

## COMMISSION FOR HIGHER EDUCATION

Friday, May 14, 2010

### **DECISION ITEM B-5: Science and Engineering Laboratory Building – Phase I at Indiana University – Purdue University Indianapolis**

#### **Staff Recommendation**

That the Commission for Higher Education recommend approval to the State Budget Agency and the State Budget Committee of the project *Science and Engineering Laboratory Building – Phase I at Indiana University – Purdue University Indianapolis*, as described in the project description and staff analysis April 30, 2010.

#### **Background**

By statute, the Commission for Higher Education must review all projects to construct buildings or facilities costing more than \$500,000, regardless of the source of funding. Each repair and rehabilitation project must be reviewed by the Commission for Higher Education and approved by the Governor, on recommendation of the Budget Agency, if the cost of the project exceeds seven hundred fifty thousand dollars (\$750,000) and if any part of the cost of the project is paid by state appropriated funds or by mandatory student fees assessed all students. Such review is required if no part of the project is paid by state appropriated funds or by mandatory student fees and the project cost exceeds one million dollars (\$1,000,000). A project that has been approved or authorized by the General Assembly is not subject to review by the Commission for Higher Education. However, the Commission for Higher Education shall review a project approved or authorized by the General Assembly if the review is requested by the Budget Agency or the Budget Committee. This project was not authorized by the General Assembly.

This project constructs the Science and Engineering Laboratory Building located adjacent to the existing Science and Engineering and Technology Buildings in the core of the IUPUI academic campus between Michigan and New York Streets. The new building would be a 45,000 GSF research facility, constructed at an estimated cost of \$25,000,000 and funded through Auxiliary Revenue Bonds (\$17M), Research Commercialization Income (\$7M) and Indirect Cost Recovery (\$1M).

#### **Supporting Document**

*Science and Engineering Laboratory Building – Phase I at Indiana University – Purdue University Indianapolis*, April 30, 2010.

# SCIENCE AND ENGINEERING LABORATORY BUILDING – PHASE I AT INDIANA UNIVERSITY – PURDUE UNIVERSITY INDIANAPOLIS

## Project Description and Staff Analysis

### SUMMARY

This project constructs the Science and Engineering Laboratory Building located adjacent to the existing Science and Engineering and Technology Buildings in the core of the IUPUI academic campus between Michigan and New York Streets. This is the first phase of a two-phased project. Constructed in two phases, the first phase will be a multidisciplinary laboratory building containing approximately 44,825 assignable square feet (asf) and consisting of laboratories and a vivarium. The second phase will provide space for additional research laboratories, teaching labs, meeting rooms, and administrative offices for the School of Science administration. Phase I is a new 81,000 GSF research facility, constructed at an estimated cost of \$25,000,000 and funded through Auxiliary Revenue Bonds (\$17M), Research Commercialization Income (\$7M) and Indirect Cost Recovery (\$1M).

### DESCRIPTION OF THE PROJECT

This project constructs the Science and Engineering Laboratory Building located adjacent to the existing Science and Engineering and Technology Buildings in the core of the IUPUI academic campus between Michigan and New York Streets. This facility will be constructed in two phases - the first phase will be a multidisciplinary laboratory building containing approximately 44,825 assignable square feet (asf) and consisting of laboratories and a vivarium which will be used by Bio-Medical Engineering (BME), Psychobiology, and the Renewable Energy Research Programs. The second phase will provide space for teaching labs, meeting rooms, additional research laboratories, and administrative offices for the School of Science administration.

The design and construction of this facility ensures that it be capable of achieving certification under the *Leadership in Energy and Environmental Design Green Building Rating System for New Construction* (LEED-NC) and will have the following features:

- Security for research laboratories.
- Interstitial space or utility corridors that provide easy access to building systems.
- Temperature and humidity regulation with accurate and precise site-specific controls building-wide.
- Filtered air supply to minimize particulate and chemical contamination with separate clean rooms building-wide.
- Dedicated and stable high-voltage power with filtration to minimize variation.
- A single, high-volume system for the provision of DI/ultrapure water building-wide.
- More efficient and improved quality of technical support from central locations.

The research laboratories will be constructed to house BioMedical Engineering (BME), Psychobiology, and the Renewable Energy Research Programs and will have an open laboratory design maximizing flexibility in space allocation and optimizing utility. Approximately 35 percent of the research space will be shared, 25 percent will be used by School of Engineering and Technology and 40 percent will be occupied by the School of Science.

There will be two styles of wet research laboratories: 1) chemistry-style wet laboratories which require more hood space for daily work and will be designed for individual researchers working in chemistry and 2) biology-style wet laboratories which require smaller and fewer hoods and will be designed for individual scientists working in the Biological Sciences. In addition, there will be several smaller individual laboratories where experiments can be carried out in isolated settings, thus, reducing the possibility of cross-contamination.

