WaterSMART Small-Scale Water Efficiency Projects – Application Period 1

Parks and Lewisville Irrigation Company

SCADA Installation Project: Phase II

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Executive Summary

Date: January 9, 2024
Applicant: Long Island Irrigation Company
Category: A

City: Menan, ID
County: Jefferson
State: Idaho

The Parks and Lewisville Canal system (System) serves over 8,000 irrigated acres in Jefferson County. Before Phase I of the project was completed, which automated the ends of the main canal and two large laterals, the only automated diversion on the System was the main diversion from the Dry Bed, a tributary of the Snake River. Phase 2 of the SCADA Installation project proposes to automate and install headgates at three more diversions in the System that are currently using boards to control the water flow– the Goody Check, which is where the Parks and Lewisville Canal branches into the north and south lateral, the Sauer Lateral Diversion, and the Humbug Diversion. This project will greatly increase the management efficiency of the system and allow for real time measurement of the flows in the middle of the System which is not currently being measured efficiently.

Project Location

The System diverts from the Dry Bed aka the Great Feeder Canal, which is a tributary of the Snake River. The diversion is located south of the area known as Labelle, northeast of the town of Rigby. The System delivers water to shareholders west of Rigby and in and around the town of Lewisville. The location of the three diversions to be automated is illustrated in the map below with the GPS coordinates following.

Goody Check: Lat: 43°41'30.05"N Long: 111°56'17.07"W
Humbug Lateral: Lat: 43°41'41.89"N Long: 112° 3'11.62"W
Sauer Lateral: Lat: 43°40'58.35"N Long: 111°59'48.58"W

Technical Project Description

The Parks and Lewisville Irrigation Company (P&L) has been operating since 1883. It delivers water to lands northwest of the town of Rigby, to the town of Lewisville and surrounding areas, and eventually dumps any remaining water back into the Dry Bed, a tributary of the Snake River. P&L has not done any major updates to its System until last year, when it automated the checks at the ends of the three main laterals of the canal as phase one of the SCADA installation project the P&L board is in the process of implementing. Before that, the only automated headgate on the entire system was the main diversion on the System where it diverts water from the Dry Bed.

Phase two of this project proposes to install steel headgates and SCADA automation to three diversion structures within the System. The first structure proposed to be replaced and automated is the Goody Check. The System splits into two main branches at this diversion. One is referred to as the north branch, the other is referred to as the south branch. This diversion is also commonly referred to as the "North South Divide." The improvements on this project include installing two steel headgates with automation to replace the need for boards to direct and control the flow of water. A steel walkway over the diversion will also be installed to allow for safe monitoring and the ability to remove any debris that may get caught.

See Attachment A for an illustration of the proposed new structure for the Goody Check.

The second structure proposed to be improved is the headgate to the Sauer lateral and the check in the South Branch of the Canal near the Sauer lateral. This part of the project entails improving the Sauer lateral by installing a steel knife gate with automation in place of the wooden boards to control the flow of water through the check in the South Branch of the System, and installing automation to the headgate that diverts water to the Sauer Lateral.

See Attachment B for an illustration of the proposed new structure for the Sauer Lateral.

The Third structure proposed to be improved is the Humbug diversion. This diversion is in an area of the System that is hard to access, monitor, and measure. This diversion has the reputation of being opened and diverting water when it should not. A metal knife gate will be installed and automated to allow better control and management of the amount of water that is diverted into the Humbug Lateral. Automation will also be installed on a smaller headgate that will allow for better management of that headgate as well.

See Attachment C for an illustration of the proposed new structure for the Humbug Diversion.

No cement for any of the three structures will be replaced as it is in good condition for all of the diversions.

Pictures of Existing Diversion Structures

Picture 1: Existing Goody Check, aka North South Divide

Picture 2: Existing Sauer Lateral Headgate and South Branch Check

Picture 3: Existing Humbug Diversion structure

Evaluation Criteria

E.1.1. Evaluation Criterion A—Project Benefits (35 points)

Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers.

• *Will the project result in more efficient management of the water supply?*
Yes. Installing steel headgates and automating them for the Goody Check will allow for real time measurement and adjustment to the amount of water that is being delivered to each branch to ensure the required amount of water is being delivered and make operation of the canal more efficient and a lot safer as the watermaster won't have to navigate a rotting wooden board to access the middle of the diversion. Completion of just this portion of Phase 2 will impact 5700 acres and 208 shareholders. Currently, P&L is doing its best to deliver the appropriate amount of water to shareholders, but it is difficult without real time measurement and outdated infrastructure.

