

All Agency Project Request

2009 - 2011 Biennium

<u>Agency</u>	<u>Institution</u>	<u>Building No.</u>	<u>Building Name</u>
University of Wisconsin	Madison	285-0A-0077	SMITH ANNEX, HIRAM

<u>Project No.</u>	09C3C	<u>Project Title</u>	Hiram Smith Annex Exh Sys Renv
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Project Intent

This project upgrades the building fume exhaust fan and supply air intake to address building pressurization, indoor air quality, and maintenance safety concerns.

Project Description

Project work includes replacing a vane axial fume exhaust fan located in the attic of Hiram Smith Annex with a roof mounted laboratory dilution type fan. The attic structure is comprised of iron trusses with timber rafters and the roof is clay tile. Access to the attic is limited, which will require opening the roof to replace the exhaust fan and install new exhaust ductwork. The attic structure will be supplemented as necessary to support the new rooftop fan unit. A new platform and safety railing will also be constructed for access and maintenance activities due to the sloped roof structure.

The limestone area well will be reconstructed on the south side with a poured concrete footing and foundation wall. The intake grate will be replaced and raised from grade level and a new access door to the basement will be constructed. The basement air handling unit will be reconfigured to improve the arrangement of the outside air damper and the pre-filter section will replace the roll filter unit with a new pleated filter section. Both supply and exhaust air distribution systems will be rebalanced.

Because the Hiram Smith Annex is a historic building, the State Historical Society reviewed the proposed laboratory dilution fan arrangement on the clay tile roof and the modifications to the intake area well. The project proposal was approved with recommendations. The new fan will be painted with a color that will compliment the current clay tile roof, similar to the existing roof exhaust outlet. Options for cladding or painting the service platform and railing for the new exhaust fan should be reviewed with the campus architect to select a design that will coexist with the clay tile roof features as much as possible. The intake area well will be raised but will not be higher than the bottom of the existing first floor windows.

Project Justification

The project request was initiated in response to indoor air quality and building pressurization concerns received from building occupants and the University Health Services - Environment Health program. The laboratory exhaust system is a large vane axial fan located in the attic space of the building. This arrangement has positively pressurized ductwork in the attic space, creating a potentially hazardous condition. The vane axial fan is also very difficult to service and maintain due to severe space limitations in the attic. The discharge of the laboratory exhaust system terminates a few feet above the roof through an gravity ventilator cap and does not provide proper discharge velocity to eject the fume exhaust above the roof.

The fresh air intake for the building is located in an area well at grade level on the South side of the building. This arrangement promotes the collection of debris and leaves on the intake grate as well as inside the area well. The paved area adjacent to intake has parked vehicles in very close proximity and poses a potential problem with vehicle exhaust entering the building ventilation system. The limestone walls of the area well are eroded and debris gets carried into the air handling unit and is dispersed throughout the building. The campus maintenance staff completed masonry repairs on the inside of the area well, but this is only a temporary solution. The building air balance is also affected and severe negative building pressures become a problem. The AHU coils, reheat coils, and accessible supply ductwork serving these areas have been cleaned to improve these conditions. This project will reduce the accumulation of dirt and debris and reduce the maintenance demands on this building.

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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 building ventilation systems, fume hood exhaust systems, and modifications to historical structures 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:		\$315,000	
Haz Mats:		\$0	
Construction Total:		\$315,000	
Contingency:	15%	\$47,300	
A/E Design Fees:	8%	\$25,200	
DFD Mgmt Fees:	4%	\$14,500	
Equipment/Other:		\$0	
		\$402,000	

Funding Source

	<u>Total</u>
GFSB - Facilities Maintenance & Renovation [Z060]	\$402,000
PRSB - <input type="checkbox"/>	\$0
Agency/Institution Cash <input type="checkbox"/>	\$0
Gifts	\$0
Grants	\$0
Building Trust Funds [BTF]	\$0
Other Funding Source	\$0
	\$402,000

Project Schedule

SBC Approval: 10/2010
 A/E Selection: 11/2010
 Bid Opening: 04/2011
 Construction Start: 05/2011
 Substantial Completion: 08/2011
 Project Close Out: 12/2011

Project Contact

Contact Name: Dan Motl
 Email: <dmotl@fpm.wisc.edu>
 Telephone No.: (608) 263-6661 x

