cultural resources compliance, permitting, and construction/installation. o Proposals with a budget and budget narrative that provide a reasonable explanation of project costs will be prioritized.

Activity	Time Frame	Activity	Time Frame
60% design	completed	ESA	3/1/2024
80% design	7/1/2023	Yakima Co. Rd. Permit	3/1/2024
100% design*	9/1/2023	Request for construction bids	11/1/23 to 1/1/24
Cultural survey	completed	Construction contracting	2/1/24 to 5/1/24
Cultural approval	12/31/2023	Construction year 1**	6/1/24 to 10/31/24
Wetlands survey	completed	Construction year 2**	6/1/25 to 10/31/25
Clean water act permit	7/1/23 to 3/1/24	Close out	12/31/2025
NEPA	3/1/2024		

* Design engineering firms for habitat restoration and for crossing design are both under contract and proceeding towards 80% design as of this writing.
Construction activities for **year 1 include: construct bridge and culverts, construct channels through crossings, associated earth moving and ditch filling near road. For **year 2**: partially plug old channel, install habitat features (large wood jams, constructed riffles) in historic channel, revegetation, and switch channel to new (historic) alignment.

o Proposals with a budget and budget narrative that provide a reasonable explanation of project costs will be prioritized. Please see budget narrative and attached engineer's cost estimates.
o Describe any additional efforts planned to engage with regional stakeholders during the final planning and construction phase of your project. We are in regular communication with major funders including US Bureau of Reclamation, Bonneville Power Administration, and the State of Washington regarding project status, and will continue to communicate through the duration of the project.
o Identify and describe all engineering and design work that has been performed in support of the proposed project to date. As a reminder, projects must be at 60% design to be eligible for Task B: Construction funding. (See Attachment A: Design Level Guidance, for an overview of 60% design progress.). If additional design work is required prior to construction, describe the planned process and timeline for completing the design work. Engineering plans are at 60% design. Engineering firms are under contract and working towards 80% designs currently-design contracts are fully funded. The plan is to have 100% designs finished by September 1, 2023.

Proposals for a Task B:

Design package contents:

1. Basis of design report, including hydraulic modelling results.
2. Stamped construction plans for habitat restoration and stream channel realignment
3. Stamped construction plans for bridge and 3 culverts and associated road work.
4. Engineers estimate of probable cost.
5. Construction bid tab sheet.

• Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.
See project schedule above in E.1.2. Permits include NEPA, NHPA section 106, Clean Water Act 404 and 401 permits, Endangered Species Act, Yakima County Road permits, Yakama Nation Water Code permit. NEPA and ESA will be handled through the Bonneville Power Administration's HIP 4 programmatic process. Yakama Nation will handle section 106 and coordinate Clean Water Act permits with the Army Corps and EPA, and the County road permit.

• If applicable, describe the projects impact on any contractual water or power supply obligations, Indian trust responsibilities, or water rights settlements. Describe any regional water quality control board, state, and/or local requirements with the potential to affect implementation of the project. A backup water main runs down Pom Pom Road. It has been incorporated into the design plans from the inception of the project. No other local requirements known.
• If project construction requires access to the land or water source where the project is located, please include a description of and a timeframe for obtaining any required easements or permits.
Access to the road requires permission from Yakima County, for which a County Road permit will be acquired. Yakima County Roads staff have been involved in the project since the beginning and are in favor. Tribal property owners in the project area have signed consent forms allowing the project to proceed. These are held at Yakama Nation and are available for review if requested.
• Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.
Yes, we have access.
• Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs.
Reclamation office has been contacted and has acknowledged receiving the email.
Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.
Other funding will pay for compliance costs (BPA). No contractor costs.
Section E. Application Review Information
• Describe any unresolved issues associated with implementing the proposed aquatic ecosystem restoration project, how and when such issues will be resolved, and how the project would be affected if such issues are not resolved. No known unresolved issues at this time.

E.1.3. Evaluation Criterion D—Presidential and Department of the Interior Priorities (15 points)

Please address only those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the application.

• Climate Change: E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity. o If applicable, describe how the project addresses climate change and increases resiliency. For example, does the project help communities respond to or recover from drought or reduce flood risk?

