

**Resolution No. 08-10**

**A RESOLUTION TO AUTHORIZE THE SUBMISSION OF A STATE REVOLVING FUND LOAN APPLICATION TO THE INDIANA FINANCE AUTHORITY**

WHEREAS, the West Lafayette's wastewater treatment plant needs to construct a new regional lift station to redirect existing flows from a combined sewer area to the Western Interceptor while also extending service to developing areas; and

WHEREAS, the West Lafayette's wastewater treatment plant needs to rehabilitate and upgrade the existing Soldier's Home lift station; and

WHEREAS, the City of West Lafayette's wastewater treatment plant intends to install a green roof at the plant and include green elements in the aforementioned lift station projects.

**Resolution**

NOW THEREFORE, BE IT RESOLVED BY THE COMMON COUNCIL OF THE CITY OF WEST LAFAYETTE that the Mayor or his designee is authorized to execute and file a State Revolving Fund loan application in substantially the form as attached.



# APPLICATION FORM

## Wastewater State Revolving Fund Loan Program (WWSRF)

Return completed form and an additional copy to:

WWSRF Administrator  
100 North Senate Avenue, Rm. 1275  
Indianapolis, IN 46204  
[www.srf.in.gov](http://www.srf.in.gov)

### Section I. APPLICANT INFORMATION

A. Applicant name (political subdivision): City of West Lafayette

B. Names of Projects: Soldier's Home Lift Station & Administrative Building Green Roof  
North Side Regional Lift Station and Force Main

C. Type of Applicant (check one):

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> City                       | <input type="checkbox"/> Conservancy District |
| <input type="checkbox"/> County                                | <input type="checkbox"/> Sanitary District    |
| <input type="checkbox"/> Town                                  | <input type="checkbox"/> Other _____          |
| <input type="checkbox"/> Township                              |   |
| <input type="checkbox"/> Regional Water, Waste, Sewer District |   |

D. Location of the Proposed Project: City / Town: West Lafayette County: Tippecanoe

(If project lies in multiple towns/cities, please specify percentage of project being constructed in each town or city; should equal 100%)

E. Civil Township(s) : Wabash USGS Quadrangle Map: S29 T23N R4W and S1 T23N R5W (North Side LS)

F1. State Representative District: 27 F2. State Senate District: 22 F3. Congressional District: 4<sup>th</sup>

G. Indicate the Watershed in which the Project is located: C8 (see Appendix A, B)

H. Service Area Population (use most recent census data)<sup>1</sup>: 28,778

I. Median Household Income for Service Area (use most recent census data): \$24,869 (City of West Lafayette)

J. Equivalent Dwelling Units (EDU): (current) n/a (proposed) n/a

K. Number of Connections: (current) n/a (post project) n/a

L. Current User Rate/4,000 gallons: \$22.44 Estimated Post User Rate/4,000 gallons: \$22.44

M. Current User Rate/5,000 gallons: \$28.05 Estimated Post User Rate/5,000 gallons: \$28.05

N. Wastewater Treatment Provider: Current City of West Lafayette Proposed: City of West Lafayette

O. Treatment Facility Name: City of West Lafayette Wastewater Treatment Plant Address: 500 South River Road  
West Lafayette, IN 47906

P. Outfall GPS location: Latitude: N40°24'58" longitude: W86°54'1"

Q. If community does not or will not have a treatment plant is there an inter-local agreement in place? Yes \_\_\_\_\_ No \_\_\_\_\_

<sup>1</sup> Census data is available at <http://www.stats.indiana.edu/c2k/c2kframe.html>

## **Section II. CONTACT INFORMATION:**

**Authorized Signatory** (An official of the Community or wastewater system that is authorized to contractually obligate the applicant with respect to the proposed project. ):

Name: John R. Dennis  
Title: Mayor  
Telephone # (include area code): (765)775-5100  
Address: 609 W. Navajo  
City, State, Zip Code West Lafayette, IN 47906  
E-mail: mayor@westlafayette.in.gov

**Applicant Staff Contact** (Community Representative to be contacted directly for information if different from authorized signatory):

Name: David S. Henderson  
Title: Utility Director  
Telephone # (include area code): (765)775-5145  
Address: 500 South River Road  
City, State, Zip Code: West Lafayette, IN 47906-4377  
E-mail: dhenderson@westlafayette.in.gov

### **Certified Operator:**

Name: David S. Henderson  
Telephone # (include area code): (765)775-5145  
E-mail: dhenderson@westlafayette.in.gov

### **Grant Administrator** (if applicable)

Contact: Judith C. Rhodes  
Title: Clerk-Treasurer  
Address: 609 West Navajo Street  
City, State, Zip Code: West Lafayette IN 47906  
Telephone # (include area code): 765-775-5150  
Fax: 765-775-5159  
E-mail Address: clerk@westlafayette.in.gov

