TEICHERT PIPELINE PROJECT

The Bureau of Reclamation

WaterSMART Grants Program:

Water and Energy Efficiency Grants for Fiscal Year 2024

Funding Opportunity Announcement No. R24AS00052

DATE:
February 22, 2024

APPLICANT:
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Applicant Information

Application Date: February 22, 2024
Applicant Name: Hallwood Irrigation Company
City, County, State: Unincorporated Yuba County, CA
Applicant Category: Category A Funding Group II
Project Manager: Karl Brustad

Project Summary. This application to the WaterSmart Water and Energy Efficiency (WEEG) Grant Program for the Teichert Pipeline Project is submitted by the Hallwood Irrigation Company (HIC). HIC serves the community of Hallwood, located in unincorporated Yuba County, California. HIC is an eligible Category A applicant, as a tax-exempt non-profit corporation providing irrigation water to approximately 9,200 acres of farmland in California's Central Valley north of the Yuba River. The Teichert Pipeline Project will benefit the communities and customers that rely on HIC for irrigation water. The proposed project, located within Yuba County, will install a pipeline that follows the existing ditch alignment, which travels through a mining property that is owned and operated by Teichert Aggregates. Large portions of the above-ground Teichert Ditch are earthen and run through readily draining gravelly soil. Some sections that are concrete-lined show visible cracks (see Figure 1). This leads to seepage losses—which based on field measurements are estimated to be 1,370 acre-feet per year—throughout a 7,800-foot-long ditch section. The ditch also has a history of failure due to mining operations in the area that weaken the ditch bank. This project will address these issues by replacing the ditch with an underground pipeline and connecting it to an existing reinforced concrete pipe (RCP) to create a total of approximately 8,500 linear feet of below-ground pipeline. The terminus of the pipeline would return flows to the existing Teichert Ditch downstream of the Teichert property. The benefits of converting the ditch to a pipeline include eliminating water loss, improving water quality, and increasing the reliability of the system. These benefits will be realized in an area that experiences severe drought, highly variable wet weather seasons, and has been designated as a Medium Priority for Groundwater Sustainability Planning. The proposed project has been approved for 50% cost-share funding ($1,158,800) from Yuba Water Agency (see attached funding agreement). The project duration is less than one (1) year. Final design is expected to be initiated in July 2024 during the URBR pre-award phase, and construction is expected to be completed by April 30, 2025. The Teichert Pipeline Project is not located on a Federal Facility.

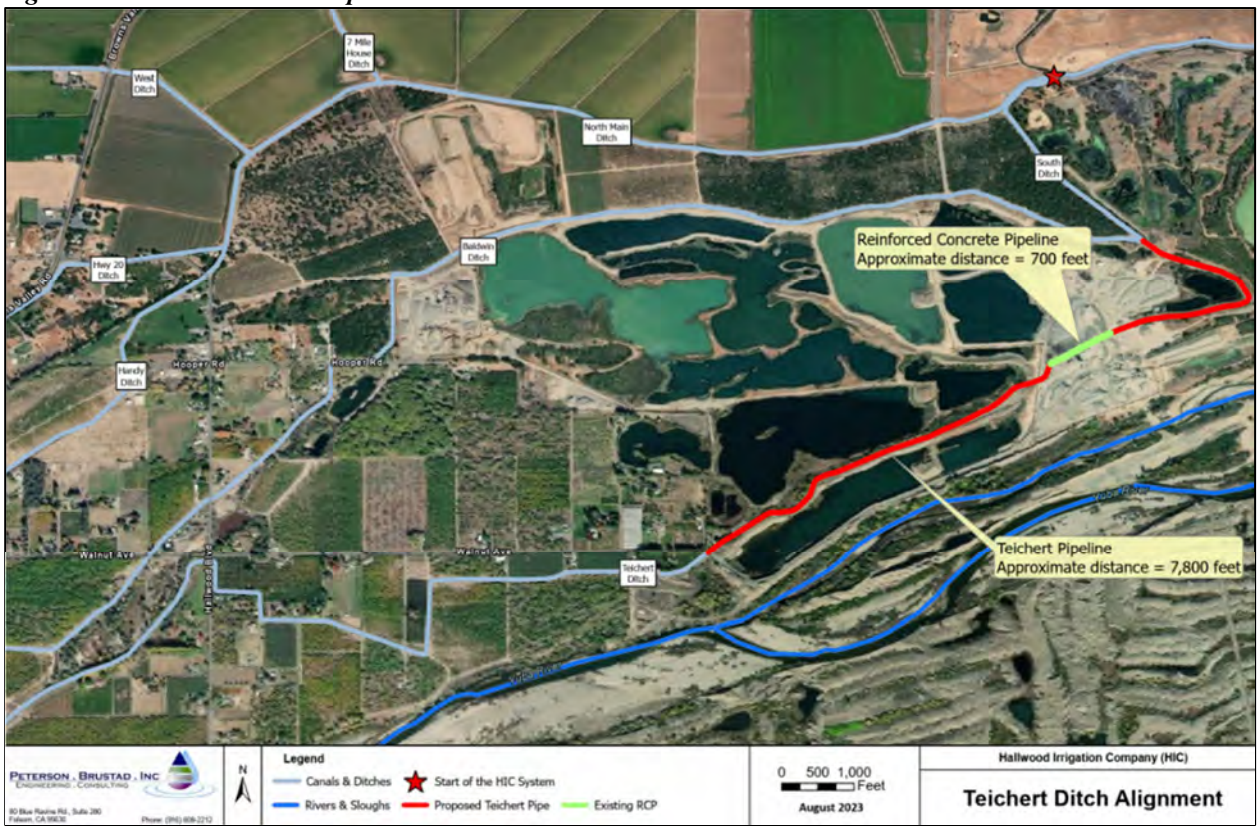
Figure 1. Cracks in Existing Concrete Liner at Teichert Ditch

2. Project Location

The Teichert Pipeline Project is located in Yuba County, California, approximately 9.2 miles northeast of the City of Marysville. The Teichert Ditch currently runs approximately from 39.203736° N, 121.475490° W to 39.191983°N, 121.491851°W. The Teichert Pipeline Project will result in 7,800 feet of new pipeline following the existing ditch alignment north of the Yuba River, within the HIC service boundary. The project location is shown in Figures 2 and 3.

Figure 2. Teichert Pipeline Project – Vicinity Map

Figure 3. Teichert Ditch and Pipeline



3. Technical Project Description

In 2022, HIC received a Community Impact Grant from Yuba Water Agency (YWA) to complete a System Renovation Plan. The first phase of the Renovation Plan included the development of an irrigation system condition assessment, which Peterson Brustad, Inc (PBI) completed in December 2022. The condition assessment resulted in the identification and prioritization of several critical improvements. The project proposed in this application, the Teichert Pipeline Project, was identified as the 3rd highest priority out of the 12 improvement projects recommended (the 1st and 2nd priority projects are proposed in separate applications).