Project will substantially increase water supply to floodplain riparian areas and wetlands: over 25 times greater inundation frequency will occur on the site. This will increase resilience to fire, by increasing vegetation moisture and vigor, and promoting occupation by beavers. In addition, the project will help buffer stream temperatures against warming by increasing and maintaining riparian shading on this small stream.

o How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Please estimate the extent to which the project will build resilience to drought and provide support for your estimate. The project should provide increased resistance to drought by riparian, wetland, and aquatic systems through floodplain and side channel reconnection, indefinitely. Over 2 miles of channel will be reconnected, including over 0.5 miles of side and groundwater fed channels. Floodplain and riparian moisture will also be increased because the water level in the new (historic) channel alignment will be higher in the banks, keeping the water table much higher than under current conditions.

o Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation? Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution? Does the proposed project contribute to climate change resiliency in other ways not described above? The project will result in small amount of increased carbon storage in floodplain soils through floodplain soil trapping due to increased flood frequency on the reconnected floodplain. The project's main goal is increased fish populations and aquatic habitat, however it will reduce water pollution through sediment trapping and contribute to carbon storage in soils and riparian forest.

• Disadvantaged or Underserved Communities: E.O. 14008 and E.O. 13985 affirm the advancement of environmental justice and equity for all through the development and funding of programs to invest in disadvantaged or underserved communities. o Please use the Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool, available online at Explore the map - Climate
& Economic Justice Screening Tool (geoplatform.gov) to identify any disadvantaged communities that will benefit from your project. The surrounding community within the Yakama Reservation is considered disadvantaged and low income in the tool. The community is predicted to be above the 90th percentile in housing loss and at the 86th percentile for increased wildlife risk as a result of climate change.

o If applicable, describe how the project benefits those disadvantaged or underserved communities identified using the tool. For example, does the project improve water quality, provide economic growth opportunities, improve or expand public access to nature, or provide other benefits in a disadvantaged or underserved community? Project will improve water quality and may reduce flood risk to the transportation network for the community through greater flood conveyance under Pom Pom Road.

. o If applicable, describe how the project directly serves and/or benefits a Tribe, supports Tribally led conservation and restoration priorities, and/or if the project incorporates or benefits Indigenous Traditional Knowledge and practices. Project aims to increase fish abundance, critical to Tribal well-being and ways of life. The Toppenish Creek Corridor Plan that this project is part of has been a Yakama Nation priority for over 30 years. The project is being coordinated, lead, and implemented by the Yakama Nation.

o Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe? Yes, increasing fish populations in irrigation impacted streams is a Reclamation Trust responsibility.

E.1.4. Evaluation Criterion E—Performance Measures (10 points) Task B: Construction ONLY• Describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.

• What are the desired conditions that this project contributes to and how will outcome objectives and project success be measured?
• Describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.

Desired conditions for the project are increased and improved fish habitat for spawning and rearing, increased frequency and area of floodplain connection, and improved flood conveyance. Performance measures for this project are intended to be meaningful and relative easy to monitor. The primary measure is increased spawning and rearing habitat for steelhead. This will be measured by conducting stream habitat surveys before and after the project is constructed. Habitat measures will be supplemented by annual juvenile steelhead electrofishing surveys to estimate juvenile fish density. Annual redd surveys will also include the project area. A secondary performance measure is frequency and extent of flood inundation. This will be measured by drone aerial imagery and compared to pre-project hydraulic model outputs. Specific measures include, before and after project:

1. Number and size of pools-*strong indicator of juvenile fish habitat quality. Ground based survey.*
2. Number and size of large wood pieces and jams-*strong indicator of juvenile fish habitat quality. Ground based survey.*
3. Degree of riparian shading-*strong indicator of stream temperature buffering*. *Ground based survey.*
4. Number of steelhead redds per unit length of habitat-*direct measure of spawning. Ground based survey as part of ongoing annual monitoring.*

5. Juvenile steelhead density per square meter-*direct measure of fish production. Ground based survey by electrofishing.*
6. Frequency of overbank inundation-*indicator of floodplain connectivity. Aerial drone imagery and direct observation.*
7. Extent of floodplain inundation-*indicator of area of project affect. Aerial drone imagery.*
8. Water level under bridges and culverts. *–direct measure of flood levels and conveyance. Water level will be measured by hand during floods to compare to hydraulic model predictions.*