Automating the headgate and installing a steel knife gate with automation to the check at the head of the Sauer Lateral will allow for real time measurement of the flows to the Sauer Lateral which will inform P&L how much water is being delivered to that portion of the system and allow them to manage the flow of water more efficiently by either cutting down

the amount of water being delivered so it can flow to other places in the system, or increasing the flow if not enough water is being delivered.

Automating the Humbug diversion will allow P&L to control when it is opened and monitor how much water is being delivered in real time. Currently, P&L has to put physical locks on the headgate to control when it is opened, but it is in an area that is hard to access and they have no way of knowing when the headgate is opened without their authorization. Installing automation to the headgate will allow it to be operated by the watermaster, and allow him to monitor and control in real time how much water is being delivered.

• *Where any conserved water as a result of the project will go and how it will be used?*
Any conserved water as a result of the project will remain in P&Ls System to benefit shareholders, or return to the Dry Bed, a tributary of the Snake River, and benefit the natural flow of the river as well as downstream users.

Explain the significance of the anticipated water management benefits for the Category A applicant's water delivery system and customers.

The benefits of replacing the three diversions proposed for Phase 2 include the continued safe operation of the three diversions as the current system of using wooden boards to direct and control the flow of water will be replaced by steel headgates and automated so that the diversions can be operated and monitored more efficiently and there won't be a need to constantly physically access the diversions to adjust the flow of water through the middle of the system.

• *What are the consequences of not making the improvement?*

This project needs to be completed as soon as possible to allow P&L the ability to better measure and manage the flow of water to both branches of the Canal. Currently, it is difficult to get the required amount down each branch at the Goody Check. Either one branch is receiving more water than it should, and the shareholders on the other branch aren't receiving enough water, or it is the other way around. The same can be said of the Sauer Lateral and the Humbug diversion. Using wooden boards to control the flow of water without adequate measurement is outdated, inefficient, and can be dangerous. If these improvements are not made, the system will continue to be operated inefficiently and shareholders will continue to receive less or more than their allocated amounts.

Broader Benefits: *Describe the broader benefits that are expected to occur as a result of the project.*

• *Will the project improve broader water supply reliability at sub-basin or basin scale?*

Yes. The project will improve water supply reliability as the flows will be measured in real time at the diversions which will enable P&L to deliver water in the correct amounts to its shareholders.

• *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity? Will the project help address drought conditions at the sub-basin or basin scale?*

Yes. The project is in an area that recently experienced drought. The project will help address drought conditions by more accurately delivering water to P&L shareholders.

• *Will the proposed project positively impacts/benefit various sectors and economies within the applicable geographic area (e.g., impacts to agriculture, environment, recreation, and tourism)? Please explain.*

Yes. The proposed project will benefit agriculture and recreation. As most of the water being controlled by the P&L diversions is being used for irrigation of crops, the greatest benefit will be to the agriculture sector as the water will be more accurately delivered. There is a lot of recreation in the project area on both the Dry Bed and the Snake River. Because the water flowing into the System will be more accurately controlled, any excess flows can remain in the Dry Bed or the Snake River for recreation.

E.1.2. Evaluation Criterion B—Planning Efforts Supporting the Project (25 points)

Plan Description and Objectives: *Is your project supported by a specific planning document or effort? If so, describe the existing plan. When was the plan developed? What is the purpose and objective of the plan?*

Yes. The automation of the Goody Check, Sauer Lateral, and the Humbug diversion is supported by the P&L Board of Directors 2023 System Optimization Review Plan. The plan was developed at the 2023 annual meeting. The purpose and objective of the plan is to prioritize improvement projects on the Canal that will improve operation and management efficiency.

Plan Development: *Who developed the planning effort? What is the geographic scope of the plan? If the planning effort was not developed by the Category A applicant, describe the Category A applicant's involvement in developing the planning effort.*

The P&L Board of Directors developed the System Optimization review. The geographic scope of the plan is the service area of the Parks and Lewisville Canal.