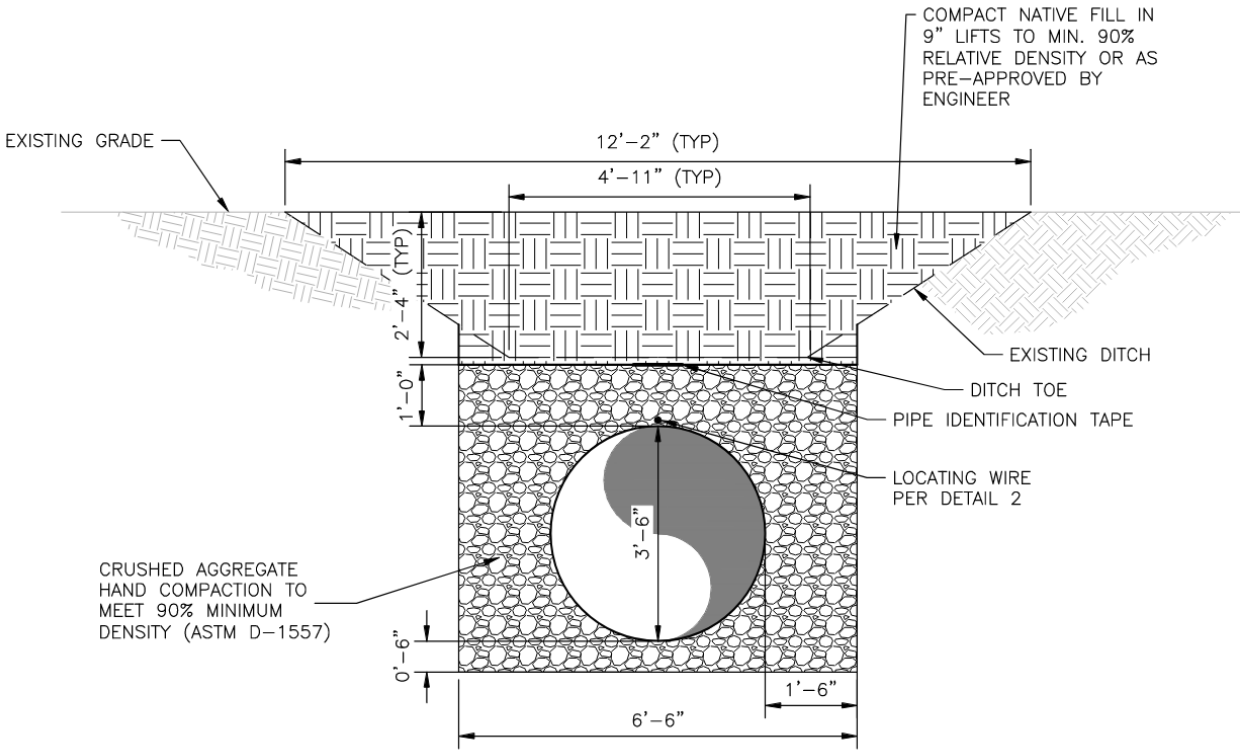
The Teichert Ditch currently runs through the Teichert Hallwood facility, which is an aggregate-producing plant. The ditch transitions to a below-ground RCP that passes underneath Teichert's aggregate plant. Based on the system condition assessment, it was clear that the ditch seepage and instability needed to be addressed; thus, PBI performed an alternatives analysis and recommended converting the ditch into a pipeline instead of relining it. The benefits of converting the ditch to a pipeline include eliminating water loss, improving water quality, and increasing the reliability of the system.

The proposed project will include installing a High-Density Polyethylene (HDPE) pipeline that follows the existing ditch alignment, as shown in Figure 3. The estimated 20 cubic feet per

second (cfs) flows that pass through the Teichert Ditch would require the pipe to be 42” in diameter to reduce friction head losses in the pipeline while maintaining the current downstream deliveries. An alternatives analysis between various pipe materials including HDPE, PVC, and ductile iron pipe was conducted and HDPE was the resultant recommendation due to its lower cost and its ability to bend to follow the alignment while minimizing the number of joints needed.

In its current state, the Teichert Ditch is not deep enough to accommodate a 42” buried pipe. Additional excavation will be required for the pipeline to be completely submerged with a 6” sand bedding and a minimum of 40” of cover to provide protection from UV and occasional vehicle traffic over the pipeline. The crossings with heavy vehicle traffic will have ductile iron pipe installed for long-term durability. ***Figure*** 4 shows an example detail for trenching and burying a pipe. The existing concrete liner will be removed before excavation begins. The HDPE will be assembled outside of the trench and rolled or dragged into place.

Figure 4. Example Trench Cross Section for Buried Pipe Detail.



4. Evaluation Criteria

A. Evaluation Criterion A – Quantifiable Water Savings

1. Describe the amount of es mated water savings.

The estimated amount of water expected to be conserved through the Teichert Pipeline Project (based on field measurements) is 1,370 ac-ft/yr. This volume represents 24% of the ditch’s total annual flow.

2. *Describe current losses*

The Teichert Ditch primarily runs through above-ground readily draining gravelly soil (soil type in the project area is Mine Tailings per USDA Web Soil Survey). The quality of the soil and the state of the ditch lead to seepage losses throughout a 7,800-foot-long section of the ditch. The estimated seepage loss occurring (based on field measurements) is 1,370 ac-ft/yr. The ditch also has a history of failure due to mining operations in the area weakening the ditch bank. The current water losses are infiltrating into the soil, becoming unusable. There are no known benefits associated with where the current losses are going.

3. *Describe the support/documenta on of the es mated water savings.*

HIC expects that the amount of water saved through the addition of the HDPE pipeline will exactly equal the amount of water lost from the inefficiencies in the existing ditch. HIC expects zero leakage to take place with the new, non-porous HDPE pipe material. Per the design specifications, the joints will be tested to ensure there is no leakage before the pipeline installation is accepted. Therefore, the expected water savings will equal the current water loss, which is estimated to be 1,370 ac-ft/yr.

4. *Please address the following ques ons according to the type of infrastructure improvement you are proposing for funding.*

   a. How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

HIC expects that the amount of water saved through the addition of the HDPE pipeline will equal the amount of water currently being lost through the ditch. The amount of water lost to seepage has been estimated by field measurements.

   b. How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.

In July 2023, PBI staff collected flow measurements at these two locations using a Xylem SonTek RiverSurveyor M9 monitoring device. This equipment uses sonar technology, as an acoustic doppler current profiler mounted on a floating board (Hydroboard) measures depth and water velocity across the ditch. Thus, the total flow through the ditch was captured despite variations in ditch dimensions.

Table 1 shows a summary of the Teichert Ditch flow data that was collected. The measured flow at Teichert Ditch upstream was 9.9 cfs while the measured flow downstream was 7.5 cfs. Since the Teichert Ditch diversions were closed at the time of testing, all the decrease in flow between the Teichert Ditch upstream and downstream locations was attributed to seepage.

As shown in Table 1, the seepage loss was calculated by taking the difference between the Teichert Ditch upstream and downstream flows:

Seepage Loss = Upstream Flow – Downstream Flow = 9.9 cfs – 7.5 cfs = 2.4 cfs

Using this information, percent loss due to seepage was calculated to be roughly 24%:

Percent Loss (%) = (Seepage Loss/Upstream Flow) x 100 = (2.4 cfs/9.9 cfs) x 100 = 24 %

Teichert Ditch receives its flow from the South Diversion. SCADA data from Yuba Water Agency for 2018-2022 shows that the average annual flow total in the South Diversion is approximately 11,400 acre-feet per year. HIC field staff estimate that roughly 50% (5,700 ac-ft/year) of the total South Diversion flow is conveyed through Teichert Ditch. This information, along with the field-measurement based percent loss, was used to calculate total loss due to seepage per year:

Total Loss Due to Seepage per Year = Percent Loss x Total Flow per Year

= 0.24 x 5,700 ac-ft/year ≈ 1,370 ac-ft/year

Table 1. Summary of Teichert Ditch Flow Monitoring

Monitoring Station	Measured Flow (cfs)	Calculated Flow (cfs)
1: Teichert Ditch Upstream	9.9	
2: Teichert Ditch Downstream	7.5	
Teichert Seepage Loss		*2.4*

c. What are the expected post-project seepage/leakage losses and how were these estimates determined (e.g., can data specific to the type of material being used in the project be provided)?