Monitoring will be conducted by existing Yakama Nation staff, who have base funding from the Bonneville Power Administration for fish and aquatic habitat monitoring. Monitoring activities such as redd counts and juvenile density counts are undertaken on an ongoing, annual basis throughout the Yakama stream network. For 5 years, additional habitat surveys of pool frequency and size and number of large wood pieces will be conducted 1 time per year in the summer, during low flow conditions. We anticipate that this will require 2 to 3 days by 2 staff members, which we are able to manage with current capacity. Data will be collected on standard forms and entered and maintained in Yakama Nation servers. Annual reports to Bonneville Power Administration will include this data and be publically available.

REFERENCES

Dickerson-Lange, S., & Fischer, M. (2018). Toppenish Creek RM 40 Basis of Restoration Design (p. 160), Natural Systems Design.

Mastin, M. C., Konrad, C. P., Veilleux, A. G., & Tecca, A. E. (2016). Magnitude , Frequency , and Trends of Floods at Gaged and Ungaged Sites in Washington , Based on Data through Water Year 2014. U.S. Geological Survey Scientific Investigations Report 2016 – 5118, October, 70.

Yakama Nation, 2019. Toppenish Creek Corridor Plan.

OMB FORM 4040-0019: PROJECT ABSTRACT SUMMARY

Included in federal forms.

ATTACHMENTS

- Construction costs estimates for bridge and culverts and restoration work.
- Tribal draft resolution approving grant proposal.
- Tribal resolution committed $2,000,000 of transportation funds to the project.
- Letter of support from Yakima Basin Integrated Plan.
- Letter of matching funding commitment from U.S. Bureau of Reclamation.

RESOLUTION **T-Draft**

WHEREAS, Yakama Nation is a federally recognized Nation pursuant to the Treaty of 1855 (12 Stat. 951), and

WHEREAS, the Yakama Tribal Council is the governing body of the Confederated Tribes and Bands of the Yakama Nation of the Yakama Reservation by the authority delegated by the Resolution of 1944 and Resolution T-38-56, and

WHEREAS, the Yakama Tribal Council has the duty and responsibility according to the Resolutions T-38-56 and T-10-61 to protect and preserve the Treaty Rights of the Yakama Nation, and

WHEREAS, Article III of the Treaty of 1855 reserves to the Yakama Nation the exclusive right to fish, hunt, trap, etc. within the exterior boundaries of the Reservation and also the right to take fish at all usual and accustomed fishing locations on and off the Yakama Reservation, and

WHEREAS, since time immemorial, the taking and management of the fisheries resource in a responsible manner has been a cultural tradition of the Yakama Nation to protect the welfare of the resident and anadromous fishery which has great cultural and religious importance to the Yakama Nation, and

WHEREAS, the Chinook salmon, sockeye salmon, Coho salmon, steelhead, Pacific lamprey, and other native aquatic species, are some of the important natural resources in need of rehabilitation in the Columbia River and its tributaries which flow through the Yakama Territories and Reservation, and

WHEREAS, restoring and protecting native riparian and wetland habitat will enhance visual qualities, water quality, rearing habitat and spawning habitat for salmon, steelhead, and lamprey, and

WHEREAS, removal of fish passage barriers will benefit salmon, steelhead, Pacific lamprey, and other native aquatic species populations by reconnecting valuable habitat and improving the survival of migrating adult and juvenile fishes, and

WHEREAS, the Yakama Tribal Council recognizes the need to reverse the downward trend seen in many aquatic species caused in part by the degradation and disconnection of the habitats caused by non-natural fish barriers and

WHEREAS, the United States Bureau of Reclamation has made funds available through their grant programs, and

WHEREAS, funding from these programs has been authorized by the United States Congress, and

WHEREAS, the grant application has been reviewed by the Fish and Wildlife Committee.

