



City of Grand Island
Tuesday, July 13, 2021
Council Session/Budget Work Session

Item -3

Presentation of Wastewater Division Budget for Fiscal Year 2022

Staff Contact: John Collins, P.E. - Public Works Director

2022 Wastewater Budget



Enterprise fund

- Process wastewater generated by community residents, businesses and industries
- Meet state and national requirements
- Rely strictly on revenue for funding
- Average residential bill for 2020 was \$31.07, below the \$55.77 average for similar cities*

*AWWA 2019 WATER AND WASTEWATER NATIONAL RATE SURVEY, AVG POPULATION 53,000

Wastewater Overview

- Average flow: 11.4 MGD
- F.O.G. (Fat, Oil, Grease) Monitoring
 - H₂S generation continues to be a problem
 - Degrades concrete manholes and pipe



FY 2021 Capital Projects

Project	2021 Budget	2021 Forecast
SS Capital Outlay	\$ -	\$ 63,000
Online Monitoring	\$ -	\$ 500
Lab, Ops Control Center & Admin Building Renovations	\$ 3,088,000	\$ 3,088,000
Clarifier Rehabilitation	\$ 275,000	\$ 209
Aeration Basin Diffuser Replacement	\$ 50,600	\$ 19,300
WWTP Paving Improvements; 2020-WWTP-1	\$ 1,165,000	\$ 1,715,000
WWTP Security System	\$ 50,000	\$ -
Gate Valve @ UV	\$ 50,000	\$ -
WWTP Piping for JBS Flow	\$ 80,000	\$ -
Micro C Distribution	\$ 10,000	\$ -
Flow Improvements	\$ -	\$ 375,000
UV System Upgrade	\$ -	\$ 39,000
SS Capital Outlay	\$ -	\$ 20,000
Sewer Rehabilitation	\$ 367,500	\$ 29,000
North GI/CNRA Improvements; Project No. 2017-S-4	\$ 872,000	\$ 480,000
SS Dist 543; Willow St	\$ -	\$ 12,049
SS Inflow & Infiltration	\$ -	\$ 1,000
SS Dist 544; Ellington Pointe	\$ 930,000	\$ 930,000
Collection System Rehabilitation	\$ 350,000	\$ 292,000
Lift Station 17 Relocation	\$ 150,000	\$ 125,000
SS Dist 530T	\$ -	\$ 37,500
SS Dist 528	\$ -	\$ 37,500
	7,438,100.00	7,264,059



Proposed Capital Projects for 2021/2022

- Laboratory, Operations Control Center & Admin Building Renovation
- Clarifier Rehabilitation
- Aeration Basin Diffuser Replacement
- WWTP Security System
- Flow Improvements
- UV System Upgrade
- North GI/CNRA Improvements
- Collection System Rehabilitation
- Lift Station 17 Relocation
- Design of Buffering Tanks
- Lift Station 1
- Custer to Broadwell; Capital to State Collection System Rehabilitation
- Flow Monitoring

Laboratory, Operations Control Center & Administrative Building Renovation

\$500,000 / \$3,991,067

- Construction began in Spring 2020.
- Completion anticipated end of 2021



Clarifier Rehabilitation

\$186,000

- Carryover from FY21 due to delay in parts delivery
- This is the 3rd of 3 clarifiers
- Installed in 2000
- 15-20 year life



Anodes inhibit corrosion



Corrosion in Clarifier

Aeration Basin Diffuser Replacement

\$50,000

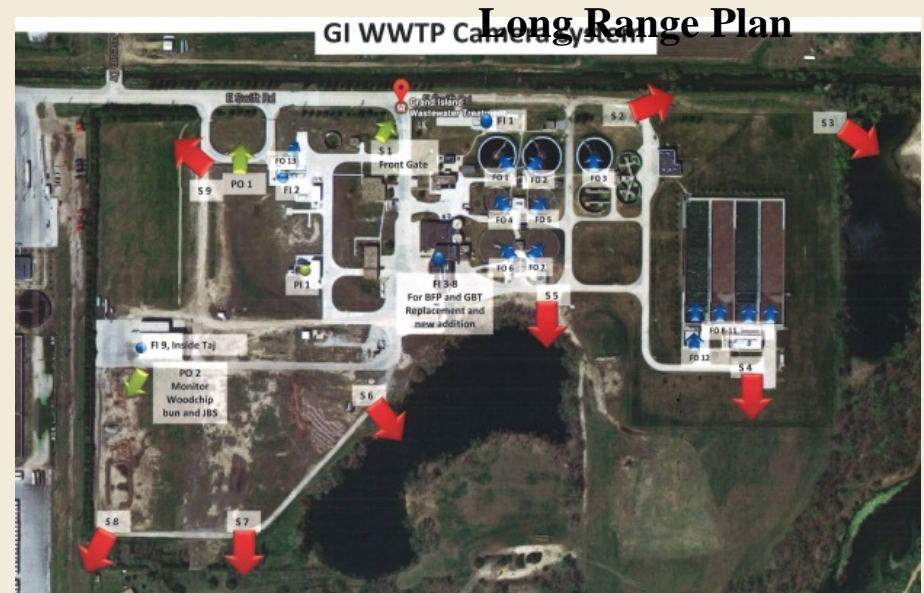
- Regular annual maintenance item
- Avoid service interruption