The expected post-project leakage is zero from the new Teichert Pipeline. According to the Plastics Pipe Institute, the industry recognizes HDPE pipe for its zero-leakage rate, high performance, and long-life expectancy. HDPE also has corrosion resistance, it is lightweight, flexible, and durable. HDPE pipe will eliminate any losses due to evaporation and seepage in the existing ditch. Due to the butt-fusion process, the joints are as strong or stronger than the pipe itself and do not leak, according to the Plastics Pipe Institute. HDPE is broadly accepted by the water industry for purposes similar to what is outlined in the Teichert Pipeline Project.

d. What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?

The annual transit loss reduction is expected to be approximately 856 acre-feet per mile for the overall project:

1,370 acre-feet loss reduction/1.6 miles of ditch = 856 acre-feet per mile

e. How will actual canal loss seepage reductions be verified?

Actual seepage reductions will be verified by field measurements of the volumetric flow rate upstream and downstream of the new pipeline. These measurements will be taken using the same technology and procedures used to measure seepage losses.

f. Include a detailed description of the materials being used.

The material being used in the pipeline conversion will be HDPE pipe. The estimated maximum flow of 20 cfs requires the pipe to be 42" HDPE SDR 26 to reduce friction head losses in the pipeline while maintaining the current downstream deliveries. The pipe will be PE4710 HDPE in accordance with ASTM F714 and AWWA C906-15. Polyethylene (PE) molded fittings will meet the requirements of AWWA C906-15. Each stick of pipe will be joined together by butt fusion. The fused joints will be completed as described in the pipe manufacturer's specifications for this procedure.

The inlet and outlet structures (to transition the pipe to/from the ditch and existing RCP pipe) will be constructed using cast-in-place concrete with a 28-day minimum compressive strength of 4,000 psi. The shotcrete used to line the portions of the project immediately adjacent to the inlet and outlet structures will have a 28-day minimum compressive strength of 3,000 psi, and a maximum aggregate size of 3/8 inch.

B. Evaluation Criterion B – Renewable Energy

This project does not include a renewable energy component.

B.2: Increasing Energy Efficiencies in Water management

If quantifiable energy savings are expected to result from the project, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.

In dry years when surface water supply is limited, customers within the HIC service area supplement their water consumption by pumping from groundwater wells to make up for surface water lost due to seepage. To estimate the approximate energy savings, it is assumed that any loss of water due to seepage is pumped from local wells. The expected water savings will equal the current water loss, which is estimated to be 1,370 ac-ft/yr. The average depth to water in area in from September 2022 through October 2023 was approximately 29 ft. This information was taken from the California Department of Water Resources (DWR) Groundwater Live portal. The well used as reference was Well No. 391917N1215111W00. This well belongs to YWA and is located about 2 miles from the project location. According to a 2007 YWA document for the Proposed Lower Yuba River Accord, well surveys for Yuba County indicate the range of pump efficiencies to be between 58.5% and 71.5%. The power savings based on water savings is estimated to be between 56,900 and 69,544 kWh (See Table 2).

Table 2: Estimated Water Savings

Volume (V-Acre feet)	Lift (H - Feet)	Assumed Efficiency (E)	Power (kWh) (kWh = 1.024*V*H/E)
1,370	29	58.5%	69,544
1,370	29	71.5%	56,900

The estimated average commercial energy rate from energy providers in Yuba County is approximately $0.27 per Kwh. With this, the estimated cost savings from reduced energy consumption is approximately $18,777 to $15,363 per year. See calculations below:

Table 3: Estimated Energy Savings

Assumed Efficiency	Energy Savings from Seepage Reduction (kWh)	Estimated Energy Rate ($/kWh)	Annual Cost Savings ($)
58.5%	69,544	$ 0.27	$ 18,777
71.5%	56,900	$ 0.27	$ 15,363

This project will also contribute to emission reduction by eliminating the need for maintenance fires along the ditch banks. Currently, HIC staff burn the ditch banks for maintenance once per year. This results in a savings of roughly 12 to 20 gallons of propane per year used to burn the ditch banks. Additionally, pesticides and other chemicals used to treat the ditches will not be applied, reducing the amount of chemicals released into the environment.

How will the energy efficiency improvement combat/offset the impacts of climate change, including an expected reduction in greenhouse gas emissions?

Water savings resulting from the Teichert Pipeline Project will limit the need for HIC customers to pump groundwater. Decreasing the use of wells to supplement surface water shortages also decreases the demands on the electrical grid and air emissions related to energy production. In addition, current ditch maintenance procedures include burning the banks of the ditch to clear the area of sediment, vegetation, and other debris that conflicts with the water flow. The maintenance fires release carbon dioxide emissions and other greenhouse gases that contribute to climate change.

If the project will result in reduced pumping, please describe the current pumping requirements and the types of pumps currently being used. How would the proposed project impact the current pumping requirements and energy usage?

Farmers within the HIC's service area supplement their water needs by pumping groundwater when necessary. Groundwater pumping by these customers may be reduced or eliminated due to the water savings resulting from this project. As stated above, the power savings based on water savings is estimated to be between 56,900 kWh and 69,544 kWh. This estimate was based on pump efficiencies ranging from 58.5% to 71.5%.

Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.

The energy savings estimates outlined above are based on reduced groundwater pumping with the HIC service area, based on the water savings from the Teichert Ditch.

Does the calculation include any energy required to treat the water, if applicable?

Not Applicable

Will the project result in reduced vehicle miles driven, in turn reducing greenhouse gas emissions? Please provide supporting details and calculations.

Converting the Teichert Ditch into a pipeline will decrease the level of effort required from HIC staff to maintain the ditch in working conditions. Ditch tenders are required to make trips to the site to assess and maintain the open ditch, including clearing weeds and patching the concrete. Converting the ditch to a pipeline will result in reduced miles driven, reduced need for maintenance equipment, and any associated greenhouse gas emissions.

Describe any renewable energy components that will result in minimal energy savings/production

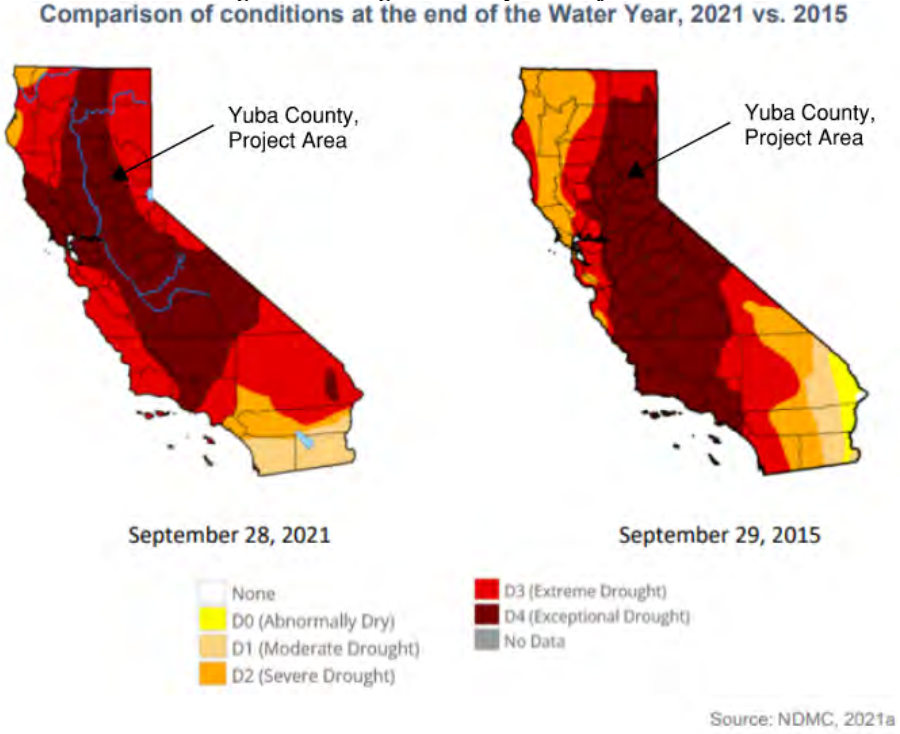
Not Applicable

C. Evaluation Criterion C – Other Project Benefits

Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability. Consider the following:
Describe recent, existing, or potential drought or water scarcity conditions in the project area.