### **Consulting Engineer**

Contact: George Lewis, P.E. / Joe Teusch, P.E.  
Firm: Hannum, Wagle & Cline / Greeley and Hansen  
Address: 420 Main Street / 6640 Intech Boulevard, Ste. 180  
City, State, Zip: Lafayette, IN 47901/Indianapolis, IN 46278  
Telephone #: (765)742-9700/ (317) 924-3380  
Fax: (765)742-9701 / (317) 925-3811  
E-mail: [glewis@hwcengineering.com](mailto:glewis@hwcengineering.com) /  
[jteusch@greeley-hansen.com](mailto:jteusch@greeley-hansen.com)

### **Bond Counsel**

Contact: TBD  
Firm: TBD  
Address: \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_  
Telephone # (include area code): \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

### **Financial Advisor**

Contact: James W. Treat  
Firm: O.W. Krohn & Associates  
Address: 231 E. Main Street  
City, State, Zip Code: Westfield, IN 46074  
Telephone # (include area code): (317)867-5888  
Fax: (317)867-5898  
E-mail Address: [jtreat@owkcpa.com](mailto:jtreat@owkcpa.com)

### **Local Counsel**

Contact: Eric H. Burns  
Firm: Withered Burns & Persin, LLP  
Address: 8 N. Third Street  
City, State, Zip Code: Suite 401, Lafayette, IN 47902  
Telephone # (include area code): (765)742-1988  
Fax: (765)742-8774  
E-mail: [eburns@witheredlaw.com](mailto:eburns@witheredlaw.com)

### Section III. PROJECT INFORMATION

#### A. Project Need:

Complete as many of the following categories that apply to your project. Provide a brief description of the needs/problems associated with each. Descriptions can be found in Appendix C. Please attach additional sheets if necessary.

III. Infiltration/Inflow Correction and/or Major Sewer System Rehabilitation: The existing interior equipment and controls of the Soldier's Home Lift Station where installed in 1974/1975 and are in need of replacement. The two existing pumps leak onto the floor, the SCADA system often loses communication, and the electrical equipment is outdated. In addition, the station does not have a backup generator, so a portable generator must be brought to the site during power failures. The station is located in the 100-year floodplain and during past floods the site around the existing structure has had up to two or three feet of water outside flooding the existing transfer switch which needs to be relocated. There is also a grading issue with the parking area next to the station as there is often standing water on it next to the road.

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IV. New Lift Station and Force Main: The City of West Lafayette has plans to extend sewer service to the Purdue Research Foundation Business Park and surrounding undeveloped areas within the City limits. A new lift station and force main are necessary for conveyance to the wastewater treatment plant. This will result in less desirable on-site wastewater treatment systems.

VI. Storm Water Control: The existing roof on the office building at the wastewater treatment plant is a flat roof installed in 1994. The wastewater treatment plant does not have a storm drain outlet and all the run-off from the roof goes through the treatment plant process. Due to the flat roof, much of the energy efficiency of the building is decreased, while the heat island effect and carbon footprint is increased.

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**B. Proposed Project:** Describe the scope of the proposed project and how it will address the applicant's needs as enumerated above. Please provide a map showing proposed work areas providing quadrangle names, and township, range, and section numbers of work areas, if possible. *Please attach additional sheets if necessary.*

#### *See Project Descriptions.*

#### C. Environmental Benefits

- Public Health / National Pollutant Discharge Elimination System (NPDES) Violation / Agreed Order  
Will this project achieve compliance? Yes: \_\_\_\_\_ No: \_\_\_\_\_ Maintain compliance? Yes: X No: \_\_\_\_\_
- Sewer Ban / Early Warning Notice  
Will this action remove the community from the SB or EWN action? Yes: \_\_\_\_\_ No: X

**D.** Will any part of the project be constructed on previously undisturbed land? ♣ Yes X (North Side LS)  
No X (Soldiers LS/Admin)

**E.** If NO, would it be accurate to describe your entire project as rehabilitation to an existing system? Yes X No \_\_\_\_\_

#### F. Permit Information

- Please provide the current NPDES permit number of your facility or the facility where you wastewater is treated:  
IN0024821
- What is the expiration date of the permit? January 31, 2011
- Will the NPDES permit be revised as part of this project? Yes: \_\_\_\_\_ No: X
- Have you requested a renewal for your permit? Yes: \_\_\_\_\_ No: X
- If the plant will increase its treatment capacity, have you requested a Wasteload Allocation from IDEM's Office of Water Quality Modeling Section? Yes: \_\_\_\_\_ No: \_\_\_\_\_

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♣ The Division of Historic Preservation and Archaeology's definition of "undisturbed land" is "any land, including agricultural land (row-crop farmland, orchards, pasture, fallow farmland, or land that was previously farmland but is now grass or other vegetation), that has not been substantially disturbed by recent soil disturbing activities."