NOW THEREFORE, BE IT RESOLVED, by the Executive Board of the Yakama Tribal Council, acting under authority delegated by Section III A of the Rules of Procedures, approved the Yakama Tribal Council Resolution T-10-61, dated July 13, 1960, and meeting at the Governmental Headquarters of the Yakama Nation, that the Yakama Nation Fisheries Program is authorized to submit proposals to and enter into agreements for funds provided through the United States Bureau of Reclamation.

BE IT FURTHER RESOLVED, that any member of the Yakama Tribal Council Executive Board is authorized to negotiate and execute any agreements and amendments thereof, on behalf of the Yakama Tribal Council, as delegated by Section III A of the Rules of Procedures pursuant to T-10-61, as approved, provided further that any Executive Board Member may negotiate the contract.

BE IT FINALLY RESOLVED, that the Yakama Nation does not waive, alter, or otherwise diminish our Sovereign Immunity, whether expressed or implied, by virtue of this resolution for any and all administrative or legal action which may arise directly or indirectly from the same, nor does the Yakama Nation waive, alter or otherwise diminish our rights, privileges, remedies or services guaranteed by the Treaty of 1855.

DONE AND DATED on this ___ day of June, 2023 by the Yakama Tribal Council by a vote of ___ for, ___ against, and __ abstentions.

_____
Gerald Lewis, Chairman
Yakama Tribal Council

_____
George Meninick Sr., Vice-Chairman
Yakama Tribal Council

_____
Charlene Tillequots, Executive Secretary
Yakama Tribal Council

CC: File

RESOLUTION T-077-21

WHEREAS, Yakama Nation is a Federally recognized Nation pursuant to the Treaty of 1855 (12 Stat. 951), and

WHEREAS, Yakama Tribal Council is the governing body of the Confederated Tribes and Bands of the Yakama Nation by the authority delegated by resolution T-38-56, and

WHEREAS, the Tribal Council has the duty and responsibility according to the Resolution T-38-56 and T-10-61 to protect and preserve the Treaty Rights of the Yakama Nation, and

WHEREAS, Yakama Nation under a Program Agreement with the Bureau of Indian Affairs (BIA) receives an annual distribution of Tribal Transportation Program (TTP) funds through the Federal Highway Administration (FHWA) for the maintenance and improvement of the Yakama Nation's transportation system as identified in the National Tribal Transportation Facility Inventory (NTTFI) pursuant to the transportation bill Fixing Americas Surface Transportation (FAST) Act, 25 CFR Part 170 and the Indian Self-Determination and Education Assistance Act (PL 93-638), and

WHEREAS, a ROAD CONSTRUCTION PRIORITY LIST is necessary to receive TTP funds to perform project planning, surveying, design engineering, environmental review and archeological clearance, certifying, acquiring, and recording rights-of-way (ROW), maintaining existing infrastructure, and administrating, monitoring and closing-out construction projects.

NOW, THEREFORE BE IT RESOLVED, by the Executive Committee of the Yakama Tribal Council, acting under authority delegated by Section II A of the Rules of Procedures, approved by Tribal Council Resolution T-10-61, dated July 13, 1960, and meeting at the Governmental Headquarters of the Yakama Nation, that the following revised ROAD CONSTRUCTION PRIORITY LIST is hereby adopted with the understanding that each project will entail necessary certifications, engineering, plan preparation, safety provisions, right-of-way procurement and/or grants over Tribally owned lands, and subsequent construction and quality control (project stakeholders in parenthesis);

1) **Transportation Planning** (Tribe/BIA)
   Purpose: Updating Transportation Improvement Plan, Control Schedule, Long Range Transportation Plan and NTTFI data, to include structural improvements, certify or acquire right-of-way, identify infrastructure, and for participating in meetings and activities necessary to develop projects.
   Location: All existing and proposed public roads serving and accessing Yakama Nation lands and listed on NTTFI.

Post Office Box 151, 401 Fort Road, Toppenish, WA 98948 (509)865-5121

2) **Rt. 5000 Fort Road Phase 3** (County)
Purpose: Reconstructing by widening, grading, draining, paving, illuminating, signalizing, and providing pedestrian and bike facilities.
Location: From Teo Road to Robbins Road vicinity.
Approximate project length: 0.4 miles.

