

Yuba IRWMP – HIC-02

Project Short Form¹

Please fill out the following information to the best of your ability/knowledge. Contact Keri Rinne with questions: keri.rinne@gmail.com

PROJECT SPONSOR INFORMATION

Lead Agency/Organization	Hallwood Irrigation Company
Name of Primary Contact(s)	Mark Chandless
Mailing Address	P.O. Box 1349, Marysville, CA 95901
Email Address	mchandless@att.net
Phone (###) ###-####	530-788-3289
Project Partners/Collaborators	Yuba Water Agency
YWA Liaison	Joanna Lessard; Ryan McNally

GENERAL PROJECT INFORMATION

Project Title	West Ditch Sluice Gate Replacement
Project Total Budget (Attach detailed budget, if available)	\$190,000.
Budget Breakdown	Planning/Design Budget: \$20,000. Implementation Budget: \$170,000.
Project Funding Match , if any	TBD
Total Project Funding Need	TBD
Project Location (Attach map if available)	Hallwood, Yuba County
Watershed/subwatershed	
Groundwater Basin (Select one)	<input checked="" type="checkbox"/> North Yuba Subbasin <input type="checkbox"/> South Yuba Subbasin <input type="checkbox"/> Not Applicable
Supports Yuba Groundwater Sustainability Plan (GSP)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Measurable Objective(s) Benefit (Answer If 'Yes' above) (check <i>all</i> that apply)	<input checked="" type="checkbox"/> Chronic lowering of groundwater levels <input checked="" type="checkbox"/> Reduction of groundwater storage <input checked="" type="checkbox"/> Degraded water quality <input checked="" type="checkbox"/> Land subsidence <input checked="" type="checkbox"/> Depletions of interconnected surface waters
Project Priority (Select one)	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low
Project Type (check <i>all</i> that apply)	<input type="checkbox"/> Conceptual <input type="checkbox"/> Feasibility Study <input type="checkbox"/> Study/Assessment <input type="checkbox"/> Planning <input type="checkbox"/> Engineering/Design <input type="checkbox"/> Permitting <input type="checkbox"/> CEQA/NEPA <input checked="" type="checkbox"/> Facility Construction <input type="checkbox"/> Restoration <input type="checkbox"/> Monitoring <input type="checkbox"/> Best Management Practices <input type="checkbox"/> Acquisition

¹ Completed Project Short Forms should be sent via email to Keri Rinne at keri.rinne@gmail.com

	<input type="checkbox"/> Demonstration/Pilot Project
Legal Authority	

Please select the *status* of the CEQA/NEPA/Permitting for this project:

CEQA (Select one)	<input checked="" type="checkbox"/> Exempt <input type="checkbox"/> Not Started <input type="checkbox"/> Initial Study <input type="checkbox"/> EIR <input type="checkbox"/> Determination <input type="checkbox"/> Unknown if Required
NEPA (Select one)	<input checked="" type="checkbox"/> Exempt <input type="checkbox"/> Not Started <input type="checkbox"/> Environmental Assessment <input type="checkbox"/> EIS <input type="checkbox"/> Record of Decision <input type="checkbox"/> Unknown if Required
Permitting (Select one)	<input checked="" type="checkbox"/> Not Required <input type="checkbox"/> Not started <input type="checkbox"/> Identified <input type="checkbox"/> Consultations Complete <input type="checkbox"/> Application Submitted <input type="checkbox"/> Complete <input type="checkbox"/> Unknown if Required

PROJECT DESCRIPTION

Write a narrative briefly describing the project components and/or characteristics (Suggest ~ 300 words).

The Hallwood Irrigation Company (HIC) received a Community Impact Grant from the Yuba Water Agency (YWA) for the HIC System Renovation Plan (HIC-01). The first phase of the Renovation Plan included the development of an irrigation system condition assessment, which was completed in December 2022. Through the condition assessment, HIC identified and prioritized several improvements. The second phase of the Renovation Plan includes developing the construction documents, engineering, and permitting for the highest priority improvements. The project identified herein was identified as the highest priority out of the 12 recommended improvement projects.

The HIC irrigation system is currently difficult to operate and requires considerable experience to adequately manage. Since the primary check structures throughout the system are simple weirs with wood flashboards, any sort of operational change or system failure can result in unexpected changes in water level that propagate downstream. This can then result in under or over-deliveries to irrigators and an excessive amount of return water to the Yuba or Feather River.

The sluice gate that feeds the West ditch off the North Main ditch has degraded to the extent that it no longer functions appropriately. The concrete walls of the West Ditch sluice gates have been fully eroded to the point that they still allow a full flow of water through to the West Ditch even if the valves are closed.

In order to improve the operating conditions of HIC's irrigation system, the West Ditch diversion structure located on the North Main Ditch will need to be replaced. Several alternatives were analyzed and the recommended improvement included the use of an automated flow control gate. The planned infrastructure upgrade includes installation of either one (1) or two (2) automated flow control gates with associated SCADA software allowing for remote operation of the flow control gates. The new equipment will allow for remote operation of the flow control structure and provide real-time flow rate data acquisition. This equipment upgrade will enable "smarter" operation of the flow control structure by providing more accurate and timely information on flow rates and allowing remote operation, which will increase HIC's overall water use efficiency by allowing more precise water application and less waste.

The recommended improvements include a new reinforced concrete diversion structure and automated flow control-gates and SCADA at the West Ditch.

PROJECT RATIONALE/ISSUES STATEMENT

Briefly describe the need for the project and the desired outcomes/deliverables (Suggest ~ 200 words). Include an explanation of benefits and how they would be evaluated.

The two main goals are to:

- (1) improve the efficient use of Yuba River surface water supplies in the area of benefit in the North Yuba Subbasin
- (2) improve the quality and quantity of flow rate data to allow more precise and accurate control of flows in and diversions from the HIC irrigation system.

Replacement of the failed diversion structure will allow HIC to regulate flows to the West Ditch and better manage flows within the overall system. The added automation would allow HIC to remotely measure the flow and increase or decrease the amount of flow going into the ditch based on feedback from downstream irrigators. Improving operational control and making the system easier to manipulate can greatly increase efficiency and reduce the amount of water diverted from the Yuba River.

The needs addressed are:

- (1) improved flow rate information at points along HIC's irrigation system will allow for better matching of diversion rates from the Yuba River with demands at irrigation turnouts and diversion ditches within HIC's irrigation system
- (2) using remote operation technology will increase efficiency of managing diversions (as opposed to the current practice of manual gate operation, which is susceptible to interruption due to accident, illness, or other loss of manpower and requires the personnel to drive to each gate location).

The improved operations will also benefit worker productivity and safety and reduce greenhouse gas emissions through reduced vehicular travel.

The project is expected to realize the following quantifiable benefits:

1. Water supply savings resulting from avoidance of excess surface water diversion.
2. Improved groundwater conditions due to greater availability of surface water supplies and subsequent reduced demand for groundwater.

Such water savings and resiliency will allow for continued avoidance of "deficit pumping" by these agencies. Furthermore, 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.