

All Agency Project Request

2013 - 2015 Biennium

<u>Agency</u>	<u>Institution</u>	<u>Building No.</u>	<u>Building Name</u>
University of Wisconsin	Madison	285-0A-0481	ENGINEERING CENTERS BUILDING
<u>Project No.</u>	16C1Y	<u>Project Title</u>	Engineering Centers MOVCD Laboratory Remodeling

Project Intent

This project provides investigation and research, pre-design, and design services to create a new high hazard (H-5) space to serve as an MOCVD (Metal Organic Chemical Vapor Deposition) laboratory. The project area will be evaluated to identify deficiencies, develop design solution alternatives, and recommend appropriate corrective measures.

Project Description

The space to be remodeled encompasses approximately 1,320 ASF in three existing rooms (2064, 2064A and 2064B) within the Engineering Centers Building. The space is currently used as a conference room with connecting support spaces.

The existing space will be divided up into three new spaces consisting of a MOVCD Laboratory, Office Lab Space and new connecting corridor. Work includes modifying the area to create the new required spaces and comply with all building life safety requirements. Additionally, the work includes modifications to the building mechanical, electrical, plumbing and fire protection system accordingly:

- Demolish the existing sprinkler system service to this area and install a new, separately zoned sprinkler system;
- Install new ductwork with sprinklers inside the ductwork;
- Bring lab waste and vent to the room for a fume hood;
- Install a floor drain for a new hydrogen generator;
- Install lab cold water, lab air, house nitrogen, and RO water;
- Install redundant exhaust fans and equipment exhaust (for scrubbers, gas cabinets, fume hood, etc.) as required;
- Install Continuous Gas monitoring system for the lab space;
- Provide exhaust system monitoring system;
- Provide new electrical branch feeders and connections to area and new lab equipment;
- Provide new area lighting systems and,
- Extension of existing fire alarm detection system to new spaces and;
- Interconnection of all related systems to the existing Building Automation System.

Project Justification

The UW-Madison College of Engineering has hired a researcher whose work requires a specialized MOCVD laboratory which will allow experiments with chemical deposits used to build semi-conductors. His start date at UW-Madison has been delayed while the College worked to identify a suitable space for this work. Now that the space has been confirmed, completion of this project is critical to the College to meet its obligations as part of the start up package.

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A/E Consultant Requirements

A/E Selection Required?

As part of the design team, consultants should have specific expertise and experience in the design and coordination of high hazard occupancies, especially with semi-conductor fabrication facilities. Work includes verifying as-built conditions and scope of work as described in feasibility study (14J3G-3) undertaken by Kee Architects and JDR Engineering in March 2016 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: 10%	\$	
A/E Design Fees: 10%	\$	
DFD Mgmt Fees: 4%	\$	
Other:	\$	
	\$756,600	

Funding Source(s)

GFSB - <input type="checkbox"/>	
PRSB - <input type="checkbox"/>	
Agency/Institution Cash <input type="checkbox"/>	
Gifts	
Grants	
Building Trust Funds [BTF]	
Other Funding Source	

Total

GFSB - <input type="checkbox"/>	\$0
PRSB - <input type="checkbox"/>	\$0
Agency/Institution Cash <input type="checkbox"/>	\$0
Gifts	\$756,600
Grants	\$0
Building Trust Funds [BTF]	\$0
Other Funding Source	\$0
	\$756,600

Project Schedule

SBC Approval: 08/2016
A/E Selection: 03/2016
Bid Opening: 09/2016
Construction Start: 10/2016
Substantial Completion: 01/2017
Project Close Out: 06/2017

Project Contact

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Project Scope Consideration Checklist

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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 #...
A feasibility study was performed by Kee Architects and JDR Engineers through the UW Madison AE On-Call contract (14J3G-3). It is through this study that the H5 occupancy was determined, as well as the initial scope of work.
3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?

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Hazardous materials abatement is not anticipated on this project.

4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?
Changes to the various systems (hot water, cold water, RO water, drain, sprinkler, fire alarm, gas, O2) will cause planned temporary shutdowns for connections to be made. Shutdowns will be managed by physical plant staff to minimize disruptions and building occupants will be notified well in advance of any shutdowns.
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.
Construction must be completed and the space ready for occupancy before the end of Spring Semester, 2017, per agreements made with the researcher.
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?
The project will minimally decrease the costs of the operational and maintenance budget.
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).
Semi-conductor fabrication (MOCVD) facilities have high health risk factors due to the chemicals used if they are not handled, stored and used correctly. It is for this reason that this facility is rated H5 by the building code. Equipment, fire, and other alarms have been included in the proposed design and budget.
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.