KRD SOUTH BRANCH WATER CONSERVATION PLAN IMPLEMENTATION

WaterSMART Environmental Water Resources Projects for Fiscal Year 2023

Funding Opportunity No. R23AS00089

Prepared by

KITTITAS RECLAMATION DISTRICT

315 North Water
Ellensburg, Washington 98926-3053

Office Phone: 509-925-6158
Fax: 509-925-7425
Manager: Urban Eberhart
urban@krdistrict.org

March 9, 2023

CONTENTS

TECHNICAL PROPOSAL

EXECUTIVE SUMMARY

Date:	March 9, 2023
Applicant:	Kittitas Reclamation District
City/County/State:	Ellensburg, Kittitas, Washington
Reclamation Area:	Yakima Project

The Kittitas Reclamation District ("KRD") presents this application for funding by the U.S. Bureau of Reclamation's ("Reclamation") WaterSMART: Environmental Water Resources Projects for Fiscal Year 2023 Opportunity No. R22AS00089. KRD seeks $3,000,000 in federal funding assistance to provide benefits for fish and wildlife and the environment through a water conservation program designed to restore instream flows in over-appropriated or flow-impaired tributaries to the upper Yakima River. The program provides the instream flow through measures designed to reduce canal seepage and designates 100% of the otherwise lost water through an allocation, management, and protection agreement. This application will eliminate water loss in a section of KRD's South Branch Canal, which is part of Reclamation's Yakima Project. The project provides significant benefits for fish and wildlife and the environment by delivering the saved water to the streams and will benefit designated Critical Habitat for ESA-listed steelhead and Bull trout. KRD will begin implementation after the 2023 irrigation season (10/2023) and complete by 12/2026. Water designated for instream flow is calculated to be 385.3 acre-feet/year (1.08 cfs).

BACKGROUND DATA

PROJECT LOCATION

The KRD's Water Conservation Implementation on the South Branch Canal is located in Kittitas County Washington. It is approximately 5 miles to the west of Ellensburg. The project latitude is 47°00'N and longitude is -120°74'W (see Fig. 1).

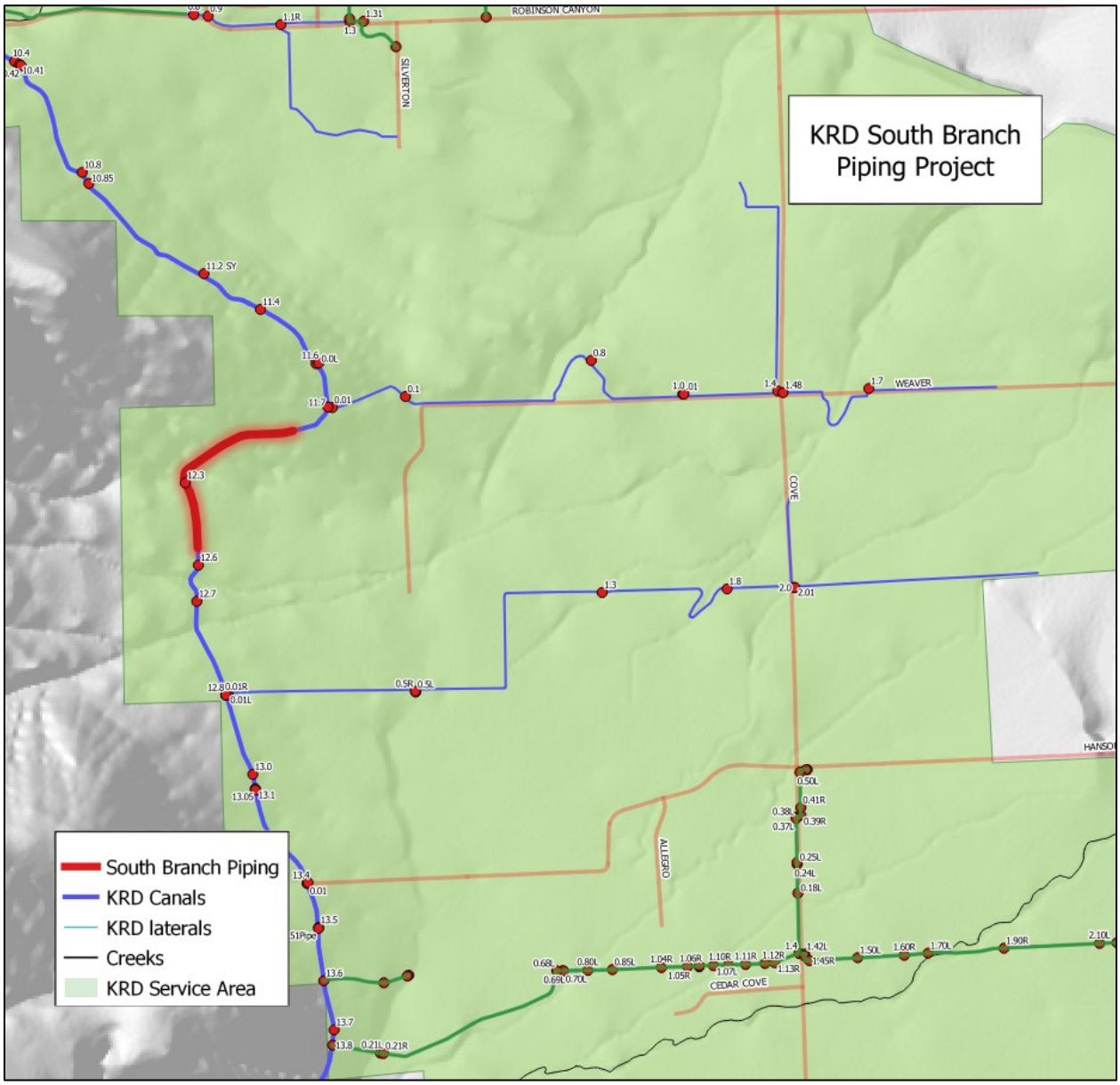

Figure 1. KRD plans 2,656 lineal feet of piping of the South Branch Canal.

