Clean Water State Revolving Fund FY14 Green Project Reserve

-Final-

Taylor Mountain FY14 Wastewater Project (pop. 500)

SRF Loan #WW 1402

$1,641,000

Final Green Project Reserve Justification

Business Case GPR Documentation

INSTALL GRAVITY WASTEWATER TRANSFER SYSTEM, ELIMINATING AN EXISTING LIFT STATION (Energy Efficiency). Business Case GPR per 3.5-3: *projects that cost effectively eliminates a pumping station* ($725,400).

State of Idaho SRF Loan Program

December 2016

INSTALL GRAVITY WASTEWATER TRANSFER SYSTEM[1]

Summary

- Two miles of 12-inch gravity sewer transfer line and ancillary equipment was installed to connect the Country Club Hills Estate to the existing Eastern Idaho Regional Wastewater Authority (EIRWWA) interceptor.
- Estimated loan amount = $1,641,000
- Estimated energy efficient (green) portion of loan = 44% ($725,400) (installed cost)

Background

- Taylor Mountain Water & Sewer District (TMWSD) collects and treats the wastewater for the Country Club Hills and Holiday Hills Subdivisions. The two subdivisions are located in Bonneville County in the Taylor Mountain foothills. The population served is 600 residents.
- The existing treatment facility, constructed in the 1970's, is a two cell total containment facultative lagoon of 3.07 acres.
- TMWSD signed a Compliance Agreement with IDEQ to upgrade and improve wastewater facilities by December 2016.
- Due to the unavailability of land, the primary wastewater disposal alternatives are either by gravity flow or pressure flow to the EIRWWA interceptor for treatment at the EIRWWA Oxbow Treatment Plant in Shelley, Idaho.

Results[2]

- Installation of two miles of 12-inch gravity sewer transfer line eliminated the need for the existing lift station and lagoon used by TMWSD for wastewater treatment.
- The consultant identified two viable alternatives to transfer TMWSD wastewater to the EIRWWA interceptor - a gravity line, or a new lift station and pressure line.
- The estimated initial capital cost for the gravity line was $200,000 more than the lift station and pressure line; however, when evaluated using a Present Worth Analysis over a 30 year period, 2% Discount Rate and incorporating the annual Operation and Maintenance Costs for the Gravity Line vs. the Pressure Line and Lift Station, the Pressure Line and Lift Station cost more by $133,000.

Conclusion

- The Present Worth analysis of the Gravity System is $133,000 less than the Pressure Line – Lift Station alternative. It is worth noting that the Boards of both EIRWWA and TMWSD wanted to eliminate the existing lift station and were not interested in the Pressure System alternative due to the continuing operational costs and maintenance issues brought on by sewage pumps.
- **GPR Costs**: Installing 2 miles of 12" gravity sewer = $725,400[3] (final installed cost)
- **GPR Justification**: The prioritized replacement of gravity sewer lines by the TMWSD as recommended in the Capital Improvement Plan is GPR-eligible by a Business Case per Section 3.5-3[4] *Projects that cost effectively eliminate pumps or pumping stations.*

[1] Country Club Hills Utilities 2013 Wastewater Facilities Planning Study, by Freiberg Engineering, Jeff Freiberg P.E
[2] 12-16-15 email J. Freiberg P.E., Freiberg Engineering – K. McNeill P.E., IDEQ
[3] 12-5-16 email J. Freiberg P.E., Freiberg Engineering – K. McNeill P.E., IDEQ
[4] Attachment 2. April 21, 2010 EPA Guidance for Determining GPR Eligibility for FY11 SRF Projects, P.10