

# FORT SMITH WASTEWATER SYSTEM IMPROVEMENTS PROJECT



# Factors Responsible for the Increased Cost of the Wastewater Treatment Replacement Project

- The original budget for this project was estimated to be \$5.5 million. The current estimate is \$8.2 million
- What are some of the factors contributing to this inordinately severe increase??
  - A lack of contractor availability due to the remote location of the project (100 miles away from Billings) and simply the demand for this work around the state
  - Unprecedented inflationary pressure on materials and supplies-example: 8 inch sewer pipe was originally estimated at \$60 per foot and now is \$250
  - Increase cost for 3 feet of sludge removal from present lagoon (originally thought to be a 20 foot circle and in reality-- approximately 150 feet
  - Cost to relocate existing electrical power and services-New DEQ requirement
  - DEQ requirement (newly stated) to add an expensive aeration system for treatment

# Historical Details of the Financial Awards to the Fort Smith Wastewater Treatment Replacement Project

- The Committee for dispensing American Rescue Plan Act (ARPA) monies held numerous hearings during the 2021 session.
- All applicant programs were ranked based on need and importance by DNRC.
- The Fort Smith project was ranked 27 out of approximately 275 applicants and by virtue of this high ranking, was awarded \$2 million as well as \$125,000.00 from RRGL and \$750,000.00 from MSEP.
- **PROBLEM:** The committee elected to award all selected projects the same amount of money (\$2 million each). As I see it, it would have been better to evaluate the budget and needs of each program and make an award commensurate with those parameters.
- This would have resulted in many of the projects to be more fully funded and potentially have less of a shortfall today.

# Importance and Significance of the Wastewater Treatment Replacement Project

- A significant indication of the importance of this project is validated by the ranking of this endeavor by the Montana Legislative ARPA committee. They assigned our initiative a ranking of 27 out of approximately 300 applicants.
- It has been determined by the Environmental Protection Agency that the extensive failure of the present system (sewage leaking into the ground water and the river) poses a significant danger to the health and safety of our community.
- If the system were to be shut down by the EPA or the State, the economic impact to the community and surrounding areas would be devastating. **A loss of \$95 million each year!!**



# History of the Fort Smith & Yellowtail Wastewater Systems

- The towns of Fort Smith and Yellowtail were created in the 1960's as temporary housing during construction of the Yellowtail Dam.
- After the Dam was constructed, the land was transferred into private ownership.
- In 2000, the Fort Smith Water and Sewer District was created to operate and maintain the wastewater and water systems for Fort Smith and Yellowtail.
- During the 2011 Water Improvements Project, water meters were installed. This resulted in a \$2 million loan that is being repaid by the District users.



# Fort Smith Wastewater Improvements Project

We reviewed costs, locations, O&M, constructability, quality of treatment, all alternatives, and State and Federal regulatory requirements.

The Board made the following decisions:

- Replace existing collection systems using large diameter conventional gravity sewers per MDEQ Standards.
- Construct a new aerated lagoon system on the District's 40-acre property. Wastewater effluent will be land applied by spray irrigation. Odor abatement is part of the plan.
- Install both a centralized lift station in the NE corner of Fort Smith and a force main to convey wastewater to the treatment lagoon system.
- Remove and dispose of sludge and fill in existing Yellowtail lagoon. This property will be sold.
- Properly abandon Fort Smith septic drain field on the north side of Highway 313.



# Existing Wastewater System for Fort Smith (North side)

- Gravity sewer mains in the alley and roads (ranging in size from 4- to 6-inch PVC)
- 36 Manholes
- Cleanouts and vents
- Buried 65 year old steel train cars acting as septic tanks on mains that are pumped yearly by the District. These tanks are degrading and leaking into the ground water.
- Drain field with 4-inch perforated pipe for laterals on Tribal land NE of Fort Smith.
- Effluent from the drain field is running into an irrigation canal and the Bighorn river.