Support for the Project: *Describe to what extend the proposed project is supported by the identified plan.*

• *Is the project identified specifically by name and location in the planning effort?*
Yes. The automation and installation of headgates for the Goody Check, Sauer Lateral, and the Humbug diversion is identified specifically by name and location in the System Optimization Review Plan.

• *Is this type of project identified in the planning effort?*
Yes. The P&L System Optimization Review Plan identifies the projects needed to improve the efficiency of the system.

• *Explain whether the proposed project implement a goal, objective, or address a need or problem identified in the existing planning effort?*
The replacement of the Goody Check, Sauer Lateral, and the Humbug diversion addresses the objective in the System Optimization Reivew Plan of increasing operation and management efficiency within P&Ls system as these structures are integral to controlling the flow of water through the middle of the system to shareholders.

• *Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.*
The automation and installation of headgates for the Goody Check, Sauer Lateral, and the Humbug diversion was determined a priority as these diversions are integral to the control and management of the middle of the System. The current system of using wooden boards to direct the flow of water is difficult, outdated, and expensive for P&L to continue. There is also no way for the P&L to accurately monitor how much water is flowing through the middle of the System. These three diversions were identified as ones that will greatly improve the operation and management efficiency of the overall System.

E.1.3. Evaluation Criterion C—Implementation and Results (20 points)

• *Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.*

Implementation Plan
Planning for the project has already been completed. Procurement of supplies to begin constructing the headgates and overshot gates will occur as soon as funds are received. Installation of the headgates and automation will begin no sooner than February 1, 2025.

All three projects should be completed by spring of 2026 which allows for any delays caused by weather or unforeseen causes. P&L has received bids from Boulter Excavation for the fabrication and installation of the steel headgates. P&L has received bids from Metcom Inc to install the automation to the new and existing headgates on all three diversions. Once funding is procured, P&L will enter into a contract with Metcom Inc. and Boulter excavation for the work to be completed. No regulatory review or permitting is needed as the project will not expand beyond the banks of the existing Canal.

Proposed Implementation schedule

Implementation Schedule		
Activity/Milestone	Begin Date	Completion date
Fabricate steel headgates and walkways for all three diversions	2/1/2025	3/15/2025

Install new steel headgates to three diversions	3/15/2025	4/7/2025
Install automation to new and existing gates at all three diversions	4/7/2025	4/14/2025

• *Proposals with a budget and budget narrative that provide a reasonable explanation of project costs will be prioritized under this criterion.*

Proposed Budget

Non-Federal Funding Partners

P&L has applied for a grant in the amount of 83,852.00 from the Idaho Water Resource Board (IWRB) under the Aging Infrastructure Grant Program for this project. This will help P&L meet the cost share requirement under this grant. If awarded, the money from IWRB will be used in conjunction with this grant to reduce P&Ls cost share portion. If this grant is awarded in the amount of $100,000, P&L's portion of the proposed budget will be $50,693. P&L has enough saved for improvement projects to be able to cover their portion of the proposed project without obtaining any other financing.

Table 1: Budget Summary

Parks and Lewisville Canal - SCADA Installation Phase Two	
Project Total	$ 224,098.00
IWRB Aging Infrastructure Grant Request	$ 83,852.00
BOR WaterSMART SWEP Grant	$ 100,000.00
Sponsor Contribution	$ 40,246.00

Table 2: Cost Estimate and Budget proposal

Cost Estimate and Budget	
Improvement	Cost
Goody Check - automation and headgates	$ 74,435.00
Sauer Lateral - automation and headgates	$ 68,927.00
Humbug Diversion - automation and headgates	$ 80,736.00
Total Cost	$ 224,098.00

Budget Narrative

Salaries and Wages

The Project Manager, David Spencer, is a board member of P&L. All the work for these proposed improvements will be contracted through an automation professional and a steel fabricator. No labor has been added for David as project manager. The professional from Metcom, Inc. will install the automation and SCADA systems for the headgate and overshot gate and charge his standard rate of $95 an hour. The professionals from the steel fabrication company will fabricate the steel headgates, overshot gates, and walkways, and

install them, charging their standard rate. The labor costs have been included in the budget proposal.

Equipment
No equipment from the irrigation company is needed. The companies that have been hired to do their particular tasks will provide the specific equipment needed to do it properly.

