

Green Business Case

City of Billings, Montana – 2010 Water Main Replacement Project

Green Reserve Project Description

The project being approved can be generally described as the installation of approximately: 11,000 lineal feet of 8-inch to 16-inch PVC water main and all associated valves, fire hydrants, fittings, service lines, service connections, and appurtenances. The project also includes all associated curbs, gutters and road surface repair.

Documents submitted and reviewed by the State:

The City's Water and Wastewater Facility Master Plan 2006 and 2010 City of Billings Replacement Projects Preliminary Design Reports (PDR), both prepared by Morrison Maierle, Inc., and subsequent recurring maintenance issues have identified the need to rehabilitate and/or replace several sections of underground sewer and water utilities within the City. The water mains required improvements due to deterioration due to age or corrosion or that need replacing due to service problems.

List of eligible Green Project Reserve components:

1. Identify the component(s) - See project description
2. Total project construction cost = \$3,021,179
3. Total 2010 Loan/Grant Request = \$3,300,000
4. Total project cost eligible for Green Project Reserve = \$2,933,235

Green Reserve Project – Categorical Project:

This project is not considered categorically green as defined by the USEPA guidance documents.

Green Reserve Project – Business Case Evaluation:

“As stated in the USEPA March 2, 2009 Memorandum, for traditional projects that are not categorically green, for the project, or components of the project, to be counted towards the 20% requirement, the State project files must contain documentation that a clear business case for the project (or portion) investment includes achievement of identifiable and substantial benefits that qualify as Green Project benefits. The documentation should reference to a preliminary engineering or other planning document that makes clear that the basis upon which the project (or portion) was undertaken included identifiable and substantial benefits qualifying for the Green Project Reserve. The March 12, 2009 USEPA webcast slides 20 and 21 state that two components, the technical component and financial component, must be provided in the Business Case.”

Green Project Reserve Type:

This project fits in the water efficiency and energy efficiency type.

Technical Component Evaluation:

The 2010 Preliminary Design Report (PDR) for this project, prepared by Morrison-Maierle, Inc., stated “As water mains age, performance of the mains deteriorates resulting in high maintenance costs. Old water mains contribute to degradation in water quality

and water loss. The Deficiencies of these old water mains are as follows: Breaks in water main, aging materials, leaking pipes, and inoperable or leaky valves.”

The Billings 2010 Water Main Replacement Project will replace approximately 11,000 feet of water main that were selected based on their age and maintenance history. The replacement of these mains will reduce leakage, decrease maintenance, and improve the overall efficiency of the water system within the project area.

Financial Component Evaluation:

The environmental checklist included within the 2009 PDR states “increased lost water in the water system results in increased energy consumption at the water treatment facilities. This can be reduced by this project.”

Green Reserve Project – Evaluation Conclusion:

The need to replace aging and leaking water mains was the main driver behind this project. Reducing the overall system leakage will also reduce the energy required to pump and treat water for the Billings’ system. However, system hydraulics and public health were also considered during the selection process. Based on these additional pipe replacement selection criteria, the project engineer excluded 3% of the construction costs as being eligible for “green” consideration. The total “green” component of the work is \$2,933,235 or 89% of the total SRF loan.