A significant portion of California experienced severe drought conditions during the 5-year period from 2012 to 2016. Most recently, a large portion of California experienced similar drought conditions during the 2021 water year. According to a report produced by the California Office of Environmental Health Hazard Assessment, in September 2021, 88 percent of California experienced extreme to exceptional drought. As shown in Figure 5, the project area (Yuba County) was categorized as experiencing "Exceptional Drought" during both of the most recent drought events. At the start of the 2023 water year, California was still experiencing drought conditions.

Figure 5. Drought Intensity in California



Is the project in an area that is experiencing, or recently experienced, drought or water scarcity?

The Teichert Pipeline Project is in an area that has recently experienced severe drought conditions. As illustrated above, Yuba County experienced conditions classified as D4 (Exceptional Drought) in recent years.

Diversions are restricted during periods of drought causing a deficit in the supply to the HIC customers. During these dry periods, farmers must pump groundwater to fulfill their irrigation water supply needs. Recent curtailment periods occurred in 2021 and 2022. Information provided by Yuba Water Agency for the 2022 period of curtailment shows that Hallwood's ability to divert water from Yuba River under their water rights was limited.

Periods of drought can cause service disruptions due to the diversion limitations imposed. This leads to reduced access to full water rights by the customers, leading to an increase in groundwater pumping and usage of other water rights to supplement the supply. The water savings resulting from this project will help offset the deficit during times of water scarcity.

Describe any projected increases to the severity or duration of drought or water scarcity in the project area. Provide support for your response (e.g., reference a recent climate informed analysis, if available)

Currently, there are no indications of continued drought conditions in the project area within the near future.

Explain and provide detail of specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service. Please describe how the project will directly address the concern(s) stated above.

HIC's existing system was constructed over 100 years ago and needs improvements for energy sustainability to help ensure continued operations for future generations. The existing system is heavily reliant on manual labor, which involves driving vehicles powered by fossil fuels to and along the Teichert Ditch. Additionally, maintenance practices rely on burning weeds, which contributes to emissions. This proposed project will reduce the maintenance requirements, thereby reducing the reliance on fossil fuels and limiting air pollutants.

Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?

This project will maximize the reliability of Yuba Water's water supplies by providing efficient water delivery within the HIC service area. By improving the water retention of the Teichert Ditch, less water will be lost to seepage, thus reducing the amount of water diverted from the Yuba River. The ditch has a history of failure due to surrounding mining operations. Converting the ditch to an underground pipeline prevents any ditch failure and allows operations to be maintained without risk of interference from mining.

Additionally, the project will support groundwater sustainability, by increasing the efficiency of surface water use, through the reduction of seepage losses, the project maximizes the benefits of limited surface water supplies and reduces the demand on groundwater basins. Such water savings will allow for continued avoidance of "deficit pumping."

Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortage that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.

The water that is conserved is equal to the current losses due to seepage in the Teichert Ditch of 1,370 ac-ft/year. In dry years, surface water will be used to offset ground water pumping as described in Criterion B.2. In wet years, water conserved will flow downstream in the Yuba River. As described in the Yuba IRWMP, the resources of the Yuba River are managed for multiple beneficial uses, including municipal and agricultural water supply, hydropower generation, recreation, and environmental benefits.

Will the project assist States and water users in complying with the interstate compacts?

Not applicable for this project

Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?

Historically, the Yuba River has been the subject of water-related tension between environmentalists and fish organizations and Yuba Water Agency. The main subject of the controversy was establishing instream flow schedules to provide adequate flows to both sustain the fish population in the rivers and allow Yuba Water to operate the New Bullards Bar Dam and reservoir to meet local water demands and transfer water to other areas of California. The conflict over these issues led to a series of lawsuits and resulted in a multi-agency settlement agreement that provides benefits for fish and wildlife purposes, and water supply reliability for irrigation, hydropower generation and recreation. This settlement is known as the Yuba River Accord. HIC was a participating partner in the Yuba River Accord.

This project supports the collaborative goals of the Yuba Accord by improving water supply conditions that allow Yuba Subbasin water suppliers to implement their groundwater substitution transfer program, which provides benefits during dry years to water suppliers throughout the state under Yuba County's Groundwater Sustainability Plan. This ensures that the project will maintain and enhance the benefits for Yuba County by maintaining mutually beneficial relationships with existing Yuba Accord transfer buyers.

Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to recovery plan or conservation plan under the Endangered Species Act (ESA).

The Yuba River is home to both steelhead trout and spring-run Chinook salmon. Spring-run Chinook salmon is designated as a threatened species under both the federal Endangered Species Act (ESA), and the California ESA (CESA). Steelhead trout is considered a threatened species under the federal ESA. The Yuba Integrated Regional Water Management Plan (IRWMP)—a water-focused planning document and process that involves all water purveyors and many other entities within Yuba County—states that changes or reductions to the flow of the stream can cause dewatering of salmonid redds and stranding of fry and juvenile fish. To protect the salmon and steelhead trout habitat, the Lower Yuba Accord manages the stream flows. Minimizing the water supply losses and operational inefficiencies provides an opportunity to divert less surface water from the Yuba River and keep more consistent and predictable flows in the system, which will benefit the habitat for these species.

Will the water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits (e.g. maintaining water temperatures or water levels, recreational benefits, etc.)

This project will provide an estimated water savings of 1,370 ac-ft/year throughout the 10-months period of running water in the HIC system. As a result, the water flowing through the project area will continue to flow downstream instead of being lost due to seepage, which provide more water availability for the farmers in HIC's service area. This improvement will increase the efficiency and reliability of HIC's water supply. As stated above, minimizing water loss also provides the opportunity to divert less surface water from the Yuba River allowing

more water to remain in the river and thereby providing recreational and environmental benefits downstream of the diversion.

Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?

As stated above, the Yuba River is home to steelhead trout and spring-run Chinook salmon. Both species are listed as endangered species. The proposed Teichert Pipeline Project will help improve the status of these species by providing water savings that could allow HIC to reduce their diversion from the Yuba River. However, there is no formal agreement or guarantee in place to ensure that the water will remain in the river or that diversions will be reduced.

Please describe any other ecosystem benefits as a direct result of the project.

Converting the Teichert Ditch to a pipeline will eliminate the need for herbicides to maintain the ditch bank. Eliminating the open ditch would reduce the number of chemicals that are applied within the environment and reduce the exposure to local animals, fish, birds, insects, and humans. Additionally, closing the ditch would eliminate the need to burn the ditch banks for maintenance purposes, reducing the harmful emissions released into the environment.

Describe how the project addresses climate change and increases resiliency. For example, does the project helps communities adapt to bolster drought resilience.

