



State Revolving Fund Loan Program
an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
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MEMORANDUM

TO: Project File, Amo Coatesville Conservancy District, Wastewater System Improvements Project, SRF Project # WW17 22 32 01

FROM: Jack Fisher

DATE: August 20, 2018

RE: Green Project Reserve (GPR), Business Case

Summary:

- The Amo Coatesville Conservancy District was formed in 1989. The wastewater treatment plant (WWTP) was constructed halfway between both Amo and Coatesville on Crittenden Creek. The District's WWTP has an average design capacity of 0.0985 million gallons per day (MGD) consisting of a plant lift station, bar screen, an oxidation ditch, two secondary clarifiers, ultra-violet (UV) light disinfection system, and post aeration. Sludge is dried on four drying beds and then landfilled. Coatesville has a conventional gravity sewer system with five lift stations. Amo has a small diameter sewer system, which consists of 4 and 6-inch sewers and approximately 120 polyethylene septic tanks.
- The proposed collection system project includes: lining approximately 43 manholes in Amo by using polyurethane; replacing three grinder pump stations in Coatesville with new ones at the same capacity; and rehabilitating two lift stations in Coatesville and one in Amo. This rehabilitation work includes: replacing the pumps in each at the same capacity; installing new guide rails; installing an on/off controller on each pump for each lift station and raising the concrete cap on the Coatesville's main lift station.
- The proposed WWTP project includes: installing a Supervisory Control and Data Acquisition (SCADA) system in the laboratory building in conjunction with new controls on each of the grinder pump stations and lift stations, and also on the WWTP components (i.e., Ultra-Violet [UV] disinfection system, clarifier drive motor, return sludge pumps, oxidation ditch (OD) motors, and fine screen); replacing the bar screen with a fine screen with a rated capacity of 460,000 gallons per day; replacing the wire brush rotor assembly on the OD with a ceramic disc rotor assembly; rehabilitating the final clarifier by replacing the gear drive unit with a direct drive motor, installing density current baffles, and a cover to protect it from ice buildup in the winter; replacing two sludge return pumps with new ones at the same capacity; replacing the UV disinfection system with a newer unit; and in addition to the sludge drying beds a bio bag system contained in a roll off dumpster will be added for sludge dewatering.
- The estimated Total Project Cost is \$1,380,000.
- Estimated State Revolving Fund Loan Amount is \$730,000.

- This project will fall under the category of **Energy Efficiency**. The GPR construction cost is **\$45,000** for the replacement of the existing 15 horsepower motors with 10 horsepower motors for the two main lift stations in Coatesville and the one main lift station in Amo, while the GPR engineering cost is **\$35,000** producing a total cost of **\$80,000**. Based on the SRF Loan amount at \$730,000, the GPR total cost of \$80,000 will comprise 11% of the SRF Loan Amount. The remaining amount will be funded by an Office of Community Rural Affairs grant of \$650,000.

Conclusions

- Installing the smaller horsepower motors will yield an **annual savings of \$3,975** in energy costs.