



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, City of Peru, Water System Improvements Project, SRF Project # DW17 06 52 02

FROM: Jack Fisher

DATE: June 27, 2018

RE: Green Project Reserve (GPR), Business Case

Summary:

- Peru drinking water infrastructure includes: four groundwater wells; a gravity filtration water treatment plant (WTP); four elevated storage tanks; one ground tank; four booster pump stations; and five pressure zones in the distribution system. The wells are currently throttled to reduce flows, frequent cycle times and pressure in the raw water mains. All wells have provisions for standby power; however, they do not have permanent standby power. The WTP has several needs that include: aged and failing process valves and hydraulic actuators; aged and failing backwash transfer pumps; improper chemical feed and storage configuration; structural deficiencies in the plant building, detention tank and raw water vault; and aged and outdated supervisory control and data acquisition system with insufficient system control capabilities.
- The proposed project consists of improvements to the city's well, treatment facilities and distribution system including: installing variable frequency drives and permanent standby power at the wells; replacing process valves and hydraulic actuator system at the plant; replacing the backwash transfer pumps; chemical feed improvements; miscellaneous structural rehabilitation at the water treatment plant; installing a supervisory control and data acquisition system; 21 water main replacement and relocation projects; provisions to allow the north and northwest pressure zone to back feed remotely; and installing permanent standby power at the north and south booster pump station.
- The estimated Total Project Cost is \$8,910,000.
- Estimated State Revolving Fund Loan Amount is \$8,360,000.
- Under the category of **Energy Efficiency**, the GPR for construction cost is **\$19,905** for VFDs, while the GPR for engineering cost is **\$5,000** producing a total cost of **\$24,905**.
- Under the category of **Water Efficiency**, the GPR for construction cost is **\$30,260** for backflow preventers, while the GPR for engineering cost is **\$500** producing a total cost of **\$30,760**.
- Under the category of Environmentally Innovative, the GPR for construction cost is **\$905,280** for recycled ductile iron (DI), while the GPR for engineering cost is **\$1,000** producing a total cost of **\$906,280**.

Conclusions

- Estimated GPR portion cost of loan associated with the drinking water system improvements is **\$955,445** for construction and **\$6,500** for planning and design costs for a total cost of **\$961,945**. This represents 17% of the estimated loan amount.
- The **annual cost savings for using recycled DI is estimated at \$59,611**. This component would fall under the category of environmentally innovative.
- Installing VFDs on the well pumps (i.e., Nos. 1, 2 and 4 & 5) will yield an **annual savings of \$6,126**. This component would fall under the category of energy efficiency.