

MEMORANDUM

TO: Board of Trustees

THROUGH: Indra Winquest
Interim General Manager

FROM: Joseph J. Pomroy, P.E.
Director of Public Works

SUBJECT: Review, Discuss, and Possibly Authorize Multiple Contracts for the Water Pump Station 2-1 Improvements Project; 2018/2019 Capital Improvement Project: Fund: Public Works; Division: Water; Project # 2299DI1702; Vendors: San Joaquin Electric Inc., in the amount of \$291,000 and Jacobs Engineering in the amount of \$25,000

STRATEGIC PLAN: Long Range Principle 5 – Assets and Infrastructure

DATE: August 16, 2019

I. RECOMMENDATION

That the Board of Trustees moves to:

1. Award a construction contract to San Joaquin Electric Inc. in the amount of \$291,000 for the Water Pump Station 2-1 Improvements Project.
2. Authorize Chair and Secretary to execute the contract with San Joaquin Electric Inc., based on a review by General Counsel and Staff.
3. Authorize Staff to approve change orders to the construction contract for additional work not anticipated at this time of up to 10% of the project bid – \$29,000.
4. Authorize Staff to enter into an Additional Task Order with Jacobs Engineering totaling \$25,000 for services during construction of the project.

II. DISTRICT STRATEGIC PLAN

Long Range Principle #5 – Assets and Infrastructure – The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

- The District will maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- The District will maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District's workforce.

III. BACKGROUND

Water Pump Station 2-1 (WPS 2-1) is located at the Burnt Cedar Water Disinfection Plant (BCWDP) and pumps the disinfected potable drinking water into the water distribution system to serve Incline Village and Crystal Bay. WPS 2-1 was largely constructed in 1972 with minor upgrades in 1995 and 2012.

The electric motor control centers (MCCs) and switchgear at WPS 2-1 date to the original 1972 installation. This equipment does not meet modern OSHA requirements for Arc Flash safety and the MCCs and switchgear are at the end of their service life and are no longer supported by the respective manufacturers. The water pump station is mission critical to supplying drinking water to the community. Failure is unacceptable at this location.

In accordance with Board Policy 3.1.0., 0.15 Consent Calendar, this item is included on the Consent Calendar as it is routine business of the District and within the currently approved District Budget.

IV. BID RESULTS

The District publicly advertised this project for bidding on July 5, 2019 and plan sets were acquired by interested bidders. One bid was received and opened on August 15, 2019. The bid results are as follows.

Contractor	Bid Amount
San Joaquin Electric	\$291,000

The lowest responsive bidder is San Joaquin Electric. Staff checked their reference projects listed in the bid submittal and they have successfully performed two projects for the District including a project at Burnt Cedar Water Disinfection Plant in 2019. If awarded, the project is scheduled to be substantially complete by March 30, 2020. The objective is to complete construction between February 1 and March 30, 2020 when water demands are low and impacts to system operations from construction are minimized.

V. FINANCIAL IMPACT AND BUDGET

The Water Pump Station 2-1 Improvements Project as bid is included in the 2018/2019 Capital Improvement Plan and has a total budget of \$700,000. The total construction phase project budget is estimated at \$350,000 and is within the budgeted CIP amount. There are also instrumentation and metering equipment that will be installed under this capital project during the fiscal year to improve functionality and data acquisition for Water Pump Station 2-1. Staff expects this work to not exceed \$75,000. Unspent funds at the end of the fiscal year will be placed in utility reserves.

Total Construction Phase Project Budget

Construction Phase	Cost
Construction Contract	\$291,000
10% Construction Contingency	\$29,000
Design Consultant Services During Construction	\$25,000
District Construction Management and Inspection	\$5,000
Subtotal	\$350,000

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VI. ALTERNATIVES

None proposed.

VII. BUSINESS IMPACT

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.



Project Summary

Project Number:	2299DI1702		
Title:	Water Pump Station 2-1 Improvements		
Asset Class:	D - Capital Improvement - Existing Facilities		
Division:	99 - General Administration - Water		
Budget Year:	2019		
Scenario Name:	Main	Active:	Yes
Budget Status:	Data Entry		
Locations:			
Project Something:	DI - Distribution Infrastructure		

Project Description			
<p>Water Pump Station 2-1 (WPS 2-1) is located at the Burnt Cedar Water Disinfection Plant (BCWDP) and pumps the disinfected potable water into the water distribution system to serve Incline Village and Crystal Bay. There are four pumps located in the WPS. Three are rated at 2,200-gpm each and one is rated at 1,100-gpm. The maximum BCWDP capacity (water flow rate that can be disinfected and pumped) is 5,900-gpm (2 x 2,200-gpm and 1 x 1,100-gpm). This 5,900-gpm limit is set by regulatory permit, disinfection equipment capacities, and electrical service size. All four pumps are used year round in various combinations based on system demand.</p>			
Project Internal Staff			
Project Justification			
<p>WPS 2-1 is designed to provide the necessary flows to meet system demand with the largest pump out of service. If a 2,200-gpm pump fails, the remaining three pumps can supply the peak demand. However, an interesting problem arises if the 1,100-gpm pump fails. During 9 months of the year, one or two 2,200-gpm pumps can meet system demand. However, in the summer months and during peak snowmaking, there are extended periods that require maximum BCWDP capacity meaning three pumps in service (2 x 2,200-gpm and 1 x 1,110-gpm). If the 1,100-gpm pump fails and is out of service then the BCWDP cannot meet system demand. This is because WPS 2-1 cannot place the third 2,200-gpm pump into service because the BCWDP is not rated to produce a total of 6,600-gpm. Additionally, there is also a limitation in electrical service size and associated equipment that prevents three 2,200-gpm pumps from operating.</p> <p>WPS 2-1 was largely constructed in 1972 with minor upgrades in 1995 and 2012. The electric motor control centers (MCCs) and switchgear at WPS 2-1 date to the original 1972 installation. This equipment does not meet modern OSHA requirements for Arc Flash safety and the MCCs and switchgear is at the end of its service life and no longer supported by the respective manufacturers. Additionally, two of 2,200-gpm vertical turbine pumps also date to the original 1972 installation and are approaching the end of their service lives (the remaining 2,200-gpm pump dates to 1995 and the 1,100-gpm pump dates to 2012). This project will complete design and construction of the new MCCs and switchgear to replace the 1972 equipment, provide modern controls and safety enhancements to meet current regulations, as well as install a variable frequency drive to allow one of the 2,200-gpm pumps to operate at half speed to provide redundancy to the 1,100-gpm pump. Additionally, the project will replace the two remaining original 2,200-gpm pumps with new equipment.</p>			
Forecast			
Budget Year	Total Expense	Total Revenue	Difference
2019			
MCC and Switchgear Replacement Construction	700,000	0	700,000
Year Total	700,000	0	700,000
2021			
Vertical Turbine Pump Replacement (two 2,200-gpm pumps)	300,000	0	300,000
Year Total	300,000	0	300,000
	1,000,000	0	1,000,000
Year Identified	Start Date	Project Partner	Manager
			Est. Completion Date