



State Revolving Fund Loan Program

an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
www.srf.in.gov

MEMORANDUM

TO: Project File, Town of Odon, Wastewater Improvements Project, SRF Project # WW14 19 14 01

FROM: Jack Fisher

DATE: May 26, 2016

RE: Green Project Reserve (GPR), Business Case

Summary:

- The proposed improvements to the wastewater treatment plant (WWTP) will increase the average design capacity and peak design capacity in order to remove two sanitary sewer overflows and improve selected components and processes before failure occurs. The collection system will involve the rehabilitation of the east and west lift stations and installing a 15-inch interceptor in parallel to an existing 12-inch interceptor that will be abandoned.
- WWTP improvements include: replacing the influent pump station with variable frequency drives (VFDs); installing a new mechanical fine screen; constructing two new 32-foot diameter clarifiers; converting the existing rectangular clarifiers to aeration tanks; installing a return activated sludge/waste activated sludge pumping station with VFDs; installing two positive displacement blowers with VFDs; replacing the coarse bubble diffusers in the aeration tanks with fine bubble diffusers; replacing the ultra-violet (UV) disinfection system with a larger unit rated at 1.5 MGD; installing a 5,000 gallon tank equipped with fine bubble diffused air for post aeration; installing a standby generator; installing automatic samplers for testing; replacing outdated laboratory equipment; constructing a sludge handling pad; installing a chemical feed system for phosphorus removal; and installing an electric gate for safety and monitoring access to the WWTP.
- The estimated Total Project Cost is \$2,979,000.
- Estimated State Revolving Fund Loan Amount is \$2,479,000.
- Estimated GPR portion cost of loan associated with the WWTP improvements is **\$441,988** for construction and **\$88,710** for planning and design costs for a total cost of **\$530,698**. This represents 21 % of the estimated loan amount. This project qualifies under the category of **Energy Efficiency**.

Conclusions

- By replacing the pumps and motors with high efficiency components and adding VFDs, the system will realize an average reduction of **31% in energy costs** as compared with pumps and motors with standard constant speed units. The annual cost savings are estimated at **\$1,341**.



- VFDs will provide more efficient power consumption with an **average energy savings of 75.8%**.
- Fine bubble diffusion will provide more efficient power consumption. This could provide an annual energy savings of **\$48,289 and a 70% reduction in energy**.
- The estimated annual savings for the above GPR components will produce a total cost of **\$49,630**.