All Agency Project Request

2009 - 2011 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Extension	285-0T-0245	UPHAM WOODS CENTRAL

Project No. 10J2F **Project Title** Upham Woods Septic System Repl

Project Intent

This project replaces six (6) septic systems with three (3) new wastewater treatment systems to address maintenance and reliability issues, meet current Department of Commerce (DCOMM) and Department of Natural Resources (DNR) code requirements, and allow the expansion of overnight capacity licensing to match the current Upham Woods Outdoor Learning Center facility capacity.

Project Description

The project constructs a new dedicated wastewater treatment system for the Bath House, a new dedicated wastewater treatment system for the Lodge, and a shared wastewater treatment system for other facilities (Administration Building, Dormitory, Duplex, and Nature Center). The new systems total 34,000 gallons of septic tank capacity and ~17,500 SF of soil dispersal area. Project work includes all necessary site excavation, storage tanks, piping, valves, controls, equipment, metering devices, pumps, structural vaults, electrical service installation, asphalt pavements, and site restoration. The six (6) existing septic systems will be abandoned in place.

UPHAM WOODS BATH HOUSE (285-0T-0433): This system will be design to handle 5,589 gallons of flow per day. Project work includes a installing a 12,000-gallon multi-chamber septic tank; a 6,000-gallon dispersal unit does tank with 2-3 HP effluent duplex pumps; and a 5,700 SF soil dispersal unit area (drainfield) with a 17,120 SF mound footprint.

UPHAM WOODS CENTRAL LODGE (285-0T-0245): This system will be designed to handle 7,955 gallons of flow per day. Project work includes installing a 10,000-gallon multi-chamber septic/equalization tank with HP duplex aerobic unit feed pumps (10-20 GPM capacity); a 4,000-gallon grease interceptor; two (2) waste strength and reduction units; an 8,000-gallon dispersal unit does tank with 2-3 HP effluent duplex pumps; and a 5,760 SF soil dispersal unit area (drainfield).

UPHAM WOODS ADMINISTRATION BUILDING (285-0T-0447), UPHAM WOODS DORMITORY (285-0T-0438), UPHAM WOODS RESIDENCE DUPLEX (285-0T-0432), and UPHAM WOODS PETERS NATURE CENTER (285-0T-0439): This system will be designed to handle 5,565 gallons of flow per day. Project work includes installing a 12,000-gallon multi-chamber septic tank; a 6,000-gallon dispersal unit does tank with 2-3 HP effluent simplex pumps; and a 6,000 SF soil dispersal unit area (drainfield).

Permits for DCOMM plan approval, DCOMM sanitary discharge, and Town of Lyndon zoning approval are required.

Project Justification

The Upham Woods Outdoor Learing Center, located near the Wisconsin Dells, provides educational opportunities to youth, youth leaders, and adults through year-round programs focused on environmental and leadership education. The center consists of 318 acres of forested land and buildings, including the 200-acre Blackhawk Island, located on the Wisconsin River, and designated as a state natural area. Blackhawk Island and 110 acres of shore land were donated by the Upham Sisters to the University of Wisconsin in 1941 to be protected and preserved in a natural state, and to be enjoyed by others sharing an interest in nature. The donation included the following stipulations: (1) the lands shall be use as an outdoor laboratory and camp for youth, such as 4-H, and other people cooperating with the University of Wisconsin in the advancement of conservation, of agriculture, or of rural culture; and (2) the lands are not to be used as a public park and are not to be developed commercially. The Center is operated by the UW-Extension Cooperative Extension Division in partnership with 4-H Youth Development.

The majority of the center facilities were constructed between the 1940s and 1960s, and the Dormitory and Peters Nature Center were constructed in the 1970s. None of the six septic systems currently in use, ranging in age from 33 to 54 years old, meet current code requirements. The existing systems are inadequate for the center to be licensed and operate at full

capacity. A study to evaluate water treatment systems alternatives was completed under Project No. 10A3L. Five alternatives were evaluated: (1) installation of a single treatment system; (2) multiple on-site treatment systems; (3) 6 individual on-site treatment systems; (4) connection to the City of WI Dells Municipal treatment system; and (5) installation of 3 on-site treatment systems. Option 1 was not viable since it did not offer any redundancy. Option 2 required significant natural area disturbance and required too many facilities to be reliant on a single system. Option 3 required considerable operational maintenance resources which are not available. Option 4 required the site to be annexed into the Wisconsin Dells municipality and provided no long-term utility service assurances. It has been determined Option 5 offers the best approach by offering some redundancy, the least annual operating and maintenance costs, and least disruption of the natural areas. A separate treatment system for the Lodge is necessary because of the strength of the waste generated (kitchen, grease, food, etc.). Combining the Lodge with other buildings would require a larger and more expensive and complicated treatment system. A similar approach was selected for the treatment system for the bathhouse which is located farther away from the other buildings and would require a larger waste distribution system to travel farther to reach a treatment system near the other buildings.

Several code changes were implemented since the last water treatment system was constructed, including requirements for larger septic tank sizes and drainfield areas. None of the existing systems could be modified to meet current code requirements. While existing septic systems are not typically required to meet current code requirements, this project will replace the aging infrastructure and prevent major disruptions to the center's educational activities. The existing septic systems are well beyond their useful life, and any failures pose contamination threats to the Wisconsin River. In addition, some of the existing systems are located within the river floodplain.

The existing systems do not meet the Center's programmatic needs. While the Center facilities capacity is 204 persons, the Center is only licensed the Department of Health and Family Services to handle 150 persons. This project will construct water treatment systems capable of allowing the Center to operate at full capacity.

A/E Consultant Requirements

☑ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of rural wastewater treatment systems in an institutional environment 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.

Commissioning

☑ Level 1

☐ Level 2

Project Budget

Construction Cost:		$496,600
Haz Mats:		$0
Construction Total:		$496,600
Contingency:	15%	$74,500
A/E Design Fees:	8%	$39,700
DFD Mgmt Fees:	4%	$22,800
Equipment/Other:		$0
		$633,600

Funding Source

Funding Source	Total
GFSB - Utilities Repair & Renovation [Z080]	$291,500
PRSB - []	$0
Agency/Institution Cash [AGF0]	$342,100
Gifts	$0
Grants	$0
Building Trust Funds [BTF]	$0
Other Funding Source	$0
	$633,600

Project Schedule

Project Contact

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SBC Approval:	11/2010	Contact Name:	Luis Fernandez
A/E Selection:	12/2010	Email:	<luis.fernandez@uwex.edu>
Bid Opening:	03/2012	Telephone No.:	(608) 262-1337 x
Construction Start:	05/2012		
Substantial Completion:	09/2012		
Project Close Out:	12/2012		

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. — ☑ Y ☐ N

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

2. Is the project an extension of another authorized project? If so, provide the project #... — ☑ Y ☐ N

   10A3L

3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled? — ☐ Y ☑ N

   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? — ☑ Y ☐ N

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

5. Will the project impact on the utility capacities supplying the building? If yes, to what extent? — ☐ Y ☑ N

6. Will the project impact the heating plant or the primary electrical system supplying the campus or institution? If yes, to what extent? — ☐ Y ☑ N

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

   Type III.

8. Is the project affected by historic status? — ☐ Y ☑ N

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

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

    Project work is seasonal. Preferred project work schedule should be limited to late spring, summer, and/or early fall months if possible.