This project proposal is for a portion of Phase II of KRD's South Branch Canal project ("SBC"). Phase II is designed and permitted and will proceed once funding is attained. The total SBC Phase II efforts will line 21,648 feet of canal and conserve 2,377 acre-feet/year (6.7 cfs delivery) for instream flow supplementation. The current funding request is therefore scalable, and if fully funded will save 385.3 acre-feet/year (1.08 cfs). This project is situated amongst other effeciencies projects the KRD has previously completed, see Figure 2.

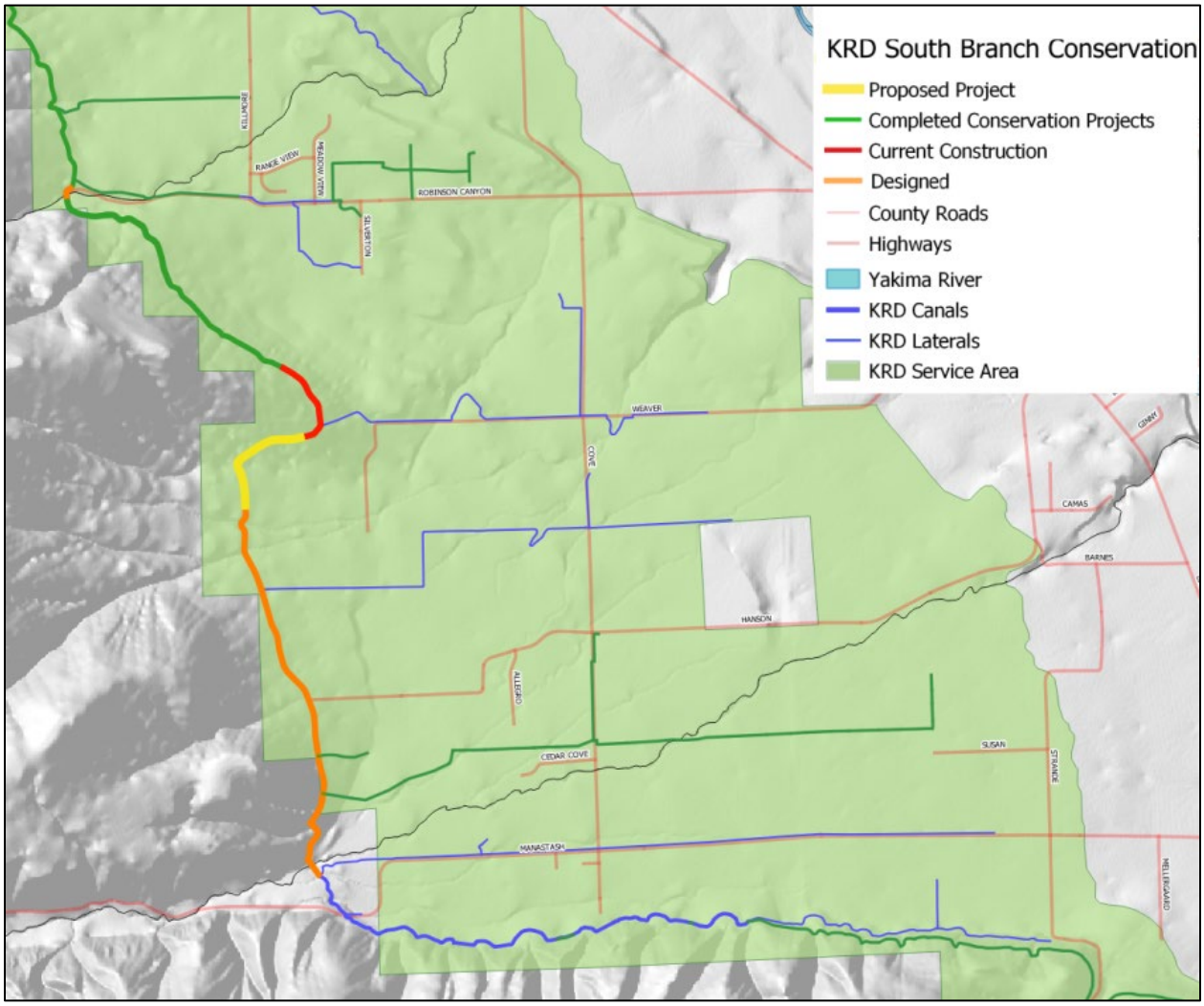

Figure 2. The current project, in yellow, complements previously completed projects as well as those planned for the future.

TECHNICAL PROJECT DESCRIPTION

The present proposal will pipe 2,656 LF of the South Branch Canal downstream of Robinson Siphon. The existing canal bottom is an earthen mix of cobbles, fine silts and sands, and basalt bedrock. KRD identified seepage losses from multiple water measurements, visual observations of canal bank seepage, and vegetation growth downslope of canal banks.

After mobilization, the contractor will improve the site access and staging areas. This will include clearing, grubbing and rough grading of the access roads, installation of silt fencing, culvert protection, and any other provisions required by the stormwater prevention plan.

The contractor will then excavate and regrade the canal, lay a gravel base course, and install 78-inch steel reinforced polyethylene pipe. The trench will then be backfilled and a crushed road surfacing top course will be installed. Turnouts will be replaced, and inspection ports will be installed every 1500 feet. A slope stabilization seeding, and any other site restoration will finish up the project.