# Concerns Regarding the Fort Smith (North) Wastewater System

- Sewer mains backup & plug, requiring regular cleaning due to being undersized & root intrusion; Sewer mains consist of thin-walled 4-inch PVC that are leaking and can easily break or collapse during backfill
- Manholes are undersized, shallow, not watertight, and the bottoms have either deteriorated or never existed (do not meet current design standards). Several manhole lids cannot be removed, making it difficult to clean/maintain mains
- The **65 year old train** cars (used as septic tanks) are deteriorating (leaking) and do not meet current design standards
- Large trees are located in the area of the drain fields. The laterals are suffering from root intrusion and blockage and are not functioning properly
- **Effluent from the system is dangerously high in nitrogen and phosphorous greatly surpassing EPA and MTDEQ standards for safety.**





# Existing Wastewater System for Yellowtail (South side)

- Gravity sewer mains (6-inch clay pipe) that have reached their useful life; **many are broken, clogged, and leaking badly**
- 9 Manholes
- Cleanouts
- Single-cell unlined facultative lagoon which has been essentially dry for a number of years
- Effluent is leaking directly into the ground water severely endangering the health and safety of the community

# Concerns Regarding the Yellowtail (South) Wastewater System

- Sewer mains consist of aging 6-inch clay pipe which is undersized, damaged and leaking; sewer mains are 50 years old, shallow, leaking and are causing groundwater contamination with serious health and safety considerations
- District has reported sewer main and residential backups several times a year due to broken and sagging mains
- Manholes are undersized, shallow, not watertight, and bottoms have either deteriorated or never existed (do not meet current design standards)
- Too few manholes and the number of cleanouts make it difficult to clean
- There is currently no standing water (**essentially dry**) in the treatment lagoon which is unlined and does not conform to current design standards. Trees, bushes, and grass have taken over the lagoon
- Seriously dangerous health and safety condition exist due to system failure



# Interrelationship with Local Native American Tribal Members

- Of the 233 district members (sewer and water users) approximately 20-25 of those persons are Native American and Tribal members.
- An active business (grocery store and gas station) in Fort Smith that utilizes District services is wholly owned by the Crow Tribe.
- There is a 40-acre land parcel immediately adjacent to the District boundary owned by a Tribal **entity. They intend** to build low-income housing coordinating with the Crow Tribe Housing Authority. This will require an effective, efficient sewer system to service this project.
- Successful and timely completion of the project will provide vital health and safety improvements to those Native American District users.



# Economic Impact of Recreational Activities In and Around Fort Smith

- Montana Fish Wildlife and Parks and the Bighorn River Alliance have compiled data documenting the revenues generated annually from the recreational activities in and around Fort Smith.
- Annually, \$98 million is produced. \$93 million of that is from out-of-state visitors. These revenues are a result of travel, lodging, guide services, food and beverage, etc.
- If the wastewater treatment system failure caused a shut-down of these activities, the negative impact on the local and neighboring **economies** and population would be devastating.
- Additionally, this economic boon benefits not only Fort Smith but many other regions in the **entire** State.

# Financial Commitment by the FSWSD

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To date (February 1, 2022) the FSWSD has invested over \$485,000.00. These monies have been spent on feasibility studies, research, land acquisition, final preparation of a preliminary engineering report, and application for various Federal, State and private sector grants and funding

# Original Project Cost: \$5,500,000.00 Present Projected Cost: \$8,200,000.00

The drastic increase is due to inflationary factors, increased material costs, contactor availability, and additional requirements from MTDEQ.

**FSWSD funds spent on the project thus far: \$485,000.00**

***It is noteworthy that all of the funds listed below are a result of the Board's intensive efforts and initiatives to raise enough money to avoid having to obtain a loan that will be a serious financial burden to the Fort Smith community.***

## **Awarded Funds:**

ARPA Competitive: \$ 2,000,000

RRGL Grant: \$ 125,000

MCEP Grant: \$ 750,000

Bighorn County Minimum Allocation Grant Fund: \$ 769,952

Federal Economic Development Agency Grant: \$ 2,000,000

First Interstate Grant: \$ 5,000

Boyle Family (Columbia Sportswear) Grant \$25,000.00

Total Awarded Funds: \$ 5,674,952.00

**Funding Needed: \$ 2,525,048.00**

# Next Steps and Project Scheduling

- Loan application to State Revolving Fund (SRF) has been submitted for the full remaining amount needed. Decisions on SRF funding will be made by the end of 2022. *Ideally the FSWS District will not need this loan if remaining funds can be acquired elsewhere.*
- On-site project began in late 2021/2022 with surveys, planning and design of the system by the engineering firm. A cultural survey, geotechnical investigation and acquisition of easements are currently underway.
- Construction is expected to begin in **Spring/Summer of 2023**
- Costs are estimated and will likely end up being higher than anticipated



# QUESTIONS?

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