This project will have core lab-support facilities which include an 8,350 asf vivarium primarily housing mice and rats, autoclave and dishwashing equipment, two large walk-in cold rooms, a plant-growth room, three areas for tissue culture, a large equipment room, a microscope room, a radioactive procedures room and space for biohazardous waste.

<b>Project Summary:</b>		
Space in Project (approximate):		
New Construction	81,500 GSF	
	44,825 ASF	
Project Cost:		
	\$25,000,000	\$306 GSF
Sources of Funds:		
Non-Fee Replaced Auxiliary Bonding Authority	\$17,000,000	
Research Commercialization Proceeds	\$7,000,000	
Indirect Cost Recovery	<u>\$1,000,000</u>	
Total	\$25,000,000	

Construction calendar: bid January 2011, begin construction March 2011, completion July 2012

#### RELATIONSHIP TO MISSION AND LONG-RANGE PLANNING

This project supports the life and health science mission of IUPUI by providing a critical need for research and teaching laboratory space for the Schools of Science and Engineering and Technology. It is designed to foster collaborative research through shared laboratory space and technical support, and centralized analytical facilities, thereby maximizing the performance and utility of scientific instruments and equipment. It will also be programmed to facilitate high-speed information access and with sufficient flexibility to meet immediate needs and to accommodate significant growth in research programs of the Schools of Science and Engineering and Technology within the next decade.

#### NEED AND EXPECTED CONTRIBUTION TO EDUCATIONAL SERVICES

The construction of the Science and Engineering Laboratory Building is the first step in the effort to meet the space needs of the Schools of Science and Engineering and Technology. All space in the building will be designed to 1) maximize the performance and utility of scientific instruments and equipment, 2) facilitate high-speed information access and 3) meet the immediate teaching needs while accommodating significant growth in the research programs planned for the next decade.

This facility is essential for a number of reasons:

1. To meet the critical need for research laboratories in several basic life-science areas given the growing importance of life-science research.
2. To ensure the continuing growth of interdisciplinary research programs (e.g., biomedical engineering, various areas of biology, psychobiology, medicinal chemistry, and biostatistics) with strong ties to the Indiana University School of Medicine.
3. To anticipate the space needs of emerging academic and research programs.
4. To share expensive research support facilities, equipment, gaining efficiency and economy.
5. To provide outstanding educational opportunities for training students as they participate in interdisciplinary research.
6. To enable the Schools of Science and Engineering and Technology faculty at IUPUI to increase their competitiveness for external funding in key areas.
7. Begin to address IUPUI's growing shortage of high-quality academic space, especially teaching laboratories needed in the basic life science areas to meet increased demand for quality health-care providers and teachers.

#### ALTERNATIVES CONSIDERED

No other alternatives were considered.

#### RELATIONSHIP TO LONG-RANGE FACILITY PLANS

This project is consistent with the life and health science mission on the IUPUI campus.

#### HISTORICAL SIGNIFICANCE

Indiana University does not consider any of the buildings affected by this project to be historically significant.

#### STAFF ANALYSIS

1. The primary funding source utilized to pay for debt service and operating expenses is increased indirect cost recoveries (ICR) generated from new grants and contracts. These new grants and contracts are made possible through the expansion of research laboratory space. Increased space allows existing research faculty and staff to conduct more research projects at one time, thus potentially making each researcher more productive. The increased research space of the Science and Engineering Laboratory Building will allow the School of Science and Engineering Technology to attract new grants. All of this generates additional ICR to help pay the debt service and operating costs of these new facilities.

2. In recognition of the fact that Indiana post secondary institutions were not attracting federal research grants at as a high a level as some of our peer states and institutions, the Commission included a section on the importance of have strong and vibrant research institutions as a part of Indiana's system of higher education in *Reaching Higher*. To that end, the Commission has recommended a research support incentive formula in the funding recommendations since 2003 and has recommended several new research facilities be constructed on the campuses of our major research institutions. Since 2000, Indiana University has increased the research space on the IUB and IUPUI campuses by approximately 500,000 GSF. Also between 2000 and FY 2010, Indiana University has doubled the amount of sponsored research from \$300,000,000 to \$600,000,000.
  
3. As stated in the project description, Science and Engineering Laboratory Building will be financed through a relatively new statute (I.C. 21-35-3-7) that allows IU and PU to issue debt without General Assembly approval "if revenue from state, federal, local, or private gifts, grants, contractual payments, or reimbursements is available in an amount that is reasonably expected to at least equal the annual debt service requirements of the bonds and the costs to operate the research facility for each fiscal year that the bonds are outstanding ." The financing plan presented by IU is to issue \$17,000,000 in (non fee-replaced) debt, use \$7,000,000 in cash from proceeds of research commercialization and \$1,000,000 in cash of existing indirect costs recovery. IU reports that the University receives approximately \$70,000,000 to \$75,000,000 per year in indirect cost recovery. The debt service on this facility will be approximately \$1.5M and operating and maintenance costs are expected to be \$1.2M per year. IU has issued debt for one other facility under this statute (Research III) and reports the financing plan is operating smoothly.