The technical aspects of the water allocation, management, and protection are designed to provide benefits for fish, wildlife, and the environment during years of impaired stream flows in upper Yakima River tributaries. KRD accomplishes this through a three-party agreement between KRD, Reclamation, and the Washington Department of Ecology that specifies KRD will use the conserved water to supplement instream flows in upper Yakima River tributaries that are provide habitat for ESA-listed and unlisted species. The saved water from this project will go to improve stream flows in Manastash Creek, where KRD will utilize existing infrastructure at the creek-canal intersection to deliver a controlled amount of conserved water to help restore flows and keep the creek flowing.

If water is not biologically necessary in Manastash Creek, then this project allows KRD to use its conveyance system to deliver the water to other streams in need of flow. A committee made of local Yakima Basin fisheries and water professionals identify additional tributaries of the Yakima River most needing instream flow help on an annual basis. The committee will recommend the stream for supplementation to mimic natural flows. KRD will then deliver the water into the stream for ecosystem benefits. The Washington State Department of Ecology administers protection of this water.

There are four delivery points from the KRD canal system to Manastash Creek. These points will be added to the KRD's telemetry system with this funding to receive real-time flow information to maintain creek levels at the flows that the fish biologists say is necessary for stream health.

This project provides the flexibility to shape the water delivery as needed to mimic natural flows. Moreover, by piping the canal, KRD creates additional system capacity so that the canal system can also "wheel" downstream irrigation district water during drought conditions through the canal system and supplement stream flows without risk of delaying downstream water user water delivery due to canal seepage loss. This is possible because the water is Reclamation Yakima Project water and is protected by Ecology.

This project is modeled on an ongoing effort by KRD, Ecology, and basin partners to find innovative ways to conserve water for instream flows. Traditional methods of acquiring water rights to restore flows is less predictable and, even when the most senior water is acquired, can leave a stream dry during drought conditions. In addition to providing guaranteed water during drought years, this project also provides water during non-drought years so the environment is resilient to drought conditions.

APPLICANT CATEGORY AND ELIGIBILITY OF APPLICANT

The KRD is a Category A applicant. The project is canal piping that delivers saved water to flow impaired streams and provides for more reliable water supplies for our landowners and benefits ecological values, endangered species recovery, and watershed health by improving stream riparian vegetation and water temperatures.

PERFORMANCE MEASURES

The KRD measures the delivery of saved water to impaired streams through flow meters and weirs and will add real-time telemetry with this funding. An annual summary of deliveries, including daily stream supplementation and total acre-feet, is made available to Reclamation and the Washington State Dept. of Ecology. Additionally, the Washington Department of Fish and Wildlife are monitoring the ecological responses to continually wet streams during summer months to identify and track any changes in ecosystem health.

EVALUATION CRITERIA

EVALUATION CRITERION A—PROJECT BENEFITS

E.1.1.1.1 General Project Benefits

This project will provide significant benefits for fish and wildlife through the delivery of the saved water to flow impaired streams. The species of interest are Coho and Chinook salmon, Mid-Columbia steelhead (ESA-threatened), and Bull trout (ESA-threatened). Coho and Chinook salmon historically had access to and likely migrated and reared in the lower reaches of upper Yakima River tributaries. These fish are all reliant on adequate water supply and quality to provide passage and habitat.

The KRD expects benefits to include: improved instream flows that increase available fish habitat and improve fish passage through flow-impaired stream reaches; improved conditions for aquatic insects (prey base for fish and wildlife); improved natural stream processes such as sediment transport and channel formation; and improved riparian forest health. Moreover, the

KRD (through its work with the Washington Department of Fish and Wildlife, expects these benefits to interact and provide greater ecosystem benefits that are difficult to measure. For example, improved stream flows will likely promote riparian vegetation growth that shade the stream and reduce the stream's solar exposure which, in turn, may limit the stream's high temperatures during summer months, which in turn may provide more habitat than originally anticipated and increase aquatic invertebrates' diversity and density—the prey base for fish.

This project will benefit two ESA-listed species (both threatened): Mid-Columbia steelhead and Bull trout. Both fish species are subject to plans for recovery and conservation within the Yakima Basin. The 2009 Yakima Steelhead Recovery Plan states that "drought worsens the effects of other threats on adult spawning success and juvenile survival" (p. 73, 2009 Yakima Steelhead Recovery Plan). Specifically, the flow, temperature, and key habitat quantity may be impaired. The proposed project would help reduce the impacts of drought on Steelhead by providing continuous flow in tributaries that provide habitat for adult and juvenile fish during drought years.

Bull trout distribution in the Yakima Basin have an Action Plan (2012) that provides guidance on species recovery. The Yakima Bull trout are, like all fish, reliant on water for survival. However, they are less likely to be present in the immediate flow supplementation areas due to the timing and general habitat conditions in the streams. Rather, the Bull trout in tributaries may inhabit headwaters where conditions are more suitable when the instream flow restoration is taking place in the flow impaired (lower) reaches. Regardless, the project will help improve stream conditions during summer and fall months that leave the stream in better health for winter months when the Bull trout may utilize lower reaches for feeding, migration, or overwintering.

E.1.1.1.2 Water Conservation and Efficiency Project Benefits

Water savings is estimated at 385.3 acre-feet annually. The KRD estimated canal losses using current metering, water balances, and accepted engineering. The table below shows the total supply, deliveries to landowners in the project area, and canal flow after the project. The difference between the supply, the total deliveries, and the remaining flow represents the total conveyance losses in this canal reach.