WWTP Security System

\$50,000

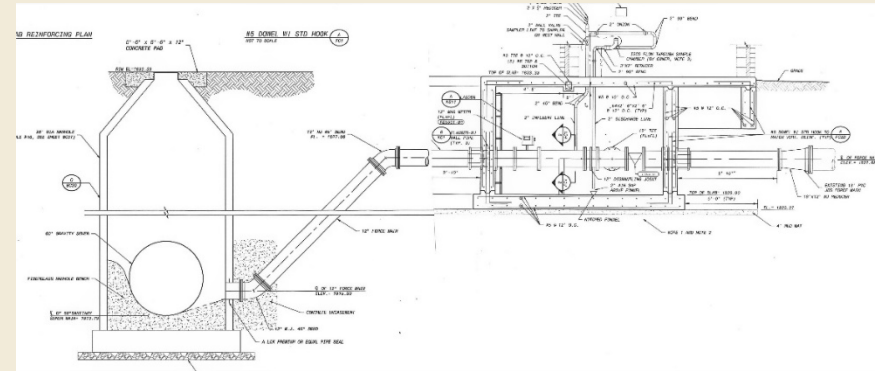
- 13 acres
- Physical intrusion history



Flow Improvements

\$3,430,000 / \$8,800,000

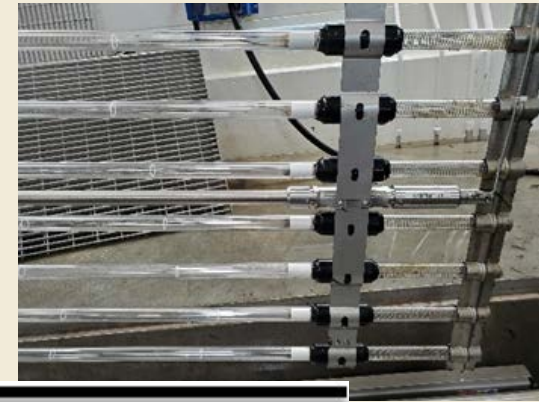
- ❏ Poor design/implementation of some existing systems
- ❏ Prepare for anticipated regulatory changes



UV System Upgrade

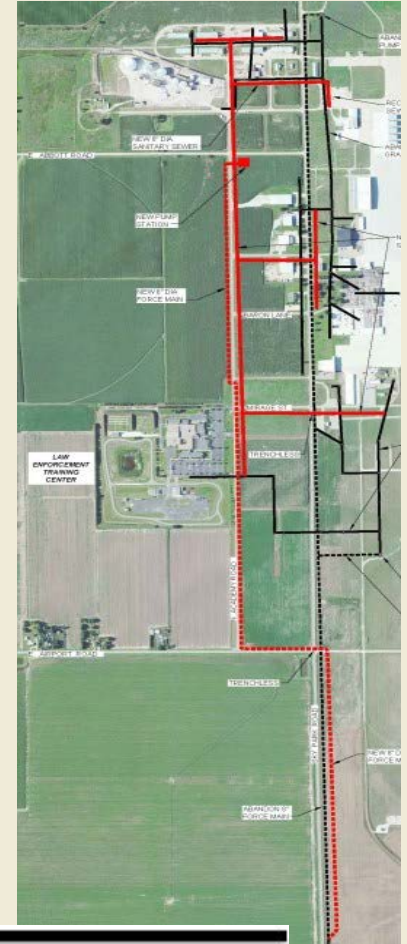
\$39,000

- Ultra-Violet light used to disinfect from May 1- Oct 1 per NPDES permit
- 20 years old
- Replace wiper system
- Replace 1 of the 4 banks of wipers per year



North GI/CNRA Improvements; Project No. 2017-S-4 \$5,370,000 / \$9,102,550

- Rehabilitation and improvement of collection system near the airport
- Anticipate interlocal agreement with CNRA and County
- Potential for American Rescue Plan (ARP) funds



