

Capital Improvement Plan Projects 2022 – 2026

Project Name: Raw Water Pump Station, Valve Vault, Zebra Mussel Control	Department: Public Works - Utilities
Type of Project: Replacement	Contact: Bob Lemley
	Estimated Project Cost: \$3,589,642

Description:

This project will replace the existing Raw Water Pump Station, replace the reducer, and butterfly valve. This infrastructure controls the flow of water from Smithville Lake to the pump station and provides a mechanism for mussel control at the raw water intake facility by using a copper ion system. HDR provided the Engineering plans for construction.

Bids were publicly opened and read on June 8, 2021. The lowest bid approximately \$1 million over the original budget estimate. The Board of Aldermen directed staff to use ARPA (American Rescue Plan Act) Funds to pay for the project. The City of Smithville is expected to receive \$2,178,275 in ARPA Funds from the State of Missouri. Impact fees are recommended to be used to cover the remaining costs. The bid for construction was awarded to Irvinbilt Constructors. Inc.



Located Near Dam at Smith's Fork Park





Zebra Mussels Clog the Raw Water Pump Intake

Justification:

The current Raw water pump station is designed to send 2.5 million gallons of lake water to the plant in a 24-hour period. As determined in the Water Master Plan, the City needs to design and construct a 5 million gallon a day plant (starting in 2022 completion in 2025). This was determined by the predicted population growth of the City. The first step in this expansion is constructing the raw water pump station that will send that water to the plant.

The City had discussion with the Engineers Corp for many years on who is responsible for the maintenance of the valve at the toe of the dam. Since the City is the only entity that uses the valve, it was determined that the City is responsible for the maintenance. The City will install a valve, pipe, and a bypass for future maintenance to be more accessible.

The Smithville Lake has identified zebra mussels as a major issue with water intake. The zebra mussels attach themselves to water intakes, which can lead to clogs. To prevent clogs, the ion exchange system will treat the and control the zebra mussels. The ion exchange system has been identified as the best management practice in the water industry to control the zebra mussels. The US Engineers Corp will be sharing the cost on this aspect of the project.



Planned Expenditures

Phase	FY Prior	FY 2022	Total
Engineering	\$329,890	-	\$329,890
Construction	\$ 81,452	\$3,178,300	\$3,259,752
Total	\$411,342	\$3,178,300	\$ 3,589,642

Funding Sources

Fund	FY Prior	FY 2022	Total
CWWS Fund	\$411,342	\$1,000,000	\$1,411,342
ARPA Fund	-	\$2,178,300	\$2,178,300
Total	\$411,342	\$3,178,300	\$3,589,642

Progress of this Project (Current Phase)



Updated 12/15/21