This project will contribute to water conservation and resiliency by improving efficiency of water distribution and delivery by minimizing surface water losses due to seepage. Increasing the efficiency of surface water use maximizes the benefits of limited surface water supplies and reduces the demand on groundwater basins. The water savings from the project will improve water supply conditions that allow the Yuba Subbasins water suppliers to implement their groundwater substitution transfer program, which provides benefits during dry years to water suppliers throughout the state under Yuba County's Groundwater Sustainability Plan. The project will improve water conservation by providing recharge benefits and decreasing demand on groundwater basins.

This project improves the water supply and management by minimizing excess diversions. By eliminating seepage losses, this project allows less water to be diverted from the Yuba River, thereby increasing the water supply available within the river. System reliability will be enhanced with this project by better protecting the water delivery system.

Does the project seek to improve ecological resiliency to climate change?

Yes, the project seeks to provide water savings that will help offset the effects of climate change. The Yuba IRWMP has identified a list of climate change impacts in the Yuba County Region. These impacts include reduced streamflow and water supply, reduced water quality, increased flooding, infrastructure failure during winter peak flows, increased wildfire potential, and effects on the region's recreation industries from lower summer flows. The proposed project will help offset the effects of climate change by aiding in water conservation through eliminating water

loss due to seepage along Teichert Ditch. The water that is conserved as a result of this project will stay in the system longer, potentially reducing the amount of water that needs to be diverted from the Yuba River.

Does the proposed project seek to reduce or mitigate the climate pollutions such as air or water pollution?

Yes, converting the Teichert Ditch into a pipeline will help to reduce both air and water pollution. Water quality is improved by reducing the amount of debris that enters the water system. In open ditches, any debris can enter the water and eventually flow into the Yuba River. With an enclosed pipeline system, water quality will be improved and pollution will be reduced because there will be less opportunities for debris to enter the irrigation system.

As previously mentioned, part of the maintenance procedures for HIC-operated ditches include burning the ditch banks. This releases emissions that can be harmful to the environment. Closing the ditch eliminates the need for these routine fires, reducing the amount of air pollution being added. Similarly, less maintenance visits will be required for an underground pipeline reducing the pollution produced by vehicles driving to and from the maintenance sites.

Does the proposed project include green or sustainable infrastructure to improve community climate resilience?

Not applicable for this project

Does the proposed project contribute to climate change resiliency in other ways not described above?

Not applicable for this project

D. Evaluation Criterion D – Disadvantaged Communities, Insular Areas, and Tribal Benefits

D.1. Disadvantaged Communities

If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool. For example, will the project improve public health and safety by addressing water quality, add new water supplies, provide economic growth opportunities, or provide other benefits in a disadvantaged community?

According to the Climate and Economic Justice Screening tool, Marysville, California, is identified as a disadvantaged group. Marysville is in the 99th percentile for expected economic loss to agricultural value resulting from natural hazards each year, the 91st percentile for projected flood risk, the 95th percentile for the level of inhalable particles 2.5 mm or smaller, and the 95th percentile for projected wildfire risk. Marysville also falls in the 77th percentile for low income, where income is less than or equal to twice the federal poverty level.
The State of California defines a Disadvantaged Community (DAC) as a community with an annual median household income (MHI) less than 80% of the statewide annual MHI. Based on the 2010 census, six communities in the project area were identified as DACs.

The proposed project will provide economic opportunities in the construction sector, services sector, and agricultural sector. The more reliable delivery of water to the irrigators within HIC's system will increase economic opportunities in the area. This project will also increase water delivery system efficiency by minimizing water loss. The avoided water loss from the project will create additional economic opportunities for Yuba Subbasin water suppliers by allowing more participation in the previously described groundwater substitution transfer program. This project will produce and sustain good-paying jobs in the community for years to come.

D.2. Tribal Benefits

Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe? Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, increased renewable energy, or economic growth opportunities? Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

Improving the efficiency of the whole system by converting Teichert Ditch into a pipeline will benefit the local tribes by providing water savings that will help reduce demands on groundwater through deficit pumping, thereby improving the conditions in the Basin from which these communities draw their water supply.

Does the proposed project support Tribal led conservation and restoration priorities, and/or incorporate or benefit indigenous traditional knowledge and practices?

No, this project is not applicable to Tribal-led conservation and restoration and will not incorporate indigenous traditional knowledge and practices.

E. Evaluation Criterion E – Complementing On-Farm Irrigation Improvements

USBR funding approval for the proposed project will provide new opportunities for HIC's customers to enhance on-farm water use efficiency. PBI has coordinated with the NRCS Yuba/Sutter Service Center to inform them of the proposed project and seek opportunities for complementing on-farm improvements. The sole use of HIC's water deliveries is for agricultural irrigation, so improvements in water efficiency support the on-farm conservation objectives of NRCS. The NCRS staff provided PBI with the Environmental Quality Incentives Program WaterSMART Initiative (EQIP-WSI) application with the instruction to complete it after receiving WaterSMART funding from USBR. As part of an NRCS focus area in California, the project would be eligible to participate in EQIP-WSI to support water conservation among farmers in the community of Hallwood.

F. Evaluation Criterion F – Readiness to Proceed

The 90% design for this project submitted along with this application. 100% design efforts will begin upon receipt of notice of award.

Identify and provide a summary description of the major tasks necessary to complete the project.

Task 1: Project Administration

Prepare reports detailing work completed during reporting period for inclusion in Quarterly Progress Reports. Monthly invoices will be accompanied with Monthly Progress Reports summarizing services provided by task including any backup documentation.

Milestones/Deliverables*:* Quarterly Progress Reports and Invoices

Task 2: Environmental Permitting

Prepare the appropriate CEQA documentation and file the document(s) with the County Clerk's Office and State Clearinghouse as required. Prepare and submit a Categorical Exemption. Complete the required CEQA documentation. Prepare the appropriate NEPA supporting documentation and provide it to USBR.

Milestones/Deliverables:

- CEQA documentation (Class 2 Categorical Exemption)
- NEPA supporting documentation (USBR to obtain Categorical Exclusion or Environmental Assessment/Finding of No Significant Impact)

Task 3: Final Design

Develop the 100% design plans and specifications in accordance with requirements for public bidding for construction.

Milestones/Deliverables: 100% design plans and specifications

Task 4: Contract Services

Develop all necessary pre-bid and bid documents to secure a contractor. Award the contract and submit the Notice of Award followed by the Notice to Proceed.

Milestones/Deliverables:

- Proof of bid advertisement & bid documentation
- Notice of Award & Notice to Proceed

Task 5: Construction Administration

Photo-document pre-construction conditions and daily construction activities. Prepare any change orders, address contractor's onsite questions, review/update construction schedule, review contractor submittals and pay requests, and notify contractor if work is not acceptable. Finalize record drawings and submit the as-built drawings.

Milestones/Deliverables:

- Photo-documentation of pre-, during, and post-construction activities included within the appropriate Quarterly Progress Reports
- As-built drawings

Task 6: Construction

Construct project per the final design plans and specifications and as outlined in the awarded contract. Conduct an inspection of the completed project by a licensed professional and submit a Certification of Completion letter from the licensed professional to ensure that the component was constructed per 100% design plans and specifications. Construction will consist of the following:

1) Mobilization and De-mobilization: Setting up and cleaning up required construction equipment and materials at various locations of work.
2) Site Preparation: This task will include excavation, grading, and erosion best management measures, as needed.
3) Pipe Installation: The HDPE pipe will be delivered in sections and welded on site. The new pipe will be attached to the existing RCP using fittings. The new pipeline will be buried underground following the welding process. The pipe that has been buried will be backfilled and returned to native condition, and any open trenches will be covered at the end of each workday.

Milestones/Deliverables:

- Certification of Completion

Describe any permits that will be required, along with the process for obtaining such permits.

