



City of Grand Ledge

Wastewater Treatment Plant and Collection System Proposal for Design Engineering Services

City Council Meeting
September 9, 2024



Need for Project

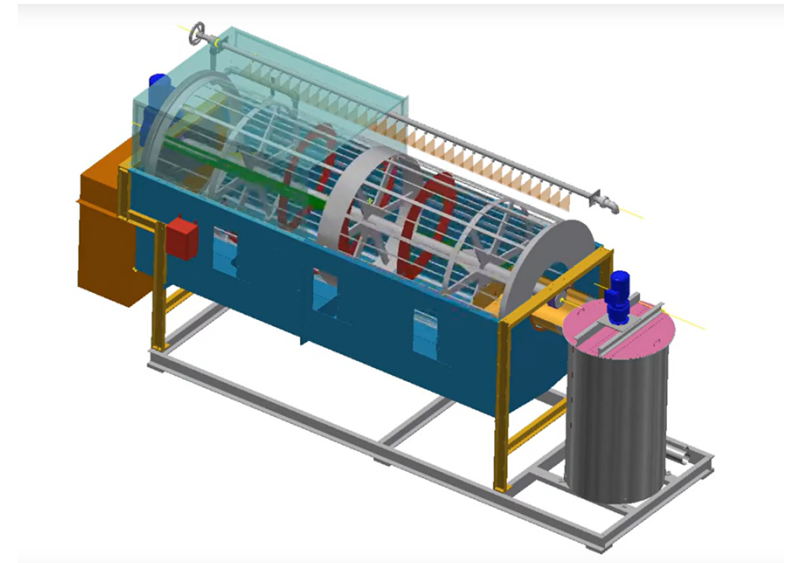
- EGLE enforcement action requires City to address SSOs caused by high wet weather flows
- Existing WWTP at capacity to handle organic loading (currently at 83% of capacity), typically when this exceeds 80% EGLE requires a capacity expansion
- Increased wastewater flows
- EGLE requires advanced wastewater treatment (AWT), typically tertiary filtration or ultrafiltration
- Biosolids handling is approaching the capacity

Wastewater Treatment Plant Improvements

- Increase hydraulic loading from 3.0 MGD to 8.0 MGD
- Increase treatment rate from 1.5 MGD to 3.0 MGD
- New screening, vortex grit removal, and influent pumps
- High-rate aerobic granular sludge (AGS) process
- Tertiary filtration using disk filters
- Ultraviolet disinfection and reaeration

Biosolids Handling

- Convert existing aeration basin tanks to aerobic digesters for biosolids stabilization
- Thicken digested solids using mechanical sludge thickener (Rotary Drum Thickener)



Collection System Improvements

- Increase capacity of West River Pump Station and install new inline check valve to increase the capacity of the interceptor
- Collection system Improvement



Phase I Project Cost Estimate

Project Component	Total Estimated Cost	DU0
Wastewater Treatment	\$31,195,000	
Biosolids Handling	\$3,032,000	
Collection System	\$1,395,000	
General Conditions, Mobilization, Bonds, and Insurance (16%)	\$5,700,000	
Construction Subtotal	\$41,400,000	
Contingencies (20%)	\$8,100,000	
Total Estimated Construction Cost	\$49,500,000	
Design/Construction Engineering	\$2,800,000	
Legal, Financial and Administrative Fees	\$100,000	
Total Estimate Project Cost	\$52,400,000	

Design Schedule

- September 2024: Finalize Basis of Design Report
30% Design Development
- November 2024: 60% Design Development
- January 2025: 100% Design Development
Submit EGLE Part 41 Permit
- February 2025: Publish Bids
- March 2025: Open Bids
- April 2025: Submit Part III Application
- June 2025: CWSRF Loan Closing
- July 2025: Issue Notice to Proceed

Design Schedule

- CWSRF Loan period is 3rd quarter
- Need a complete and well-developed set of design documents
- Improves bid pricing and reduces potential change orders
- HRC has successful bid several projects in the last two years during a challenging bidding climate

Design/Construction Engineering

Task	Fee	Notes
Design Engineering	\$1,255,000	Design Engineering
Supplemental Geotechnical Investigation	\$23,000	Authorized July 24
Construction Engineering	\$1,520,000	Future Separate Proposal
Total Design and Construction Engineering	\$2,798,000	