



# 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: Official Loan File

FROM: Richard J. Ziemba

DATE: December 20, 2011 (**Updated/Final**)

RE: Green Project Reserve, Business Case for Town of Bargersville, Water Treatment Plant and System Improvements, Phase 2, SRF Project # DW 12014102

### Summary

1. The Bargersville Water Treatment Plant and System Improvements, Phase 2 consist of the construction of a new well field, raw water main, finished water transmission main, booster station and secondary finished water transmission main to help alleviate supply problems during peak water demand periods. Some additional water main improvements will be constructed in the distribution system to help flow and pressure related issues. Business cases for energy efficient and environmentally innovative components were developed by Strand Associates, consulting engineers for the Town.
2. The energy efficient components are premium efficiency motors on the vertical turbine well pumps that are 95% energy efficiency. The estimated construction cost for this component is \$68,000 along with the engineering cost of \$11,000, which total \$79,000. The actual bid costs for this item was \$30,000, along with the engineering of \$11,000, which brings the total GPR cost for this item using as-bid cost to \$41,000. The new Kinder Tank booster station is the other energy efficient component. The booster station that serves the southern pressure zone operates on an average daily basis of approximately 13.1 hours per day during normal flow periods and approximately 21 hours per day during peak flow demand periods. By adding the Kinder Tank booster station along with some additional water main to reconfigure the way the pressure zone operates, there will be a reduction in energy usage by 50%. The estimated construction cost was \$1,722,000 along with the engineering cost of \$273,000, for a total estimated cost of \$1,995,000. The as-bid construction cost differs greatly from the original estimated cost. The scope of the County Road 144 water main was revised. Instead of using ductile iron pipe, which is 95% recycled materials, the pipe materials were changed to PVC pipe during the bidding phase. By making this revision, this portion of the project became ineligible to be considered a green component qualifying for GPR. The as-bid cost for the Kinder Booster Station was \$308,027 with the engineering cost to be \$46,209, which brings the total GPR cost for this item using as-bid costs to \$354,231. **The total energy efficiency amount for all components is \$395,231.**



3. The environmentally innovative component is the ductile iron pipe material for the raw water main. The pipe material is made of 95% recycled material as certified by the ductile iron pipe manufacturer. Therefore, this component is considered to environmentally innovative. The estimated construction material cost of this component was \$309,000, along with the engineering cost of \$49,000, for a total estimated cost of \$358,000. **The as-bid cost for the raw water main is \$317,120, with the engineering cost of \$49,000 which brings the as-bid costs for this item to \$366, 120.**
4. The total GPR amount was estimated at \$2,432,000. **The actual as-bid GPR total cost is \$761,351.** The Town closed on a SRF loan on December 19, 2011 in the amount of \$8,930,000.

### **Conclusions**

The business cases were reviewed by internal staff and found to be in accordance with GPR requirements.