Site	Turnout	4/26/2016 Discharge (cfs)	5/18/2016 Discharge (cfs)	7/25/2016 Discharge (cfs)	8/26/2016 Discharge (cfs)
Measured Flow SB7.6		58.43	50.16	117.2	121.41
Deliveries	7.6	0	0	0	0
	7.8	0.1	0	0.03	0.35
	8.2	0	0	0	0
	8.5	0	0	0	0
	8.8	0	0	2.23	2.23
	8.9	0	0	0	0
	9.2-0.01L	0	0	0	0
	9.2-0.01	0.42	0	0	0.97
	9.4	0	1.66	1.5	3.15
	9.6	0	1	2	1.25
Total Deliveries (cfs)		0.52	2.66	5.76	7.95
Measured Flow SB 9.9		54.16	44.99	104.58	106.84
Daily Conveyance Loss		**3.75**	**2.51**	**6.86**	**6.62**
Average Conveyance Loss in 2.3 Miles (cfs)					**4.94**
Average Daily Loss (acre-feet)					**9.79**
Annual Loss for 180 Day Irrigation Season (acre-feet)					**1762**
Annual Acre-foot Loss per Mile					**766**
Annual Acre-foot loss in Project Area (2656 lineal feet=0.50 miles)					**385.3**

The saved water is currently being lost to evaporation and seepage. Seepage water is mainly being taken by vegetation growing along the canal. Some water flows to downgradient landowners as unmetered deliveries.

KRD has a water "allocation, management, and protection" memorandum of agreement with the U.S. Bureau of Reclamation and Washington Department of Ecology that provides the pathway to allocate the water for instream flow on an annual basis (and adjusts it during the irrigation season as conditions require).

The saved water from this project will go to improve stream flows in Manastash Creek, where the KRD will utilize existing infrastructure at the creek-canal intersection to deliver a controlled amount of conserved water to help restore flows and keep the creek flowing.

If water is not biologically necessary in Manastash Creek, the agreement allows the KRD to use its conveyance system to deliver the water to other streams in need of flow. The KRD will use a committee made of local Yakima Basin fisheries and water professionals to identify additional stream(s) most needing instream flow help on an annual basis. The committee will recommend the stream for supplementation to mimic natural flows. The KRD will then deliver the water into the stream for ecosystem benefits. The Washington Department of Ecology administers protection of this water.

This project will provide significant benefits for fish and wildlife through the delivery of the saved water to flow impaired streams. The species of interest are Coho and Chinook salmon, Mid-Columbia steelhead (ESA-threatened), and Bull trout (ESA-threatened). Coho and Chinook salmon historically had access to and likely migrated and reared in the lower reaches of upper Yakima River tributaries. These fish are all reliant on adequate water supply and quality to provide passage and habitat. KRD expects benefits to include: improved instream flows that increase available fish habitat and improve fish passage through flow-impaired stream reaches; improved conditions for aquatic insects (prey base for fish and wildlife); improved natural stream processes such as sediment transport and channel formation; and improved riparian forest health. Moreover, KRD (through its work with the Washington Department of Fish and Wildlife, expects these benefits to interact and provide greater ecosystem benefits that are difficult to measure. For example, improved stream flows will likely promote riparian vegetation growth that shade the stream and reduce the stream's solar exposure which, in turn, may limit the stream's high temperatures during summer months, which in turn may provide more habitat than originally anticipated and increase aquatic invertebrates' diversity and density—the prey base for fish.

This project will benefit two ESA-listed species (both threatened): Mid-Columbia steelhead and Bull trout. Both fish species are subject to plans for recovery and conservation within the Yakima Basin. The 2009 Yakima Steelhead Recovery Plan states that "drought worsens the effects of other threats on adult spawning success and juvenile survival" (p. 73, 2009 Yakima Steelhead Recovery Plan). Specifically, the flow, temperature, and key habitat quantity may be impaired. The proposed project would help reduce the impacts of drought on Steelhead by providing continuous flow in tributaries that provide habitat for adult and juvenile fish.

Bull trout distribution in the Yakima Basin have an Action Plan (2012) that provides guidance on species recovery. The Yakima Bull trout are, like all fish, reliant on water for survival. However, they are less likely to be present in the immediate flow supplementation areas due to the timing and general habitat conditions in the streams. Rather, the Bull trout in tributaries may inhabit headwaters where conditions are more suitable when the instream flow restoration is taking place in the flow impaired (lower) reaches. Regardless, the project will help improve stream conditions during summer and fall months that leave the stream in better health for winter months when the Bull trout may utilize lower reaches for feeding, migration, or overwintering.

E.1.1.2 *Subcriterion A.2: Multiple Benefits*

The saved water will be delivered to tributaries of the Yakima River and becomes part of TWSA (Total Water Supply Available) for the Yakima Basin Project. When the water reaches the Yakima River it is used to meet downstream uses including irrigation, municipal, tribal, and fisheries demands.

This project will provide significant benefits for fish and wildlife through the delivery of the saved water to flow impaired streams. The species of interest are Coho and Chinook salmon, Mid-Columbia steelhead (ESA-threatened), and Bull trout (ESA-threatened). Coho and Chinook salmon historically had access to and likely migrated and reared in the lower reaches of upper Yakima River tributaries. These fish are all reliant on adequate water supply and quality to provide passage and habitat. KRD expects benefits to include: improved instream flows that increase available fish habitat and improve fish passage through flow-impaired stream reaches; improved conditions for aquatic insects (prey base for fish and wildlife); improved natural stream processes such as sediment transport and channel formation; and improved riparian forest health. Moreover, KRD (through its work with the Washington Department of Fish and Wildlife, expects these benefits to interact and provide greater ecosystem benefits that are difficult to measure. For example, improved stream flows will likely promote riparian vegetation growth that shade the stream and reduce the stream's solar exposure which, in turn, may limit the stream's high temperatures during summer months, which in turn may provide more habitat than originally anticipated and increase aquatic invertebrates' diversity and density—the prey base for fish.

The saved water from this conservation project becomes part of TWSA (Total Water Supply Available) for the Yakima Basin Project, therefore enhancing the amount of water available to the users reliant on this resource and reducing the conflicts over water, especially during drought years.