3) **Rt. 5535 Wesley Road Phase III** (County/Tribe)
Purpose: Reconstructing by grading, draining, paving and replacing bridge.
Location: From Pine Cone Road to W. White Swan Road.
Approximate project length: 0.8 miles.

4) **Rt. 5089 Robbins Road** (Tribe/County/WSDOT)
Purpose: Constructing by grading, draining, paving, signalizing, revising irrigation facilities, providing pedestrian and bike facilities, and includes extending Wishpoosh and US97 frontage roads.
Location: From 0.25 mile south of Fort Road north to SR 97.
Approximate project length: 1.5 miles.

5) **Safety Management** (Tribe/Stakeholders)
Purpose: Planning, updating & implementing Safety Management Plan, and coordinating Tribal Traffic Safety Committee to eliminate serious injury & fatal traffic accidents through engineering, education, enforcement & emergency medical services.
Location: All existing and proposed public roads identified on NTTFI serving and accessing Yakama Nation lands.

6) **Road Maintenance** (Tribe/BIA)
Purpose: Maintaining and preserving existing Tribal and BIA public roads, bridges, parking areas and pathways to original level of service and safety, including application of asphalt bituminous surface treatments.
Location: All existing BIA & Tribal facilities serving or accessing Yakama Nation lands and identified on NTTFI.
Approximate length: 158 miles.

7) **Rt. 319 Linden Street/Stanley Smartlowit Education Center Access** (Tribe)
Purpose: Reconstructing by grading, draining, paving, curb, gutters and sidewalks.
Location: From Fort Road to Education Center and Jackson Street
Approximate length: 0.4 miles

8) **Intersection Safety Improvement** (Tribe/BIA)
Purpose: Safety improvements through a systemic approach of low-cost and effective proven countermeasures at Stop-Controlled rural intersections with high crash incidents, fatalities and injuries.
Location: Rural public roads reservation wide.
Approximate length: TBD

9) **Rt. 5065 Pom Pom Road Toppenish Creek Bridge Project**
(Tribe/BIA/Yakima County)
Purpose: Construct bridge, approaches and channel enhancement
Location: White Swan WA (Sec. 20, T10N, R16E)
Approximate length: 144 feet

10) **Rt. 4073 Jackson Street** (Toppenish/Tribe/BIA/County)
Purpose: Constructing by grading, draining, paving, curb, gutter, sidewalk, parallel parking and pathway.
Location: From existing Jackson Street to Ward Road
Approximate length: 0.4 miles.

11) **Rt. 35 Agency Streets** (Tribe/BIA)
Purpose: Safety improvements by adding sidewalks, installing traffic calming features, revising parking access, and rehabilitate adjacent parking areas.
Location: Teo Rd, Wishpoosh Rd, Buster Rd, Wanity Loop, Spiel-Yi Loop, Arrowhead Lane, and adjacent parking areas.
Approximate Length: 1.5 miles.

12) **Rt. 399 Heritage Connectivity Trail;** (Tribe, State, County, City)
Purpose: Pedestrian Safety by constructing pathway by grading, draining, and paving, to include informational kiosks, rest areas, transit access and community connectivity.
Location: Along US 97, Fort Rd, Fort Simcoe Rd, Lateral A Rd, SR 22, SR 223, Donald-Wapato Rd, N Meyers Rd, Signal Peak Rd, N White Swan Rd, Branch Rd and other roadways and city streets.
Approximate project length: 125 miles

13) **Incident Command Center Parking;** (Tribal)
Purpose: Construct parking area by grading, draining, paving, curbs, gutter and sidewalks, to include access
Location: Robbins Road 1 mile west of Toppenish (Sec. 8, T10N, R20E)
Approximate project length: 0.2 mile

14) **Rt. 283 Georgeville Street;** (Tribe/BIA)
Purpose: Extend and construct by grading, draining, paving, curbs, gutter and sidewalks, to include improving safety by realigning access to US 97.
Location: Georgeville Housing site 5 miles north of Goldendale WA.
Approximate length: 0.2 mile.

15) **Rt. 331 Adams View Park St (Bessey Springs, Shix Neet & Skow);** (Tribe)
Purpose: Reconstructing by grading, draining, paving, curbs, gutter and sidewalks.
Location: Allot. T-2124, from Fort Road to end.
Approximate Length: 0.8 mile.