CEQA and NEPA permitting will be required for the completion of this project. These will be acquired per "Task 2" cited above. Appropriate CEQA documentation will be prepared and filed with the County Clerk's Office and State Clearinghouse as required. Categorical Exemption will be prepared and submitted. Required CEQA documentation will be prepared. Appropriate NEPA supporting documentation will be prepared and provided to USBR.

Identify and describe any engineering or design work performed specifically in support of the proposed project.

Design work for the new Teichert Pipeline will be performed by PBI in collaboration with HIC. PBI submitted 60% design plans, specifications, and cost estimate to HIC in January 2024. PBI has also provided the recommended design level of 90% to support this application in February 2024. 100% plans and specifications will be initiated in July 2024, pending notification of the funding award.

Describe any new policies or administrative actions required to implement the project.

There are no new policies or administrative actions required to implement the project.

Describe the current design status of the project. If additional design work is required prior to construction, describe the planned process and timeline for completing the design work.

The 90% design drawings are being submitted to support this application. The 100% design drawings will be completed by PBI in accordance with any comments received on the 90% design. 100% plans and specifications will be initiated in July 2024 during the pre-award phase and are anticipated to be completed by September 2024.

Please also include an estimated project schedule that shows that stages and duration of the proposed work, including major tasks, milestones, and dates. Was the expected timeline for environmental and cultural compliance discussed with the local Reclamation regional or area office?

Table 4: Estimated Project Schedule

	2024						2025			
Task	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Task 1 - Project Administration										
Task 2 - Environmental Permitting										
Task 3 - Final Design										
Task 4 - Contract Services										
Task 5 - Construction Administration										
Task 6 - Construction										

PBI has coordinated with the local Reclamation office (Interior Region 10) to discuss the potential environmental and cultural resource compliance requirements on behalf of HIC. In September 2023, PBI met with staff from the local Reclamation office, including environmental and cultural resources specialists. Based on the project details, USBR prepared cost estimates for compliance, which were less than $20,000 to be covered by USBR. PBI's environmental sub-consultant will prepare the biological and cultural surveys and reports necessary for consultation with the US Fish and Wildlife Service and State Historic Preservation Office, as well as provide draft NEPA documents to assist USBR in the process. PBI's team will also prepare the CEQA documents for California compliance. These costs have been included in the project budget. PBI has coordinated with our local USBR office for their environmental cost. PBI was informed that USBR will cover the cost of resource compliance up to $20,000. A separate line item will be included for the Reclamation's costs and the sub-consultant's costs.

G. Evaluation Criterion G – Collaboration

Is there widespread support for the projects? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?

HIC has led collaborative relationship-building efforts within Yuba County and across the state for years. HIC has participated in Yuba County's transfer pumping program, which has provided much-needed water to drought-stricken farm and ranch lands throughout California. HIC works diligently with federal and state agencies to conserve and protect wildlife and fisheries. This project is the result of robust agency relationships and long-term collaboration between member (consisting of eight local water districts) units and Yuba Water Agency.

What is the significance of the collaboration/support?

HIC shares their diversion from the Yuba River with Cordua Irrigation District and Ramirez Water District. The proposed project will eliminate water loss due to seepage, which will provide collaboration opportunities for the beneficial use of this surface water with Cordua Irrigation District and Ramirez Water District. Minimizing water loss and increased water efficiency allows more surface water to be diverted to Cordua Irrigation District and Ramirez Water District.
Additionally, HIC has been coordinating with the local landowner, Teichert Aggregates, and intends to maintain a collaborative relationship through project implementation. This project will provide added benefits to Teichert by improving access for future Teichert operations and minimizing the risk of mining operations leading to irrigation system failure.

Will this project increase the possibility/likelihood of future water conservation improvements by other water users?

This project will be completed in partnership with Yuba Water Agency. If USBR grant funding is secured, the other half of required funds will come from Yuba Water Agency. The completion of this project will improve the infrastructure and water reliability of the HIC service area. Upon the completion of these improvements, Yuba Water Agency will be able to look to support other irrigation districts in need of improvements.

Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?

The proposed project will provide economic opportunities in the construction sector, services sector, and agricultural sector. The economic benefit will come as the result of a more cost-effective and reliable delivery of water to the irrigators within HIC's system. This project will also increase water delivery system efficiency by minimizing water loss, benefiting Yuba County residents that also utilize the water within the Yuba River downstream of the diversion point. This project will produce and sustain well-paying jobs in the community for years to come.

Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).

See attached for letters of support.

H. Evaluation Criterion H – Nexus to Reclamation

The Hallwood Side Channel and Floodplain Restoration Project is funded by Yuba Water and the USBR California-Great Basin through the Central Valley Project Improvement Act. This restoration project seeks to improve local fish habitat in the Yuba River and reduce flood risk, and the project area is located directly downstream of HIC's diversion point. The proposed project in this application will reduce water loss adjacent to the Yuba River, very nearby the Reclamation-funded Hallwood Side Channel and Floodplain Restoration Project.

II. Performance Measures

The current annual seepage loss for the Teichert Ditch was estimated using the field measurements gathered by PBI using methods outlined on the Evaluation Criteria section of this document on page 6.

Similar flow measurements will be taken upstream and downstream of the new pipeline. The results of the inflow/outflow tests after the construction will be compared to the field measurements taken during the condition assessment. At this time, the actual water savings will be determined.

III. Budget Narrative

1. Funding Plan

HIC is requesting $1,158,800 in federal grant funds. The funding provided by the YWA cost share program is $1,158,800. The total project cost is $2,317,600. HIC has received the necessary funding to support the project through 90% design, which will be provided as supporting documentation for this application. These preliminary costs are not shown in the budget and are not included as part of the non-federal match.

2. Budget Proposal

Table 5: Summary of Non-Federal and Federal Funding Sources

Funding Source	Amount	Percent of Total Project Cost
Requested USBR Funding	$1,158,800	50%
YWA Cost Share	$1,158,800	50%
Total	**$2,317,600**	**100%**

Table 6. Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$1,158,800
Costs to be paid by the applicant	
Value of third-party contributions	$1,158,800
TOTAL PROJECT COST	**$2,317,600**

Table 7. Budget Proposal

Personnel

Position Title	Time (Hrs or %)	Rate (Hr or Salary)	Total Cost	Rate Basis	**Comments** (as needed)
Not Applicable for this Project	0	$0	**$0**	N/A	Due to HIC's limited staff, the project will be implemented with the use of consultants and contractors.
		Total	**$0**		

Fringe Benefits

Position Title	Compensation	Quantity	Total Cost	**Comments** (as needed)
Not Applicable for this Project	0	0	**$0**	Due to HIC's limited staff, the project will be implemented with the use of consultants and contractors.
		Total	**$0**	

Travel

Purpose	From/To	# of Days	# of Travelers	Lodging per Traveler	Flight per Traveler	Vehicle per Traveler	Per Diem per Traveler	Basis for Estimate
Not Applicable Project	N/A	0	0	$0	$0	$0	$0	No travel
							Total	

Equipment

Equipment Item	Quantity	Unit Cost	Total Cost	Basis of Cost	Purpose
No Equipment Needed			$0	N/A	N/A

Supplies

Supply Item	Quantity	Unit Cost	Total Cost	Basis of Cost	Purpose
No Equipment Needed					
		Total	**$0**		

Contractual: Subawards

Subrecipient Name	Description of Activites	Total Cost	Description of budgeted costs	Basis of Cost
Environmental Subconsultant to Peterson Brustad Inc. (PBI)	Provide environmental compliance services to support CEQA and NEPA permitting	$20,000	Consultant time and materials	Proposals from similar projects
	Subtotal	**$20,000**		

