

Water Treatment Plants Valve Replacement Program - Lake Gaillard Water Treatment Plant Filter Influent Valve Replacement Project

Presentation to the Representative Policy Board



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Project Background

- Multi-year program to replace Treatment Plant valves
- LGWTP is RWA's largest water treatment plant
- Supplies to New Haven and Branford and indirectly to other service areas
- Lake Gaillard WTP influent valves were prioritized (\$2.69M)



Project Scope

Lake Gaillard WTP Filter Influent Valve Replacement

- Filter Influent Valve Replacement
 - Influent Valve provides isolation of filter influent piping from flocculation basin effluent channel
 - Sequenced isolation of 16 critical 30-inch valves/actuators
- Demolition/Temporary Provisions
 - Install mechanical plug in 78-inch steel pipe header
 - Construction sequenced to aid operations
- Mechanical and Electrical
 - Install valves and motorized actuator including conduits and wiring



Project Site Conditions



Project Need

Lake Gaillard WTP Filter Influent Valves Replacement

- Valves do not seal completely and are leaking
 - Impacts filter maintenance as it limits ability to control filter operations
- Actuated Control Valves beyond useful life, over 35 years old
 - New valves will improve the control, reliability and reduce risk of shutdowns
- No isolation valves in the present piping configuration
 - Purchase 78-inch mechanical plug



Summary of Alternatives Analysis

Lake Gaillard WTP Filter Influent Valve Replacement

- No Action on Valve Replacement (Not Selected)
 - Not acceptable due to age, leakage and required maintenance
- Valve Replacement (Selected)
 - Construction Methodology:
 - Permanent 54-inch Isolation Valve System (Not Selected)
 - Difficult with existing piping layout
 - high construction risk and cost prohibitive
 - Mechanical Plug Isolation System (Selected)
 - Faster construction and operationally efficient
 - Cost effective and plugs reusable for future



Budget and Schedule

- Total Project Budget – \$2.69M (in FY 23 and FY 24)
- Proposed Project Schedule
 - Submission – March 2022
 - Anticipated Approval – July 2022
 - Final Design, Permitting & Bid – August to October 2022
 - Award & Construction – November 2022 – May 2024



In Summary

- The proposed program/project:
 - Replaces valves that have reached the end of their useful life
 - Valve replacements are critical to the treatment plant's operation
 - Reduces risk of unexpected shutdown of the LGWTP
 - Mechanical plug reusable and provides flexibility to isolate filter influent pipe for future O&M
 - Mechanical plug is the most cost effective solution