16) **Rt. 64 White Swan Streets, B & BC Street** (Tribe/BIA)
Purpose: Reconstructing B & BC Streets by grading and Bituminous Surface Treatment.
Location: From Elm Street to end.
Approximate project length: 0.2 mile.

17) **Safe Routes To School;** (Mt Adams School District/YVCOG/WSDOT/Yakima County/Tribe)
Purpose: Assist with planning and providing matching funds or services to obtain SRTS grant for the purpose of planning and constructing safer pedestrian and bicycle facilities for students walking and biking to and from school.
Location: Mt Adams School District, White Swan and Harrah
Approximate Length: TBD.

18) **Rt. 12 Latum Road** (Tribe/BIA)
Purpose: Reconstructing by grading and applying Bituminous Surface Treatment
Location: Pearne Road to Old Maid Road
Approximate length: 1.5 miles

19) **Rt. 127 Dry Logy Road** (Tribe/BIA)
Purpose: Reconstructing by installing guardrail, cement treated base and asphalt pavement surface.
Location: 0.2 mile south of Toppenish Creek to Fort Simcoe Road.
Approximate project length: 1.3 miles.

20) **Cultural Site Entry Roads;** (Tribe)
Purpose: Improve access and parking to an all-season surface by grading, draining and gravel application.
Location: All cemeteries accessible by public roads serving Yakama Nation.
Approximate Length: TBD

21) **Rt. 131 Simcoe Creek Road & Rt. 16 Soda Springs Road** (Tribe/BIA)
Purpose: Reconstructing by grading, draining, and Bituminous Surface Treatment.
Location: From Simcoe Creek crossing to Old Maid Road.
Approximate Length: 4.5 miles.

22) **Rt. 355 Big Muddy Haul Road** (Tribe/WSDNR/Hancock FM)
Purpose: Reconstructing by grading, draining, grinding existing pavement, and resurfacing.
Location: From Klickitat County Line to Closed Area boundary.
Approximate length: 5.7 miles.

BE IT FURTHER RESOLVED, that any member of the Yakama Tribal Council Executive Board is authorized to negotiate and execute the contract and amendments thereof, on behalf of the Yakama Nation Tribal Council, as delegated by section III-A of the Rules of Procedures pursuant to T-10-61, as approved, provided further that any Executive Board member may negotiate the contract.

BE IT FINALLY RESOLVED, that the Yakama Nation does not waive, alter, or otherwise diminish our Sovereign Immunity, whether expressed or implied, by virtue of this resolution for any and all administrative or legal action which may arise directly or indirectly from the same, nor does the Yakama Nation waive, alter, or otherwise diminish its rights, privileges, remedies or services guaranteed by the Treaty of 1855.

DONE AND DATED on this 19th day of April 2021, by undersigned members of the Executive Committee of the Yakama Tribal Council.

Delano Saluskin, Chairman
Yakama Tribal Council

Virgil Lewis, Vice-Chairman
Yakama Tribal Council

Athena Sanchey-Yallup, Executive Secretary
Yakama Tribal Council

Cc: file
RIL Ca#043-2021-5

May 22, 2023

To: U.S. Bureau of Reclamation Aquatic Ecosystem Restoration Projects Program FY23 (R23AS00106) Reviewers

Re: Support for the Pom Pom Road Habitat Restoration Proposal

Dear Review Committee,

As members of the Yakima Basin Integrated Plan (Integrated Plan), we are writing to express support for the Yakama Nation's application under the U.S. Bureau of Reclamation Aquatic Ecosystem Restoration Projects Program for the *Pom Pom Road Habitat Restoration Proposal in Lower Toppenish Creek*.

This project is a critical component of the Habitat Protection and Enhancement and Fish Passage elements of the Integrated Plan. The Integrated Plan is a unique integrated water resource management effort supported by a coalition of 23 members, including conservation groups, agricultural interests, irrigators, and local, state, and federal agencies. The U.S. Bureau of Reclamation, Washington State Department of Ecology, and the Yakama Nation are leading plan implementation through partnership with these and other organizations. Federal legislation authorizing the Integrated Plan lays out an ambitious fishery goal:

> To protect, mitigate, and enhance fish and wildlife and the recovery and maintenance of self-sustaining harvestable populations of fish and other aquatic life, both anadromous and resident species, throughout their historic distribution range in the Yakima Basin.