Materials and Supplies
The materials and supplies are included in the line items in the budget. The particular companies hired to do the project will provide the materials and supplies as needed.

Contractual
Once funding has been received for the projects, P&L will contract with three professionals to ensure that the work is done properly.

Environmental and cultural resources compliance
We will not be altering anything environmental or cultural and so do not need any compliance documents.

Required permits or approvals

• *Describe any permits and agency approvals that will be required along with the process and timeframe for obtaining such permits or approvals.*
We do not need any permits or approvals for this project as the entire project will take place within the banks of the P&L Canal.

• *Identify and describe any engineering or design work performed specifically in support of the proposed project. What level of engineering design is the project currently? If additional design is required, describe the planned process and timeline for completing the design.*
Boulter Excavation, company with experience designing and constructing irrigation diversion works provided a design for the new steel headgates and walkways. P&L does not expect that additional design will be required, but if it is, will complete the design process before installation of the headgates.

• *Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project?*
Yes, P&L has a statutory easement that allows it to access the land where the project is located and to do the work needed to implement the proposed project. The statutory easement is described in Idaho Code § 42-1102.

• *Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.*

P&L has not yet contacted the local Reclamation office, but it will by the end of January 2024 to begin any compliance processes that will be needed. A line item for compliance costs has not been included in the budget.

E.1.4. Evaluation Criterion D—Nexus to Reclamation (5 Points)

P&L has contracts with two Reclamation facilities; Palisades Reservoir and Jackson Lake. P&L receives both natural flow and storage water from the two facilities and strives to use the water received in an efficient manner.

E.1.5. Evaluation Criterion E—Presidential and Department of the Interior Priorities (15 points)

E.1.5.1. Sub-criterion No. E1. Climate Change

Combating the Climate Crisis:

Please describe how the project will address climate change, including the following:

• *Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

This project will help address the impacts of climate change by increasing supplies through water management improvements. The automation and installation of headgates to three of P&L's diversions will allow P&L to control and monitor the flow of water through the middle of its system.

• *Does this proposed project strengthen water supply sustainability to increase resilience to climate change? Does the proposed project contribute to climate change resiliency in other ways not described above?*

Yes. This project strengthens water supply sustainability by increasing P&L's ability to measure, direct, and control the flow of water to over 8,000 acres of irrigated farmland.

E.1.5.3. Sub-criterion No. E3. Tribal Benefits

• *Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety by addressing water quality, new water supplies, or economic growth opportunities?*

Yes, this project will benefit the Shoshone-Bannock Tribes by protecting tribal water supplies, which improves tribal resilience to climate change and drought. As part of the 1990 Fort Hall Indian Water Rights Agreement, several canal companies (including P&L) set aside storage water in the Ririe and Palisades reservoirs for the tribes each year. As a result, the Tribes feel little or no adverse impacts during drought years and have sufficient water for irrigation as well as domestic, commercial, municipal, industrial, hydropower, and stock water uses. This agreement has numerous environmental benefits, including 1. helping preserve area wetlands, 2. enhancing Snake River flows, and 3. helping protect threatened migratory salmon and steelhead.

Official Resolution

For Small Scale Water Efficiency Projects: FY 2024 – Application Period 1

January 9, 2024

Whereas, the Parks and Lewisville Irrigation Company, in Lewisville, Idaho is a legally organized irrigation company in the State of Idaho, and

Whereas, the Company promotes, supports, and encourages water conservation, and

Whereas, the Company urgently needs system improvements to replace the main diversion structure.

Therefore, be it resolved that the Board of Directors of the Parks and Lewisville Irrigation Company in Lewisville Idaho agrees and authorizes that:

1. The Board has reviewed and supports the application proposal to the WaterSMART: Small-Scale Water Efficiency Projects.
2. The Board authorizes the President or Vice President the legal authority to enter into the WaterSMART: Small Scale Water Efficiency Projects Agreement.
3. The Parks and Lewisville Irrigation Company in Lewisville, Idaho can provide the matching obligations, and
4. If selected for a Small Scale Water Efficiency Project Grant, the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