G. List any water quality concerns this project will address: Stormwater runoff from the administrative building roof will receive some treatment from the green roof.

H. Does any part of the proposed project address:

a. Elements of the CSO Long Term Control Plan? Yes \_\_\_ No X

b. Stormwater Rule 13 Best Management Practices? Yes \_\_\_ No X

I. What are the anticipated environmental benefits of this project? Using sustainable green practices the Soldiers Home Lift Station will be rehabilitated to serve the area for years to come while creating a more energy efficient and environmentally friendly station. The improvements to the roof of the administrative building will assist with the storm water run-off quality and control and provide several other benefits including: a reduction in energy costs; extend the life of the roof; and create an educational tool for the community to promote green roofs. North Side Lift Station was designed with a focus on sustainability including energy efficiency for both near-term and long-term wastewater conveyance.

J. Does the community have a contingency plan for wastewater treatment emergencies? Yes X No \_\_\_

K. Does the community have back-up power in case of emergency? Yes: X No: \_\_\_\_\_

L. Do you have a Watershed Management Plan? Yes X No \_\_\_

M. What receiving stream(s) does the wastewater treatment plant discharge (if any)?  
Wabash River

N. What receiving stream will your CSO project(s) discharge (if any)?  
\_\_\_\_\_

O. Does the project incorporate Sustainable Infrastructure/Green Initiatives (SI/GI) categories/components?

Yes X No \_\_\_; for the SRF SI/GI Resource Document and SRF SI/GI Fact Sheet, please see [www.SRF.IN.gov](http://www.SRF.IN.gov).

**Section IV. COST INFORMATION**

**A. Important Anticipated Dates**

Preliminary Engineering Report Submittal: July 2010

Contract Award: March, 2011 / Aug. 2011 (North Side LS)

SRF Financial Due Diligence: December, 2010

SRF Loan Closing: February, 2011

Construction Start: April, 2011 / Sept. 2011

Construction Complete: November, 2011/Sept. 2012

*Note: if the project will be constructed in separate phases, please attach a separate page.*

**B. Please identify any other funding sources being considered, the amount requested and the anticipated funding time frame:**

	Application Submittal Date	Amount Requested \$\$\$	Amount Awarded (if applicable)
Office of Community and Rural Affairs CDBG Grant *			
U.S. Dept. of Commerce Economic Development Administration			
U.S. Dept. of Agriculture Rural Development			
IDEM Watershed Management Grant			
Local Funds			
Other:			

**E. Project Cost Estimate:** Include estimates for ALL projects identified in the Project Information, Section III, A. Indicate estimates for each project. Please attach additional sheets if necessary.

**Estimated Construction Costs:**

(I)Secondary Treatment	\$ _____
(II)Advanced Treatment	\$ _____
(IIIA)Inflow / Infiltration Correction	\$ _____
(IIIB) Major Sewer System Rehabilitation	\$ <u>540,000</u>
(IV) New Lift Station and Force Main	\$ <u>2,800,000</u>
(V) Combined Sewer Overflow Correction	\$ _____
(VI) Storm Water Control	\$ <u>180,000</u>
(VII-A-K) Nonpoint Source Needs	\$ _____
<b>Contingencies</b>	<b>\$ <u>270,000</u></b>
<b>TOTAL CONSTRUCTION:</b>	<b>\$ <u>3,520,000</u></b>

**Estimated Non-Construction Costs:**

Financial	\$ <u>25,000</u>
Legal	\$ <u>20,000</u>
Engineering Planning	\$ _____
Engineering Design	\$ <u>440,000</u>
Other Engineering Services	\$ <u>490,000</u>
(Describe: <u>Construction Engineering and Observation</u> )	
Other Non-construction Costs	\$ <u>5,000</u>
(Describe: <u>Energy Audit</u> )	
Land/Easement Acquisition ♦ Ineligible	\$ _____
Land/Easement Acquisition ♦ Eligible	\$ _____
<b>TOTAL NON-CONSTRUCTION:</b>	<b>\$ <u>980,000</u></b>

**TOTAL PROJECT COST (Estimated):** **\$ 4,500,000**

**C. Anticipated SRF Loan Amount (after other funding)** **\$4,500,000** \_\_\_\_\_

**D. Will this project proceed if other funding sources are not in place? Yes**   X   **No** \_\_\_\_\_

**Section V. SIGNATURE**

**I certify that I am legally authorized by the legislative body to sign this application. To the best of my knowledge and belief, the foregoing information is true and correct.**

\_\_\_\_\_  
Signature of Authorized Signatory (Community Official)

\_\_\_\_\_  
Printed or Typed Name

\_\_\_\_\_  
Title of Authorized Signatory

\_\_\_\_\_  
Date

♦ Ineligible cost unless an integral part of the treatment system: defined as: spray irrigation, mound system, constructed wetlands, etc.