E.1.2. EVALUATION CRITERION B: COLLABORATIVE PROJECT PLANNING

In 2009, a diverse group of interests in the Yakima Basin came together with a desire to build a framework for resource management that would address the community's needs and put long-standing conflicts over water and fisheries behind them. The Yakima Basin Integrated Plan was born: a common-sense, pragmatic approach. The Integrated Plan covers thirty years, divided into

three ten-year implementation phases. Through the Integrated Plan stakeholders have a place to discuss ideas surrounding water resources and improved water security for fish, farms, and communities in the Yakima Basin.

The Yakima River Basin Water Enhancement Project Workgroup provides policy and project development consultation on the implementation of the Yakima Basin Integrated Plan. Those members include: American Rivers, Benton County, Kenniwick Irrigation District, Kittitas County, Kittitas Reclamation District, NOAA Fisheries, Roza Irrigation District, Sunnyside Valley Irrigation District, Trout Unlimited, US Army Corps of Engineers, US Bureau of Reclamation, US Fish and Wildlife, US Forest Service, WA Dept of Agriculture, WA Dept of Ecology, WA Dept of Fish and Wildlife, the Yakama Nation, Yakama Nation Fisheries, City Of Yakima, Yakima Basin Fish and Wildlife Recovery Board, Yakima Basin Storage Alliance, Yakima County, and Yakima-Tieton Irrigation District.

The Integrated Plan identifies seven elements needed to achieve a balanced and comprehensive approach to water resource management and ecosystem restoration in the Yakima River Basin, including Reservoir Fish Passage, Structural and Operational Changes, Surface Water Storage, Groundwater Storage, Habitat/Watershed Protection, Enhanced Water Conservation, and Market Reallocation.

Conserving up to 170,000 acre-feet of water per year is the goal of the agricultural side of this program, allowing better instream flows for fish and more precise delivery and use of water. Local governments actively encourage improvements in water conservation from individual homeowners for indoor and outdoor use.

This project is part of the Integrated Plan, and builds upon the ongoing dialogue with neighbors this has made possible. Similar lining and piping conservation projects on the KRD South Branch Canal have been funded by the Bureau of Reclamation's Yakima River Basin Water Enhancement Project as part of the Water Conservation portion of the Integrated Plan.

E.1.3. EVALUATION CRITERION C: STAKEHOLDER SUPPORT

Project partners are numerous and vital to project success. The KRD leads the process for piping the canal and moving water for irrigators and instream flow. Please see the attached letters of support. Partners and their roles are:

- WA Dept of Ecology is responsible for water protection and enforcement;
- WA Dept of Fish and Wildlife is responsible for monitoring the environmental benefits and making recommendations for water delivery for instream flow;
- U.S. Bureau of Reclamation operates the Yakima Project and is supportive of the KRD's water conservation plans and how the KRD system can be used to meet the goals of the Yakima Basin Integrated Plan.
- Kittitas County Conservation District is responsible for working with landowners to implement irrigation efficiency (on-farm) projects that enhance canal piping benefits;

- Trout Unlimited assists with instream flow projects that reduce the need for instream flow and enhance instream flow benefits

There is significant support and collaboration that shows how this project is bridging historical divides for water resources. The support brings diverse stakeholders together to find an alternative solution to instream flow for the ecosystem while maintaining the water needed to maintain the agricultural nature of area. This is a key element of the Yakima Basin Integrated Plan. The Integrated Plan is supported a diverse group of interests: agriculture, municipal, tribal, environmental, and recreational.

Washington State, through the Dept of Ecology, is funding the match requirement for this project. There is no opposition to the proposed project.

E.1.4. EVALUATION CRITERION D—READINESS TO PROCEED

Many of the necessary elements of this project have already been completed. This will allow for construction to begin soon after the grant contract is completed.

Implementation Element	**Planned Start**	**Completion**
Section 106 report		08/01/2020
MOA with DAHP		10/09/2020
NEPA documents		10/22/2020
Design		09/28/2020
Bid-ready plans	09/01/2023	10/01/2023
Contractor award	10/01/2023	10/15/2023
Contractor mobilization	11/01/2023	11/15/2023
Construction	11/15/2023	04/30/2024
Construction oversight/engineering during construction	11/15/2023	04/30/2024

Permitting has been completed including the Section 106 review, MOA with the state historic preservation officer, and NEPA documents issued through the local Reclamation area office. No other permits are anticipated to be required. An engineer's design has been completed and reviewed by the Yakima Area Office of the Bureau of Reclamation. Bid ready documents will be prepared when the funding amount is known. All work will be within existing Bureau of Reclamation right-of-ways, and no land or water will be purchased.

E.1.5. EVALUATION CRITERION E: PERFORMANCE MEASURES

The piping of the South Branch Canal will eliminate 100% of the system loss in the project area. Steel Reinforced High Density Polyethylene (SRPE) Pipe will be used, and after the project is complete, flow meters will be installed on all deliveries. A ramp flume is installed at the beginning of the project, and a cipoletti weir at the end, so determining any system loss will be straightforward.

KRD has a water "allocation, management, and protection" memorandum of agreement with the U.S. Bureau of Reclamation and Washington Department of Ecology (see Appendix B). This agreement provides the pathway to allocate the water for instream flow on an annual basis (and adjust it during the irrigation season as conditions require). This 3-party MOA is the key to this project. Water saved through this project is put into trust and dedicated to stream supplementation. Each year, the Yakama Nation, multiple environmental agencies, and other interested parties meet to discuss the needs of local streams with listed species to determine the locations and rates of stream supplementation based on up to the minute known needs of these streams.

The Washington State Department of Ecology is responsible for water protection and enforcement, and will ensure that delivered water stays instream. The Washington State Department of Fish and Wildlife monitor the supplemented streams and make an annual report to stakeholders with information on Flow, Stream Temperature, Chemistry (Dissolved Oxygen & pH), Canal Temperature & Water Chemistry, Electrofishing, Redd Surveys, and PIT tag monitoring.