Construction: Recipient-Owned Equipment Use Costs

Equipment Item	Hours	Rate	Total Cost	Basis of Cost	Purpose
No Recipient-Owned Equipment Use Costs					
		Subtotal	**$0**		

Construction: Materials

Item	Quantity	Unit Cost	Total Cost	Basis of Cost	**Comments** (as needed)
42" HDPE SDR 26 and Appurtenances	7800	$159	**$1,240,200**	Quote Received from Vendor	Cost is per Linear Foot
24" HDPE SDR 26 and Appurtenances	10	$157	**$1,570**	Quote Received from Vendor	Cost is per Linear Foot
42" DIP CL 150	90	$830	**$74,700**	Quote Received from Vendor	Cost is per Linear Foot
Aggregate Fill	6610	$25	**$165,250**	R.S Means	Cost is per cubic yard
West Blow-Off	1	$12,240	**$12,240**	R.S Means	Cost is per unit
East Blow-Off	1	$10,200	**$10,200**	R.S Means	Cost is per unit
3" Vent Pipe	1	$4,500	**$4,500**	R.S Means	Cost is per unit
Inlet Structure	1	$15,000	**$15,000**	R.S. Means	Cost is per unit
Outlet Structure	1	$15,000	**$15,000**	R.S. Means	Cost is per unit
		Subtotal	**$1,538,660**		

Table 7. Budget Proposal

Construction: Contractual					
Contractor Name	**Description of Services**		**Total Cost**	**Description of cost estimate**	**Basis of Cost**
Peterson Brustad Inc.	Engineering consultant design, construction management, grant administration		**$145,000**	See attached estimate prepared by PBI	Quoted amount based on PBI 2024 rate schedule
TBD (based on public bid)	Construction contractor mobilization/demobilization, worker safety/shoring		**$97,584**		Standard percentage of construction costs
TBD (based on public bid)	Construction contractor labor including existing concrete liner demolition, trench excavation and compaction		**$235,600**		R.S. Means
			$478,184		
Other Direct Costs					
Item Description	**Quantity**	**Unit Cost**	**Total Cost**	**Basis of Cost**	**Purpose**
Contingency	15%	$1,871,844	**$280,777**	90% Design	Contingency applied to construction-related costs and equipment not including PBI services
		Total	**$280,777**		
j. Indirect Costs					
Rate Type	**Current Federal NICRA**	**Base Description**		**Base Total**	**Rate** / **Total Cost**
Not Applicable for this project					**$0**
				TOTAL PROJECT COST	**$2,317,600**

3. Budget Narrative

Salaries and Wages
There are no Salaries and Wages costs associated with this project.

Fringe Benefits
There are no Fringe Benefits or costs associated with this project.

Travel
There are no travel costs associated with this project.

Equipment
There are no equipment costs associated with this project.

Materials and Supplies
There are no materials and supplies costs associated with this project.

Contractual
An environmental subconsultant to PBI will be contracted to perform environmental permitting services for this project. The subconsultants will prepare CEQA documentation and NEPA supporting documentation as required. The total estimate for the environmental costs was based on a quote received for a previous project. Based on an average hourly rate of $186, the estimated time spent on the project is 108 hours. The estimated cost breakdown by task is shown below:

Task	Cost	
Categorical Exemption	$	14,560
Board of Directors Staff Report	$	2,720
Board of Directors Resolution	$	2,720
Total	$	20,000

PBI will be contracted to provide engineering and administrative services, including final design and construction management services through the duration of the project. The cost estimate is based on costs to perform other similar projects. Based on an average hourly rate of $215, the estimated PBI time spent on the project is 674 hours. The estimated cost breakdown by task is shown below:

Task	Project Budget	
Project Administration	$	50,000
Final Design	$	30,000
Contract Services	$	15,000
Construction Administration	$	50,000
Total	$	145,000

Construction
Construction costs include mobilization/demobilization, worker protection and safety, equipment rental and operations, existing liner demolition, and cost and installation of the inlet and outlet structures. These will be purchased by the construction contractor and installed at the specified project locations. Costs for construction are based on received quotes and RS Means data.

Description	Unit Cost	Qty	Unit	Subtotal
Mobilization/Demobilization	$88,713	1	LS	$88,713
Worker Protection and Safety/Shoring	$8,871	1	LS	$8,871
Existing Concrete Liner Demolition	$96,800	1	SF	$96,800
Trench Excavation	$99,900	1	CY	$99,900
Compacting	$38,900	1	BCY	$38,900
42" HDPE SDR 26	$159	7800	LF	$1,240,200
24” HDPE SDR 26 and Appurtenances	$157	10	LF	$1,570
42" DIP CL 150	$830	90	LF	$74,700
East Blow-off	$10,200	1	EA	$10,200
Aggregate Fill	$25	6610	CY	$165,250
West Blow-off	$12,240	1	EA	$12,240
Inlet Structure	$15,000	1	EA	$15,000
3” Vent Pipe	$4,500	1	EA	$4,500
Outlet Structure	$15,000	1	EA	$15,000
Total				**$1,871,844**

Other Direct Costs
The proposed project is currently at 90% design and is subject to 15% contingency. The contingency is applied to construction and material-related costs. The total cost for contingency is $280,777. The total cost of the project, including the 15% contingency, is estimated to be $2,317,600.

Indirect Cost
There are no indirect costs associated with this project.

IV. Environmental and Cultural Resources Compliance

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

The proposed project will not have any significant impact to the surrounding environment. The diversions are downstream of the fish screen in an existing concrete structure, so it is not a habitat area. The active construction period will be short-term (not to exceed two months) and potential temporary impacts will be managed with environmental controls. The work will be conducted during the irrigation system outage when the water levels are low, and pollution control BMPs will be implemented to prevent any water quality impacts. Once constructed, the Proposed Project would not likely have any adverse long-term or operational impacts. In fact, the Proposed Project would result in approximately 1,370 ac-ft/yr of water savings which would be considered a Beneficial Environmental Impact.

• 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?

Based on State and Federal biological database searches (summary provided below), there were no critical habitats identified within the project area. Additionally, there were no known locations of Federal threatened or endangered species within the project area. The project construction activities will take place along an existing irrigation ditch that is regularly maintained, so there will not be any habitat impacts associated with the proposed project.

Table H 1
List of Federally Listed Special Status Species with Potential to Occur in the Project Area

Name	Status	Designated Critical Habitat in Project Area?	Potential to Occur	Recommendations
Birds				
Yellow-billed Cukoo *(Coccyzus americanus)*	Threatened	There is Final Habitat for this species, but Does Not Overlap with Project Study Area.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Reptiles				
Giant Garter Snake *(Thamnophis gigas)*	Threatened	No Critical habitat has been designated for this Species.	Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Insects				
Monarch Butterfly *(Danaus plexippus)*	Candidate	No Critical habitat has been designated for this Species.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Valley Elderberry Longhorn Beetle	Threatened	There is Final Critical Habitat for this species, but Does Not Overlap	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys

Table H 1 List of Federally Listed Special Status Species with Potential to Occur in the Project Area				
Name	**Status**	**Designated Critical Habitat in Project Area?**	**Potential to Occur**	**Recommendations**
(Desmocerus californicus dimorphus)		with Project Study Area.		
Crustaceans				
Conservancy Fairy Shrimp *(Branchinecta conservation)*	Endangered	There is Final Critical Habitat for this species, but Does Not Overlap with Project Study Area.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Vernal Pool Fairy Shrimp *(Branchinecta lynchi)*	Threatened	There is Final Critical Habitat for this species, but Does Not Overlap with Project Study Area.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Vernal Pool Tadpole Shrimp *(Lepidurus packardi)*	Endangered	There is Final Critical Habitat for this species, but Does Not Overlap with Project Study Area.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Flowering Plants				
Hartweg's Golden Sunburst *(Pseudobahia bahiifolia)*	Endangered	There is Final Critical Habitat for this species, but Does Not Overlap with Project Study Area.	Low to Moderate	Conduct Biological Assessment and/or Pre-construction Site Surveys
Notes: 1) There are no known critical habitats with the Project Area.				