## **Proposed Project:**

### **Soldier's Home Lift Station:**

While the building structure appears sound, many items are depreciated and should be replaced in a sustainable manner. Based on the 2009 flow data for the lift station and future flow projections, it appears that a third 1,600 gpm pump should be installed at this time.

The following renovations to the lift station are anticipated:

- Demolition and removal of existing roof, pumps, piping and controls. The interior of the lift station will be cleaned and repainted. The remainder of the building structure will be reutilized.
- New piping and valves with a new flow meter.
- The electrical and controls will be updated with more reliable outgoing communication to the City's SCADA system. The outside transfer switch on the utility pole will be relocated to protect it from future flooding.
- Install a back-up generator on a concrete structure (4' above the flood elevation).
- Two new premium Efficiency Motors for the two replacement 1,600 gpm dry pit pumps with variable frequency drives (VFDs) shall be installed and a third motor and pump will be installed. Two of the replacement pumps have already been purchased by the City.
- Replace the ventilation system with a dual speed unit.
- Construct a vertical addition to the wet well, raising it above the 25-year flood elevation. New aluminum hatches would be added that would allow improved access to the wet well. Finally, a spray-on protective epoxy coating should be added to the interior walls of the wet well to prevent corrosion from Hydrogen Sulfide.
- Replace the existing manlift.
- Construct a permanent access point for emergency bypass pumping. This would be in a separate vault on the outside of the station.
- Regrade the drive and replace with concrete.
- Replace the roof with a high albedo material (i.e. highly reflective) that will help reduce the heat island effect. A daylighting panel will also be provided as an access hatch. The new roof will be designed for future deconstruction, such as using Thermoplastic Olefin (TPO) or standing seam metal which can be recycled.
- Construct a rain garden in the southeast corner of the site to manage the stormwater runoff from the entire site. A preliminary review of the soil survey for the area indicates that the subsoil has sufficient permeability. All other existing turf grass should be replaced with sedge, which will look like grass when mowed. Sedge is a plant that is native to the area and will be more drought tolerant than normal turf grass.
- Cut-in windows on the east-facing wall of the lift station to provide daylighting as a means of reducing lighting costs.
- Replace the outside lighting with "dark sky" lighting that minimizes light pollution.

### **WWTP Office Building Green Roof:**

A new green roof with solar panels will be installed over the existing flat roof at the wastewater treatment plant. Approximately 4,000 square feet of the existing 4,400 square foot roof would be retrofitted with 4 inch thick LiveRoof® (or equal) modular tray system with irrigation system to establish the system and maintain it during dry weather. Additionally, approximately 260 square feet of solar panels will be installed on the roof (anticipated to generate 3,500 watts with an annual production of 4,800 kwh). The solar panels are anticipated to power the entire building's lighting system and tie into the grid to allow net metering with the utility company (Duke Energy). A new public overlook would be constructed on the hillside to provide educational opportunities to the public and connected to the City's trail system.

## Proposed Project:

### North Side Regional Lift Station:

Service Area: Initial: 207 acres

Buildout: 786 acres

Estimated Flow: Initial: 0.3 mgd, average; 1.1 mgd, peak

Buildout: 0.9 mgd, average; 3.0 mgd, peak

#### General Description:

The proposed lift station structure and auxiliary/support systems will be designed for the buildout flow condition. The submersible lift station will have space for three pumps. The wet well will include an interior wall with sluice gate to isolate the wet well for cleaning and to isolate two-thirds of the wet well to improve operation during the early years when lower flows are expected. Two submersible pumps and standby power will be provided to convey the initial development peak flow rate of 1.1 mgd. As flow rates increase over time the pumping equipment and standby generator can be replaced to increase capacity to meet future flow demands. Variable speed pumps and dual force mains will be provided to assure adequate velocities in the force main from initial development through buildout.

#### Sustainable Infrastructure / Green Initiatives (SI/GI):

The following SI/GI components are proposed for the new lift station:

- Use local materials such as Indiana Limestone (1% of the overall cost)
- Steel and concrete to be purchased within 300 miles of project site
- Use of fly ash in concrete
- Landscaping trees and bushes to shade structures
- Sun shade canopy provided over Control Building.
- Sun shade to be painted with materials having high solar reflectance
- Access drive to lift station to be pervious pavers with grass
- Area within lift station fence to be gravel
- Storm water contained on-site
- Ambient air cooling of Control Building
- Variable frequency drives for pump operation based upon wet well level
- SCADA system for remote monitoring
- 40 kW standby generator (natural gas)
- Solar-powered accent lighting