E.1.6. EVALUATION CRITERION F: PRESIDENTIAL AND DEPARTMENT OF THE INTERIOR PRIORITIES

Climate Change

Climate projections for the Yakima Basin indicate a warming trend resulting in precipitation falling as more rain instead of snow. Anticipated annual shortfalls are similar to droughts. The shortfall's extent will be variable. Since 1992, drought reduced the proratable irrigation district water supply to <70% one in every four years. In 2015, irrigation districts only received 47% of normal water supply.

This project builds long-term resilience to drought by eliminating a source of water loss and then designating the previously lost water as water for instream flow. The instream flows help restore stream ecosystems and natural processes to benefit fish and wildlife habitat and the riparian communities (people and nature). By providing flows in drought years and in Climate Change induced shortages, KRD is helping to prevent short-term ecosystem collapse while building longer-term resiliency to annual impaired flow conditions. The robust ecosystem is more drought resilient because the overall health is better. KRD expects this project to provide benefits for as

long as instream flow is necessary. This project also provides certainty and flexibility with the water management for water delivered through the South Branch Canal by providing certainty in the amount of water needed to deliver irrigation water through the leaking sections. The project's saved water becomes part of the supply for Yakima Project purposes, increasing the ability for managers to react to future water shortfalls.

Disadvantaged or Underserved Communities

This project will benefit rural KRD customers being served by the South Branch Canal.

Tribal Benefits

The water delivered to flow impaired tributaries will help recover salmon stocks and contribute to Yakama Nation Treaty Rights. This project will help restore fish populations to which the Yakama Nation has a Treaty Right to harvest. Please see the attached letter of support from the Confederated Tribes and Bands of the Yakama Nation.

PROJECT BUDGET

FUNDING PLAN AND LETTERS OF COMMITMENT

The project cost is $4,000,000. The project estimate is based on reasonable and allowable costs, bid prices on similar projects, input from engineering professionals, and historical costs and production rates. These costs were assembled with the intent for construction to begin following the 2023 irrigation season and be completed by the end of 2026.

Table 2. Summary of non-federal and federal funding sources. KRD's non-federal amount will come from the Washington Department of Ecology's Water Resources Program.

Funding Sources	Amount
Non-Federal Entities	
Washington Department of Ecology	$ 1,000,000.00
Non-Federal Subtotal	$ 1,000,000.00
Other Federal Entities	
none	
Other Federal Subtotal	$ 0.00
Requested Reclamation Funding	**$ 3,000,000.00**

KRD will not incur any costs that will be included as project costs before the anticipated start date**.** KRD has received committed funding from the Washington Department Ecology in the amount of $1,000,000 to match this request.

At the present time, KRD has not requested nor received any additional federal funds to contribute to this project. If this changes, KRD will notify Reclamation to comply with the cost-share requirements for this project.

Source	Amount
Costs to be reimbursed with the requested Federal funding	$3,000,000
Costs to be paid by the applicant	$1,000,000
Value of third-party contributions	$0
TOTAL project cost	**$4,000,000**

BUDGET PROPOSAL

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Employee 1				$ -
Employee 2				$ -
Employee 3				$ -
Fringe Benefits				
Full-Time Employees				$ -
Part-Time Employees				$ -
Travel				
Trip 1				$ -
Trip 2				$ -
Trip 3				$ -
Equipment				
Item A				$ -
Item B				$ -
Supplies and Materials				
Item A				$ -
Item B				$ -
Contractual/Construction				
Construction Contractor				$ 3,722,500.00
Engineering Services				$ 277,500.00
TOTAL DIRECT COSTS				$ 4,000,000.00
Indirect Costs				
Schedule & Market Condition				$ -
TOTAL ESTIMATED PROJECT COSTS				$ 4,000,000.00

SALARIES AND WAGES

KRD is not requesting or claiming any salary or wage related expenses from this project.

FRINGE BENEFITS

KRD is not requesting or claiming fringe benefits related expenses from this project.

TRAVEL

KRD is not requesting or claiming travel-related expenses from this project.

EQUIPMENT

KRD is not requesting or claiming equipment-related expenses from this project.

MATERIALS AND SUPPLIES

KRD will furnish materials and supplies and expects minimal costs from this action and excludes it from the project budget.

CONTRACTUAL (CONSTRUCTION)

The contractual budget is for construction costs and engineering services during construction. The District will hire a contractor to complete construction of the project. The contractor chosen will be selected based on the results of an advertised competitive bidding process. The contractor will enter into a unit price contract for furnishing and installing all equipment and materials necessary for construction of the complete and functional proposed upgrades.

Construction scheduling and, to some extent, costs, may be affected by the need to do the entire canal piping work during the non-irrigation season. The limited available construction season occurs during the fall and winter months.

ENVIRONMENTAL AND REGULATORY COMPLIANCE

Environmental and regulatory compliance have been completed. KRD does not anticipate any further environmental or regulatory compliance costs.

OTHER—REPORTING

This line item includes costs to be incurred while reporting to federal funders. In accordance with the FOA requirements, KRD will prepare and submit to Reclamation an SF-425 Federal Financial Report, two quarterly reports, and a final report. KRD will assume this cost as part of regular operations.

INDIRECT COSTS

For this project, the recipient will not have any indirect costs. All costs associated with the project are direct and can be documented as such.

TOTAL COSTS

The estimated total project cost is $4,000,000. The requested federal share through the WaterSMART program is $3,000,000; the total non-federal share is $1,000,000. A copy of the completed SF 424C, Budget Information – Construction Programs, is provided.