• 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.

There are no known wetlands or other surface waters inside the project boundaries that potentially fall under the Clean Water Act (CWA) jurisdiction as "Waters of the United States" and therefore would not have any impacts on these resources.

• When was the water delivery system constructed?

HIC was incorporated in 1910. As part of this Application, SMB performed a cultural resources database search of the North Central Information Center's archive for previously recorded cultural resources in the vicinity of the Proposed Project area(s). Based on this research, it appears that some of the diches may have been constructed as far back as the late 1860's with numerous and continuous reconstruction and repairs throughout the years. However, most, if not all, of the original ditch system has been modified and sometimes covered or entirely replaced by later reconstruction. Based on the numerous modifications throughout the years, it is unlikely that any of these facilities would be eligible for the National Register of Historical Places (NRHP).

Specifically, one (1) prehistoric isolated resource and ten (10) built environment resources have been previously recorded within and within 1/4 mile of the project areas. However, none of these resources would likely be affected by the Proposed Project and are and have been considered not eligible for the NRHP or the California Register of Historical Places. Further, the Proposed Project alignments area is on Holocene flood plains, basin floors, and stream terraces associated with the movement of the Yuba River at the eastern side of the project area locations and Jack Slough near the western side of the project area locations (USDA 2022). In the early historic era, the Region was mainly marshy wetlands associated with slow-moving waterways, sometimes bordered by sparse oak groves. Therefore, the Proposed Project and surrounding area appears to have a low sensitivity to adversely affect prehistoric resources, built environmental resources, historic resources, and/or Native American archaeological and cultural resources.

• 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.

The Proposed Project will not likely result in any modifications of or effects to individual features of an irrigation system or a system of importance as known by the NRHP.

• Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?

There are no known buildings, structures, or features that would likely be affected by the Project area that is eligible for listing on the NRHP.

• Are there any known archeological sites in the proposed project area?

There are no known archeological sites that would likely be affected by the Proposed Project. Reclamation would be required to reach out to known Native American Tribes in and around the Project Area to confirm that and complete and satisfy Section 106 process. Similarly, HIC/YWA will need to follow a similar process under California's Assembly Bill 52 (AB52) process to complete the State's AB52 requirements.

• Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

The Proposed Project will not have a disproportionately high and adverse effect on low income or minority populations.

• Will the proposed project limit access to, and ceremonial use of, Indian sacred sites or result in other impacts on tribal lands?

The Proposed Project would not limit access to and ceremonial use of any known Indian sacred sites or result in other impacts on known tribal lands.

• 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?

The Proposed Project would not likely contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

V. Required Permits or Approvals

Based on a preliminary environmental review, it is expected that this project will be eligible for a Categorical Exclusion and Exemption through NEPA and CEQA, respectively. CEQA documentation will be processed through Yuba Water based on class 1 (existing facilities), 2 (replacement or reconstruction), and 4 (minor alterations to land) exemptions. The timeframe for this process is expected to be completed during the Pre-Award Phase (July 2024 – September 2024). No other permits or approvals are required.

VI. Overlap Duplication of Effort Statement

The Teichert Pipeline Project is part of the HIC System Renovation Plan. This project was identified as the 3rd highest priority out of the 12 improvement projects recommended. HIC intends to submit a separate application for the Water SMART grant program under a different funding group for a related project including larger scope. This submission will take place on February 22, 2024. This additional application includes the 1st and 2nd priority projects as well as the Teichert Pipeline project proposed in this application. The WEEG awards are expected to be announced by July 2024. If the Teichert Pipeline Project is selected for WEEG funding under both applications, HIC will notify the WEEG coordinator immediately to decline this application.

VII. Conflict of Interest Disclosure Statement

As of the date of the submission of this application, HIC is unaware of any actual or potential conflicts of interest that exist with respect to Federal financial assistance agreements.

VIII. Uniform Audit Reporting Statement

HIC was not required to submit a Single Audit report for the most recently closed fiscal year. If awarded the requested funds for this project, a Single Audit report will be submitted.

IX. Certification Regarding Lobbying

See Attached Form

X. Disclosure of Lobbying Activities

Not applicable for this project.

XI. Letters of Support

A letter of support is included as an attachment.

XIII. Official Resolution

The executed agreement between YWA and HIC (signed by HIC's Board President) is included as an attachment. If selected, HIC will provide an official resolution from the Board of Directors.

XIV. Letters of Funding Commitment

The executed funding commitment agreement between YWA and HIC is attached.

Eduardo Dominguez Zamudio
7901 Hallwood Blvd
Marysville CA 95901

February 13, 2024

United States Bureau of Reclamation

Subject: Support for Funding Opportunity No. R24AS00052 WaterSMART Water and Energy Efficiency Grants - Hallwood Irrigation Company – Teichert Pipeline

To whom it may concern,

I am writing to express my full support for the application submitted by Hallwood Irrigation Company (HIC) for Funding Opportunity No. R24AS00052, the WaterSMART Water and Energy Efficiency Grants. As a Yuba County farmer and longtime Hallwood resident, I have had the opportunity to review HIC's proposal thoroughly, and I am convinced of its importance and potential impact.

The proposed project aims to convert an approximately 7,800 linear foot section of the existing Teichert Ditch into a below-ground pipeline. This transformation will significantly enhance efficiency and conservation efforts by mitigating water losses caused by seepage. The installation of this pipeline aligns perfectly with the objectives of the WaterSMART program, as it directly addresses the critical need to optimize water usage and minimize waste in our communities.

By implementing this initiative, HIC will not only improve the sustainability of their operations but also contribute to broader environmental and economic benefits for the local area. The reduction in water losses will undoubtedly lead to more efficient resource utilization, benefiting stakeholders and ecosystems alike.

I commend HIC for their proactive approach to enhancing water and energy efficiency, and I believe that their proposal deserves serious consideration for funding. This project represents a valuable opportunity to make significant strides towards achieving our water conservation goals and ensuring the long-term resilience of our water infrastructure.

Thank you for considering this letter of support as part of HIC's grant application. If you require any further information or assistance, please do not hesitate to contact me.

Sincerely,

Eduardo Dominguez Zamudio
Eduardo Dominguez Zamudio

530.741.5000
info@yubawater.org
yubawater.org

YUBA WATER AGENCY

February 22, 2024

Subject: United States Bureau of Reclamation Funding Opportunity No. R24AS00052
WaterSMART Water and Energy Efficiency Grants
Hallwood Irrigation Company – Teichert Pipeline

To Whom It May Concern:

I am pleased to provide this letter of support for Hallwood Irrigation Company (HIC) in their application for Funding Opportunity No. R24AS00052 WaterSMART Water and Energy Efficiency Grants. This project will allow HIC to convert an approximately 7,800 linear foot section of the existing Teichert Ditch into a below-ground pipeline. Installing this pipeline will improve efficiency and conservation through elimination of water losses due to seepage. By increasing the efficiency of HIC's water usage, the project improves water supply management of the Yuba River and North Yuba Subbasin.

Thank you for accepting this letter of support for the grant consideration.

Sincerely,

Kyle Morgado, PE
Water Resources Manager
Yuba Water Agency