01/09/2024

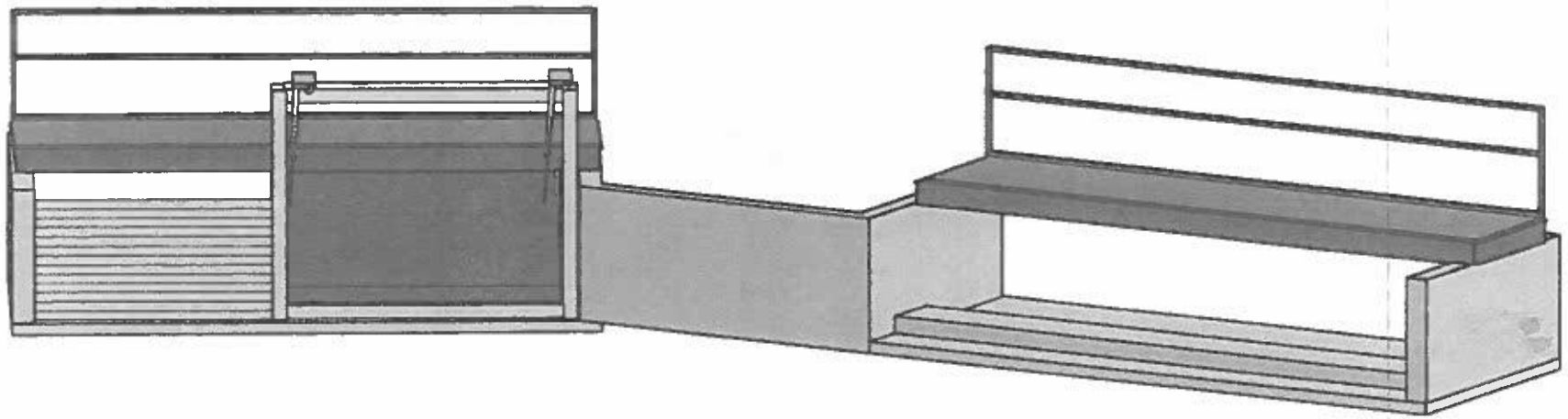
Date

Karl Kinghorn

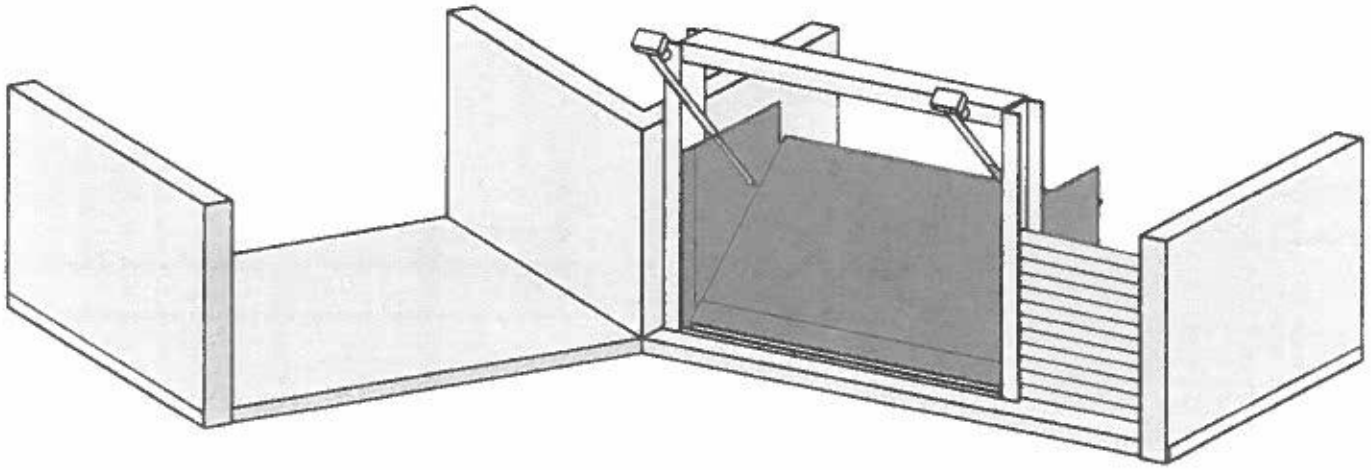
Karl Kinghorn, President
Parks and Lewisville Irrigation Company

Attachments

Attachment A: Goody Check - Illustration of new headgates



Attachment B - Sauer Lateral: Illustration of new overshot gate



Attachment C: Humbug Diversion - Illustration of new overshot gate and walkway