ENVIRONMENTAL AND CULTURAL RESOURCES CONSIDERATIONS

Q.*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.*
A. The canal piping improvements will take place within the existing canal right-of-way. Existing KRD maintenance roads provide adequate site access, and all work will occur within KRD's right-of-way. An environmental review shows that there will be minor or no negative environmental impacts to earth (soils), air, plants, animals, energy and natural resources, environmental health (health hazards and noise), land and shoreline use, housing, aesthetics, light and glare, recreation, historic and cultural preservation, transportation, public services, and utilities. During construction, best management practices (BMPs), such as sediment control fencing and sprinkling the ground surface for dust control, will be maintained in ground-disturbance areas. There is no earth disturbing work anticipated from the stream supplementation component.

Q. ***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?***
A. Yes, the KRD is aware of listed species and designated critical habitat in the project area (including Manastash Creek for instream flow). Stream supplementation will occur in streams with ESA-listed fish species and designated Critical Habitat. Both the habitat and fish species will be affected by the stream supplementation, though the effects are expected to be positive and help with species' recovery.

Q. ***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, please describe and estimate any impacts the proposed project may have.***
A. Construction activities will occur along the existing KRD right-of-way, which does not possess wetlands or "waters of the United States"; therefore, impacts to wetlands and/or waters under Federal jurisdiction are not anticipated. Regardless, construction activities will implement BMP measures to control erosion, turbidity from de-watering water, dust, and noise. Required mitigation of impacts to the environment is not anticipated.

Streams receiving supplementation water do fall within the "waters of the United States" under Federal Clean Water Act jurisdiction. KRD expects positive impacts to these streams will be restored flows. Moreover, the KRD has non-sediment producing, designated turnout structures for each stream. The flows entering the stream will enter via designated and established input locations. As such, the KRD does not anticipate any negative impacts from the stream supplementation portion.

Q. ***When was the water delivery system constructed?***
A. The South Branch Canal was constructed in 1928.

Q. ***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.***
A. Yes, this project will affect one canal originally constructed in 1928. Routine maintenance has altered the canal since its original construction. A Section 106 review has been conducted, and an MOA was negotiated with Washington State DAHP for mitigation.

Q. ***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.***
A. A Section 106 review has been conducted, and an MOA was negotiated with Washington State DAHP for mitigation.

Q. ***Are there any known archeological sites in the proposed project area?***
A. No archaeological deposits or Traditional Cultural Places (TCPs) were identified within the APE.

Q. ***Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?***
A. No, the total project will not have a disproportionally high and adverse effect on low income or minority populations. KRD is not aware of any low-income or minority population communities adjacent to, and subject to disproportionately high and adverse effects, the project area.

Q. ***Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?***
A. No, this project will not limit access to and ceremonial use of Indian sacred sites.

Q. ***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?***
A. No, the project will not contribute to the spread of noxious weeds or non-native invasive species. BMP measures will take place during construction to limit introduction of noxious weeds and/or non-native invasive species. Post-construction, a native seed mix will be planted in all disturbed areas. Non-native Brook or Brown trout *may* be present in supplemental flow

streams. Both species are present in other areas in the upper Yakima Basin but are typically confined to headwater reaches. As such, providing more natural stream flows will not likely contribute to the continued existence of these fish as they already exist and this project is designed to help recover native fish in the lower, dewatered reaches of perennial streams.

FEDERAL PERMITTING

A Section 106 review has been conducted, and an MOA was negotiated with Washington State DAHP for mitigation. The Columbia-Cascades Area Office have completed a NEPA review that fit within a recognized Categorical Exclusion to NEPA. Environmental impacts will be minimized during construction using BMPs.

STATE PERMITTING

Permits for canal piping within KRD's right-of-way are not required.

LOCAL PERMITTING

Permits for the canal piping and flow supplementation are not required at a local level.

Kittitas Reclamation District

P.O. Box 276
Ellensburg, WA 98926
Phone: (509) 925-6158 Fax: (509) 925-7425

RESOLUTION 2023-02

WHEREAS, the Kittitas Reclamation District is in receipt of the U.S. Bureau of Reclamation Funding Opportunity Announcement No. R23AS00089, WaterSMART - Environmental Water Resources Projects for Fiscal Year 2023; and;

WHEREAS, the Kittitas Reclamation District has legal authority to enter into a grant with the Bureau of Reclamation; and;

WHEREAS, the Board of Directors of the Kittitas Reclamation District supports the application submitted; and;

WHEREAS, the Kittitas Reclamation District will work with the U.S. Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors that the Secretary-Manager, Urban Eberhart, has legal authority to enter into agreement with the U.S. Bureau of Reclamation WaterSMART Grant financial assistance program and to sign any and all documents necessary to enter into the WaterSMART program.

DATED, this 7th day of March, 2023.

Fred Schnebly, Chairman

Mark Hansen, Vice Chairman

Brad Haberman

Sherry Swanson

Bart Bland

ATTEST:
SECRETARY / MANAGER OF THE BOARD

Urban B. Eberhart

DATE

March 7, 2023

DISTRICT LEGAL COUNSEL

Jeff Slothower, WSBA #14526

Kittitas County Conservation District
2211 W Dolarway Road, Suite 4, Ellensburg WA 98926
(509) 925-3352 www.kccd.net

February 22, 2023

Bureau of Reclamation
Attn: Josh German
P.O. Box 25007, MS 86-69200
Denver, CO 80225

RE: Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023

Dear Mr. German:

The Kittitas County Conservation District is pleased to support the WaterSMART proposal: KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As Climate Change is expected to significantly impact the Yakima Basin, the Kittitas County Conservation District is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, both in normal water supply years and during periods of drought—which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Basin's water supply security.

We encourage Reclamation's support and approval of this proposal.

If you have any questions regarding this letter, please contact me at 509-925-3352 ext. 7 or anna.lael@kccd.net.