Collection System Rehabilitation

\$70,000

- Annual project
- Repair pipes and Manholes



Lift Station No. 17 Relocation

\$1,425,000 / \$1,915,000

- Built in 1970
- Exceeded useful life
- Anticipated growth make further upgrades impractical
- FY22 - FY23



Buffering Tanks

\$600,000 / \$7,250,000

- South Interceptor is at maximum capacity during storm surges
- Buffering tank adjacent to Lift Station 28 will mitigate surge flows
- Delay need for South Interceptor retrofit
- Design FY22/ Construction FY23



Lift Station 1

\$ 300,000 / \$600,000

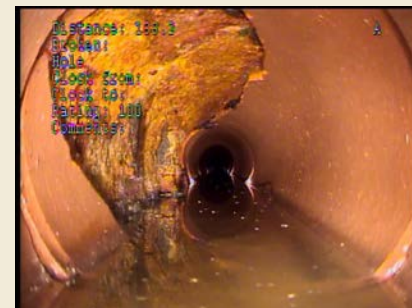
- Parks Department plans to demolish dilapidated storage building near Memorial Park where Lift Station 1 is housed
- Replacement was already planned
- Accommodate Broadwell Grade Separation



Custer to Broadwell; Capital to State Collection System Rehabilitation

\$90,000 / \$990,000

- Issues with 14,650 ft. of collection lines
 - CIPP lining
 - 47 degraded Manholes
 - Lining and repairs



Flow Monitoring \$85,000

- Monitor flows
- Identify areas where inflow and infiltration cause issues
- Information used to plan collection system repairs and upgrades



2022 Capital Improvement Projects

Lab, Ops Control Center & Admin Building Renovations	\$ 500,000
Clarifier Rehabilitation	\$ 186,000
Aeration Basin Diffuser Replacement	\$ 50,000
WWTP Security System	\$ 50,000
Flow Improvements	\$ 3,430,000
UV System Upgrade	\$ 39,000
North GI/ CNRA Improvements; Project No. 2017-S-4	\$ 5,370,000
Collection System Rehabilitation	\$ 70,000
Lift Station 17 Relocation	\$ 1,425,000
Design of Buffering Tanks	\$ 600,000
Lift Station 1	\$ 300,000
Custer to Broadwell; Capital to State Rehab Area	\$ 90,000
Flow Monitoring	\$ 85,000
	\$ 12,195,000

2022 Budget

Beginning Cash	\$ 15,512,759
Revenue	\$ 14,383,493
Total Revenue	\$ 29,896,252
Operating Costs	\$ 8,378,323
Loan/Bond Payments	\$ 4,178,995
Capital Expenses	\$ 12,195,000
Total Expenditures	\$ 24,752,318
Ending Cash Balance	\$ 5,143,934

2022 Future Project Expenses

<i>Project</i>	2022	2023	2024	2025	2026
Collection System Rehabilitation	\$ 70,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
Aeration Basin Diffuser Replacement	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Custer to Broadwell; Capital to State Rehab Area	\$ 90,000	\$ 900,000	\$ -	\$ -	\$ -
Clarifier Rehabilitation	\$ 186,000	\$ -	\$ -	\$ -	\$ -
North GI/ CNRA Improvements; Project No. 2017-S-4	\$ 5,370,000	\$ 3,430,000	\$ -	\$ -	\$ -
Lab, Ops Control Center, & Admin Building Renovations	\$ 500,000	\$ -	\$ -	\$ -	\$ -
WWTP Security System	\$ 50,000	\$ 50,000	\$ 25,000	\$ 25,000	\$ -
Lift Station 17 Relocation	\$ 1,425,000	\$ 490,000	\$ -	\$ -	\$ -
UV System Upgrade	\$ 39,000	\$ 39,000	\$ 39,000	\$ -	\$ -
Flow Treatment Monitoring	\$ 85,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ -
Design of Buffering Tanks	\$ 600,000	\$ 6,650,000	\$ -	\$ -	\$ -
Lift Station No. 1	\$ 300,000	300,000.00	-	-	-
Flow Improvements	\$ 3,430,000	\$ 5,370,000	\$ -	\$ -	\$ -
	\$ 12,195,000	\$ 17,404,000	\$ 239,000	\$ 200,000	\$ 125,000

Issues from COVID Response

- Inflation: 8%
- Timeline
 - Delays in shipping
 - Shortage of workers

Wastewater Division Awards

- 🌊 NWEA Silver Safety Award
(7th Year in a Row)
- 🌊 NWEA Scott Wilber Award
OUTSTANDING FACILITY
(7th Year in a Row)