To meet this goal, the Integrated Plan developed a Salmon and Steelhead 10-Year Restoration Strategy to accelerate actions to improve safe fish passage and to restore river flow and habitat. This strategy prioritizes a suite of actions aimed at the Lower Yakima River, where current fish passage conditions are a critical limiting factor to the entire Integrated Plan salmon and steelhead restoration effort. Addressing fish passage and survival and improving floodplain function and habitat in Toppenish Creek, a major Yakima River tributary, is identified as a high priority.

Toppenish Creek supports important fish species, including ESA Threatened Middle Columbia River steelhead and other Tribally valued species. The steelhead population has been steadily declining in recent years, and urgent action is needed to restore the run before it reaches a critically low threshold. Restoration is necessary to ensure the Yakama Nation's Treaty fishing rights

and to increase recreational fishing opportunities in the Yakima River and downstream through the Columbia River Basin.

Current conditions for fish in Lower Toppenish Creek are significantly impaired. Creek re-routing efforts in the early 1990s, and subsequent downcutting and floodplain disconnection of the floodplain from the channel, has resulted in habitat degradation in and along the creek. Additionally, a creek crossing at Pom Pom Road blocks upstream passage during high flows and provides insufficient flood conveyance and sediment continuity for the stream's habitat forming processes to function.

The Yakama Nation's proposal is expected to have large-scale benefits for fish throughout Toppenish Creek and downstream through the Yakima and Columbia Rivers, building on major salmon and steelhead recovery efforts in the region. The proposal would replace the Pom Pom Road crossing with a 150-foot bridge and three new box culverts. The new crossing configuration would correct fish passage issues and increase flow conveyance by six times, restoring natural stream processes and sediment transfer in the project reach. The proposal would also restore the creek to 1.7 miles of its historic channel and reconnect a cold water springbrook and groundwater-fed off-channel habitat. These actions will replace 1.6 miles of degraded, low-quality habitat with 2.4 miles of high quality, complex rearing and spawning habitat for fish and reconnect 100 acres of floodplain forests to natural flooding conditions.

Thank you for your consideration of the Yakama Nation's proposal.

Sincerely,

Urban Eberhart
Kittitas Reclamation District

Cory Wright
Kittitas County

Amanda McKinney
Yakima County

Brandon Parsons
American Rivers

Lisa Pelly
Trout Unlimited

Scott Revell
Roza Irrigation District

Mike Livingston
WDFW

Tom Tebb
WA State Dept. of Ecology

United States Department of the Interior

BUREAU OF RECLAMATION
Columbia-Cascades Area Office
1917 Marsh Road
Yakima, WA 98901-2058

IN REPLY REFER TO:

CCA-5708
2.1.3.11

VIA ELECTRONIC MAIL ONLY

Mr. Tom Elliott
Tributary Enhancement Special Project Leader
Yakama Nation Fisheries
ellt@yakamafish-nsn.gov

Subject: Confirmation of Funding for Fiscal Year 2024

Dear Mr. Elliott:

This letter confirms that the Yakima River Basin Water Enhancement Project (YRBWEP) program within the Bureau of Reclamation's Columbia-Cascades Area Office has allocated a total of $5, 250,000 for the Toppenish Creek Corridor Enhancement project for use in fiscal year 2024. As you know, we are currently in the process of reviewing and processing the documentation associated with this P.L. 93-638's advanced agreement for Fiscal Year 2024, but we anticipate awarding the funding to Yakama Nation Fisheries prior to September 15th, 2023. It is our understanding that of the total amount, you will be allocating $2,000,000 of the total amount towards advancing the Pom Pom Road project.

We appreciate the continued partnership and would be happy to provide any additional information needed.

Sincerely,

JANINE EMPEL Digitally signed by JANINE EMPEL Date: 2023.05.22 13:14:37 -07'00'

Janine Empel
Project Manager and AOTR