Sincerely,

Anna Lael
District Manager

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization

March 1, 2023

Bureau of Reclamation
Attn: Josh German
P.O. Box 25007, MS 86-69200
Denver, CO 80225

RE: Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023

Dear Mr. German:

Trout Unlimited is pleased to support the WaterSMART proposal: KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As Climate Change is expected to significantly impact the Yakima Basin, Trout Unlimited is especially interested in finding alternative and innovative ways to keep streams and rivers flowing while providing water to maintain the agricultural heritage of the basin, both in normal water supply years and during periods of drought—which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP) and its partners. YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Basin's water supply security.

We encourage Reclamation's support and approval of this proposal.
If you have any questions regarding this letter, please contact Lisa Pelly at 509-630-0467 or LPelly@tu.org.

Sincerely,

Lisa Pelly

Washington Water Project
103 Palouse, Suite 14, Wenatchee, WA 98801 and 115 S. Glover Street, Twisp, WA 98856
(509) 888-0970 • Fax: (509) 888-4352 • www.tu.org

Director, Washington Water Project

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
304 S. Water Street, Suite 201
Ellensburg, Washington 98926-3617

February 27, 2023

Josh German
Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

Re: Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023

Dear Mr. German:

NOAA Fisheries (U.S. Department of Commerce) is pleased to support the WaterSMART proposal, KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

The project supports NOAA Fisheries' goals of recovering ESA-listed fish, improving habitat that supports commercial fisheries and coastal communities, and protecting tribal trust resources. This project will help expand implementation of an innovative program that improves water reliability for fisheries and agriculture, and is the product of community consensus on how to address the threat of a changing climate to water security for all of our local water-dependent resources.

We encourage Reclamation's support and approval of this proposal.

If you have any questions regarding this letter, please contact Sean Gross at 509-856-5442.

Sincerely,

Sean Gross
Mid-Columbia Recovery Coordinator
Columbia Basin Branch
Interior Columbia Basin Office

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Office of Columbia River
1250 West Alder St., Union Gap, WA 98903-0009 • 509-575-2490

March 1, 2023

Bureau of Reclamation
Attn: Josh German
P.O. Box 25007, MS 86-69200
Denver, CO 80225

RE: **Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023**

Dear Josh German,

The Washington Department of Ecology's Office of Columbia River is pleased to support the WaterSMART proposal: KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As Climate Change is expected to significantly impact the Yakima Basin, Ecology's Office of Columbia River is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, both in normal water supply years and during periods of drought—which is exactly what KRD does with this project.

Ecology's Office of Columbia River is the state agency responsible for implementing the Yakima Basin Integrated Water Resource Management Plan (YBIP) in partnership with the Bureau of Reclamation, the Yakama Nation and a diverse set of stakeholders including irrigation districts like KRD. This proposal builds on years of success and work accomplished under YBIP. YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven key elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Basin's water supply security.

We encourage the Bureau of Reclamation's support and approval of this proposal.

If you have any questions regarding this letter, please contact me at 509-574-3989 or by email at gteb461@ecy.wa.gov.

Sincerely,

G. Thomas Tebb, L.H.G, L.E.G
Director
Office of Columbia River

GT:jc (230214)

CC: Urban Eberhart, Kittitas Reclamation District
Kevin Eslinger, Kittitas Reclamation District
Melissa Downes, Department of Ecology, Office of Columbia River
Kevin Haydon, Department of Ecology, Office of Columbia River

KITTITAS COUNTY
DEPARTMENT OF PUBLIC WORKS
Arden Thomas, Water Resources Manager

March 21, 2023

Bureau of Reclamation
Attn: Josh German
P.O. Box 25007, MS 86-69200
Denver, CO 80225
RE: Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023

Dear Mr. German:

The Kittitas County Water Resource Program is pleased to support the WaterSMART proposal: KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. Kittitas County takes an active role in water supply management, recognizing water is a finite resource and availability has broad implications for environmental, agricultural, and domestic and municipal uses for our communities. As such we are especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage and support domestic uses throughout basin, both in normal water supply years and during periods of drought—which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Basin's water supply security.

We encourage Reclamation's support and approval of this proposal.

If you have any questions regarding this letter, please contact me at 509-962-7690.

Sincerely,

Arden C. Thomas
Water Resource Manager, Kittitas County Public Works

411 N. Ruby, Suite #1
Ellensburg, WA 98926
TEL (509) 962-7523
FAX (509) 962-7663

Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

March 22, 2023

Bureau of Reclamation
Attn: Josh German
P.O. Box 25007, MS 86-69200
Denver, CO 80225

RE: **Kittitas Reclamation District WaterSMART Proposal – WaterSMART Environmental Water Resources Projects for Fiscal Year 2023**

Dear Mr. German:
The Yakama Nation is pleased to support the WaterSMART proposal: KRD South Branch Water Conservation Plan Implementation, being submitted by Kittitas Reclamation District under the WaterSMART Environmental Water Resources Projects for Fiscal Year 2023.

This proposal focuses on the upper Yakima River Basin in Washington State and is designed to address water shortages in Yakima River tributaries. As Climate Change is expected to significantly impact the Yakima Basin, the Yakama Nation is especially interested in finding alternative and innovative ways to keep streams flowing while providing water to maintain the agricultural heritage of the basin, both in normal water supply years and during periods of drought—which is exactly what KRD does with this project.

This proposal builds on years of success and work accomplished under the Yakima Basin Integrated Water Resource Management Plan (YBIP). YBIP goals include addressing reduced Cascade Mountain snowpack and climate change by employing seven different elements. As a key part of restoring fish and wildlife habitat under the YBIP, this proposal helps advance the goals and improve the Basin's water supply security.

We encourage Reclamation's support and approval of this proposal. If you have any questions regarding this letter, please contact Philip Rigdon at 509-865-5121.

Sincerely,

Philip Rigdon, Superintendent
Yakama Nation Department of Natural Resources