All Agency Project Request

2013 - 2015 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Madison	285-0A-9922	Utility - Site Waste Water

Project No. 15B1Z **Project Title** Elm Drive Lift Station Renv

Project Intent

This project provides pre-design and design services to renovate or replace the Elm Drive lift station to ensure uninterrupted sanitary sewer services to the UW facilities it serves. The lift station will be evaluated to identify deficiencies, develop design solution alternatives, and recommend appropriate corrective measures.

Project Description

Project work includes technical and cost evaluation of the following items:

- Analyze various design solution alternatives, including complete replacement of the station vs. reuse of the concrete structure and replacement of all the equipment and components.
- Analyze the possibility of re-routing some of the wastewater flow with a gravity system.
- Determine the existing peak flow and the projected lift station flow demand and capacity using the campus master plan
- Address employee safety, interior lighting, exterior aesthetics, site restoration, and landscaping.
- Assess the integrity of the existing structure
- Coordinate the design and obtain all approvals with the City of Madison, Madison Metropolitan Sanitary District (MMSD), State of Wisconsin, UW-Madison, Wisconsin Department of Natural Resources (WDNR).
- Design to meet current codes and regulatory guidelines.
- Determine the need for air ventilation to meet current codes
- Determine the need for dedicated generator and provide design including associated site amenities.
- Develop measures to prevent storm water from entering the station.
- Develop measures to phase construction and provide continuous sanitary sewer service to the campus.
- In analyzing the option of renovating the existing structure, evaluate the need and method(s) to accomplish the following items.
  - Replace pumps, valves, mechanical, compressed air, and electrical equipment and components, doors and stairs.
  - Connect alarms to the campus DDC system
  - Replace bar screen and /or evaluate the inclusion of a comminutor.
  - Waterproof the underground concrete structure.

The project will include all restoration of pavement or landscape areas as needed.

Project Justification

The sewer lift station and force main were originally installed in 1958 and currently pumps sewage from seven buildings in the lakeshore area. The station needs to be renovated or replaced because it is unreliable and level of maintenance needed to keep it operational is excessive. The lift station contains two 150 gal. pneumatically actuated ejector pumps which are simple to operate and, when in good condition, are low maintenance and seldom clog. However, these are the original pumps that are in poor condition and, due to age, require constant maintenance. Many of their replacement parts require custom fabrication. Also, recent observations of pumping cycles indicate the current pumping capacity is much less that the original design capacity of 600 gpm. Continuous and reliable operation is critical for the buildings served by this lift station and to prevent any potential environmental damage that would be caused by a system failure.

The 8 inch force main was replaced in 2006 and, therefore, does not need to be evaluated. Pre-design is needed to determine the cost, feasibility, and benefits of renovating the existing station vs completely replacing the station with a new centrifugal pump station.

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A/E Consultant Requirements

☑ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of sanitary sewer lift stations and related electrical and mechanical control systems as part of a design team. Work includes site surveys, acquiring field data, and verifying as built conditions to assure accurate development of design and bidding documents, and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

The consultant will verify project scope, schedule, and budget estimates, and recommend modifications as required to complete the specified project intent. The consultant will prepare a pre-design document to establish an appropriate project scope, budget, and schedule prior to the university seeking authority to construct from the Board of Regents and State Building Commission.

Commissioning

☑ Level 1

☐ Level 2

Project Budget

Construction Cost:		$
Haz Mats:		$
Construction Total:		$
Contingency:	15%	$
A/E Design Fees:	8%	$
DFD Mgmt Fees:	4%	$
Other:		$
		$1,023,000

Funding Source(s)

	Total
GFSB - Utilities Repair & Renovation [Z080]	$0
PRSB - Utilities Repair & Renovation [T570]	$0
Agency/Institution Cash [AGF0]	$64,000
Gifts	$0
Grants	$0
Building Trust Funds [BTF]	$0
Other Funding Source	$0
	$64,000

Project Schedule

SBC Approval:	08/2015
A/E Selection:	03/2015
Bid Opening:	02/2016
Construction Start:	05/2016
Substantial Completion:	08/2016
Project Close Out:	12/2016

Project Contact

Contact Name: Matt Collins

Email: <mcollins@fpm.wisc.edu>

Telephone: (608) 263-3031 x

Project Scope Consideration Checklist

	y	N
1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction.	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.		
2. Is the project an extension of another authorized project? If so, provide the project #...	☐	☑
3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?	☐	☑
Hazardous materials abatement is not anticipated on this project. Comprehensive building survey inventory data is not available on Wisconsin's Asbestos & Lead Management System (WALMS) <http://walms.doa.state.wi.us/>.		
4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?	☑	☐

All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.

5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent? ☐ ☑

6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope. ☐ ☑

7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III? ☑ ☐

   Type III.

8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here. ☐ ☑

9. Are there any other issues affecting the cost or status of this project? ☐ ☑

10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution. ☑ ☐

    Portions of the project work are seasonal. Preferred project work schedule should be limited to late spring, summer, and/or early fall months if possible.

11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? ☑ ☐

    Completion of this project will decrease operational maintenance costs.

12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s). ☑ ☐

    This project will meet current WDNR codes and address safety issues in the lift station.

13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <http://www.focusonenergy.com> or the local utility provider)? If yes, describe here. ☐ ☑

14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here. ☐ ☑