



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, City of Jeffersonville, North WWTP, SRF Project# WW061210 02

FROM: Jack Fisher

DATE: November 4, 2011

RE: Green Project Reserve (GPR), Business Case

Summary:

- The Jeffersonville North WWTP Project is proposed to allow for future growth, to remove approximately 750 residential septic systems in the nearby recently annexed service area, and to preserve additional capacity at the existing Downtown WWTP for future needs. A new extended aeration type WWTP, rated at a peak flow of 9.0 MGD, is proposed and includes the following components:
 - o Fine screen
 - o Vortex grit removal system
 - o Two (2) oxidation ditches
 - o Two (2) circular clarifiers
 - o RAS/WAS pump station
 - o UV disinfection
 - o Two (2) aerated sludge holding tanks
 - o Sludge dewatering centrifuge
- Also included are a scum pump station, a plant drain recycle pump station, and an administration building with laboratory.
- Estimated State Revolving Loan Fund Amount: \$20,550,000
- Estimated Green portion of the loan associated with the plant improvements are: \$1,799,280 (\$1,666,000 for Construction and \$133,280 for Non-Construction Costs). The Green portion represents 8.7% of the estimated SRF Loan amount.

Conclusions:

- The use of a bioswale to accept runoff from the development site will serve as a stormwater management facility to improve water quality and reduce the amount of untreated runoff that enters nearby Lentzier Creek.



- The use of recycled steel in the production of Ductile Iron Pipe and Fittings saves a large amount of energy because the refining step to create steel from Iron Ore is removed from the equation. It is estimated that 20.5 million Btu per ton of steel is saved by recycling steel. It is estimated that the energy savings in dollars is approximately \$119,000 for this project.
- The use of variable frequency drives (VFDs) for motors on the Oxidation Ditch Aerators will provide an estimated 50% energy savings and therefore shall be considered categorical with greater than 20% energy savings.
- The use of VFDs for motors on the Sludge Holding Tank Blowers will or provide an estimated 29.6% energy savings and therefore shall be considered categorical with greater than 20% energy savings.
- The use of VFDs for motors on the Return Activated Sludge Pumps will provide an estimated 40% energy savings and therefore shall be considered categorical with greater than 20% energy savings.
- The Heating Ventilating and Air Conditioning systems designed for the Administration Building includes two major components that save energy compared to a more conventional HVAC system. The first component is a Variable Refrigerant Volume (VRV) heat pump system. The second component is an occupancy controlled ventilation system. The VRV heat pump system saves approximately 72% in equivalent energy as compared to a hot water heating system. The occupancy controlled ventilation system saves approximately 40% in energy. Therefore, both systems shall be considered categorical with greater than 20% energy savings.