Project Scope Consideration Checklist

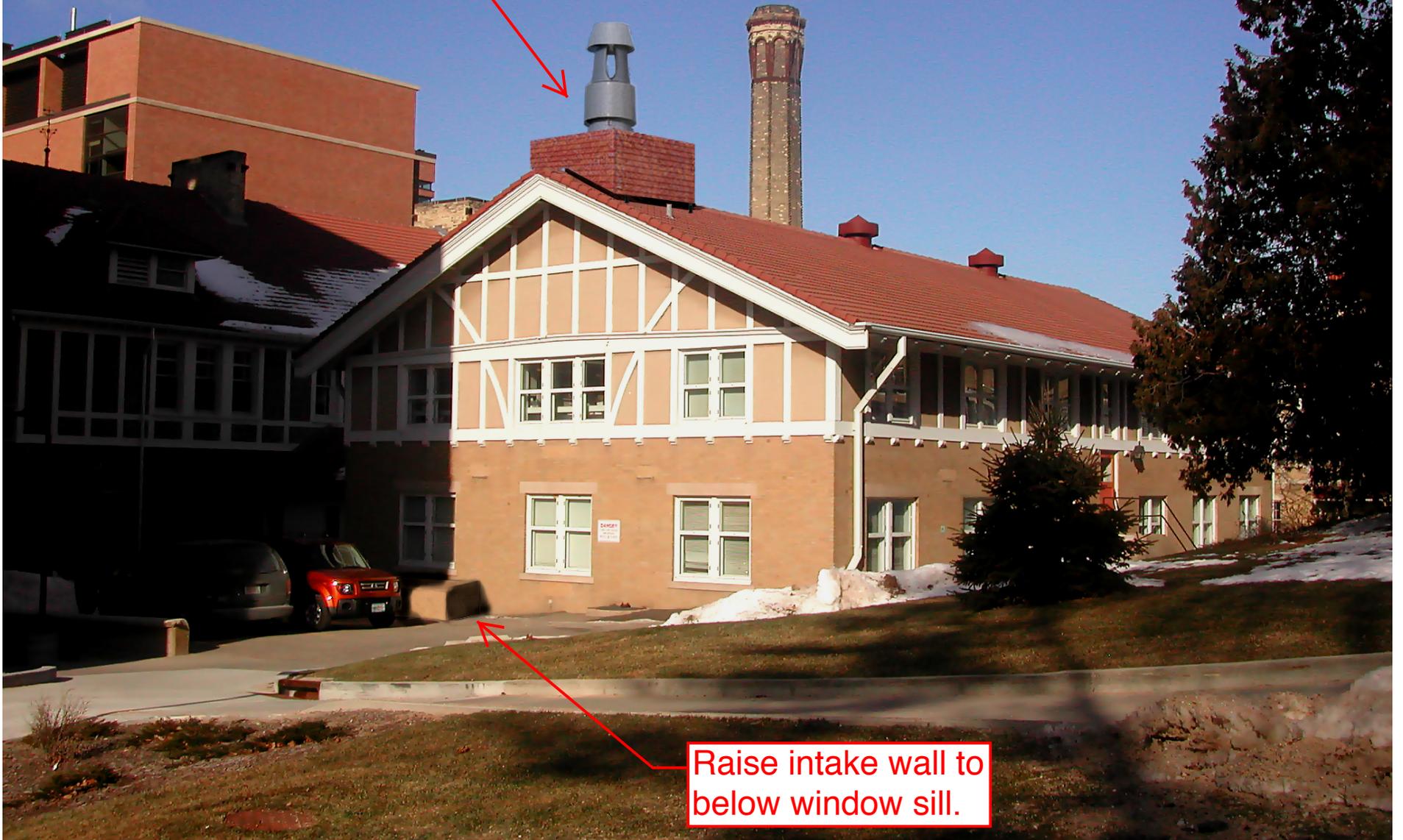
- | | <u>Y</u> | <u>N</u> |
|--|-------------------------------------|-------------------------------------|
| 1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities. Building occupants are prepared to restrict functions during construction or relocate labs temporarily. However, the building will not be vacant. | | |
| 2. Is the project an extension of another authorized project? If so, provide the project #... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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/ >. | | |

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4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?
5. Will the project impact on the utility capacities supplying the building? If yes, to what extent?
6. Will the project impact the heating plant or the primary electrical system supplying the campus or institution? If yes, to what extent?
7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III?
Type III.
8. Is the project affected by historic status?
Hiram Smith Annex is listed by the Wisconsin Historical Society as a building of historical significance. Historical Society review and approval has occurred.
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.
Project work is seasonal. Preferred project work schedule should be limited to late spring, summer, and/or early fall months if possible.

Proposed Strobic Air
exhaust fan with clad
service platform and
railing.



Raise intake wall to
below window sill.