

Contact: Joan Racki

REGISTER OF IOWA STATE UNIVERSITY
CAPITAL IMPROVEMENT BUSINESS TRANSACTIONS

Action Requested: Consider recommending approval of:

1. The following actions for the **Hach Hall - Basement Research Laboratories** project:
 - a. Acknowledge receipt of the University's initial submission of information to address the Board's capital project evaluation criteria (see Attachment A);
 - b. Accept the Board Office recommendation that the project meets the necessary criteria for Board consideration; and
 - c. Authorize permission to proceed with project planning including the design professional selection process.
2. The revised project budget (\$4,850,000) for the **Utilities – Haber Road Substation Expansion** project.

Executive Summary:

The University requests permission to proceed with project planning for the **Hach Hall – Basement Research Laboratories project**, which would fit-out approximately 10,500 net square feet of basement shell space in Hach Hall (see Attachment B for location) to house research laboratory space for new faculty hires in the Department of Chemistry. The estimated project cost of \$4.0 million would be funded by private funds.

The University requests approval of a revised project description and budget (\$4,850,000, an increase of \$850,000) for the **Utilities – Haber Road Substation Expansion** project which is upgrading the substation north of the Power Plant (constructed in 1993) and installing a new transformer. The new transformer would provide redundancy for the campus electrical system. The budget increase is being requested to cover additional project scope that was added during the design phase of the project and to cover additional design professional fees. The project is being funded by Utility Repair Funds. The location of the Haber Road substation is shown on Attachment C.

Details of the Projects:

Hach Hall - Basement Research Laboratories

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Apr. 2014	Requested

Hach Hall was completed and occupied in 2010. At that time, shell space constructed in the basement was intended to accommodate future strategic faculty hires. As of Fall 2015, it is anticipated that the completed space in Hach Hall will be fully occupied. The build-out of the basement would provide state of the art research space to support the Department's research initiatives and to attract new, excellent faculty.

Utilities - Haber Road Substation Expansion

<u>Project Summary</u>			
	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Project Description and Budget Design Professional Agreement (preliminary design included in agreement for Stoker Boiler Replacement project)	\$4,000,000	June 2013	Approved
Construction Contract Award (Harold K. Scholz Co; Ralston, NE)	1,666,000		
Revised Project Description and Budget	4,850,000	Apr. 2014	Requested

This project is installing a second 20 MVA transformer, one 69,000 volt circuit breaker, 69,000 volt aerial bus, 13,800 volt switchgear, capacitor bank and associated equipment in the Haber Road Substation located to the north of the Power Plant. The project includes the relocation of the fence along the east and south side to accommodate the new equipment, enlarging the substation by approximately 6,000 square feet. The substation is jointly operated with the City of Ames. As a condition of the electrical interchange agreement between the City and the University, all costs associated with modifications to the 69,000 volt system equipment will be shared. It is anticipated that the City of Ames will reimburse the University for approximately \$200,000 of the project cost. All costs associated with any equipment operating at 13,800 volts and lower will be the University's responsibility.

During the planning and design phase of the Stoker Boiler Replacement project (approved by the Board in December 2012), the need to undertake preliminary design of the Haber Road Substation was identified. The initial design work was performed by Burns and McDonnell under the firm's agreement for the Stoker Boiler Replacement project.

The University later determined that the Haber Road Substation project would be funded separately from the Utilities-Stoker Boiler Replacement Project and a budget was submitted and approved by the Board in June 2013.

This revised budget will consolidate all design and construction work related to the Haber Road Substation Expansion project into a single project. Costs associated with design work performed by Burns and McDonnell under the agreement for the Stoker Boiler Replacement project will be incorporated into a design professional agreement for the Haber Road Substation project; this agreement will also include the completion of the construction documents and support through

the construction phase, including field and commissioning services. A new agreement that includes the complete design professional scope of work and fees for this project will be negotiated and forwarded to the Board Office for approval and signature. This scope of work will be deducted from the design professional agreement for the Stoker Boiler Replacement project.

The revised budget also incorporates additional scope that has been identified during the design phase including the addition of equipment to control and monitor the new and existing substation equipment, necessary replacement and upgrades to existing equipment, and the addition of two additional electrical vaults along with associated underground conduits and storm system improvements.

Project Budget

	Initial Budget <u>(June 2013)</u>	Revised Budget <u>(Apr. 2014)</u>
Construction	\$3,331,790	\$4,000,000
Planning, Design & Management	331,310	735,000
Contingency	<u>336,900</u>	<u>115,000</u>
TOTAL	<u>\$4,000,000</u>	<u>\$4,850,000</u>
Source of Funds:		
Utility Repair Funds	<u>\$4,000,000</u>	<u>\$4,850,000</u>
TOTAL	<u>\$4,000,000</u>	<u>\$4,850,000</u>

Hach Hall – Basement Research Laboratories
Evaluation Criteria

Since the project meets the Board's definition of a major capital project, the University has provided the following information in response to the Board's evaluation criteria.

Institutional Mission / Strategic Plan: The nationally and internationally recognized Department of Chemistry plays an important role in helping the university achieve its mission and strategic plan by supporting the university's goals of learning, discovery and engagement. Members of the department bring chemistry to life as cutting-edge researchers and teachers for students across the university. Nearly every student at Iowa State University has experiences in chemistry laboratories, participating in the "Science with Practice" that is an important part of the university's land-grant heritage. The department also excels in supporting visionary faculty and graduate students with programs in basic and applied science. The department has a long-time association with the Ames Laboratory of the Department of Energy, as well as interactions with community colleges and high schools in the state of Iowa.

The Department of Chemistry is one of the strongest departments on campus, and is currently ranked 26th by the National Research Council. The department is housed in Hach Hall, Gilman Hall, Spedding and Wilhelm Halls (Ames Lab space), and Carver Co-Lab. Hach Hall will be fully occupied by Fall 2015. Spedding Hall is nearly full and restricted to research supported by the Ames Laboratory.

The vision of the Chemistry Department is to:

- Be among the top 5 departments nationally at public universities.
- Raise the stature of Iowa State University through interdisciplinary efforts.
- Achieve the rank of #1 in analytical chemistry for graduate schools in the United States.

To accomplish this vision, the Chemistry Department must recruit the best faculty in the field, make key hires in senior-level positions, retain established faculty, and provide exceptional training for students. The other issue that needs to be considered is providing space for new research initiatives and collaborative efforts. The research mission of the department is directly relevant to four of the five Signature Themes of the LAS college (Biological Structures and Systems, Complex Materials, Data-Rich Environments, and Economic, Environmental, and Societal Sustainability) which are areas for targeted growth in the next several years. These areas represent directions for growth and development of the Chemistry Department that build on current strengths.

The Chemistry facility needs as they relate to program goals and this proposal are:

- Research in chemical synthesis: State-of-the-art air/gas handling facilities, chemical storage, electrical and plumbing systems that are required for equipment for biorenewable and green chemistry and chemical analysis.
- Analytical instrumentation: Single-molecule detection laser spectroscopic instrumentation demand rigid environmental standards that are especially well suited to basement environments.

Alternatives Explored and Rationale for Proposed Project: Approximately 10,500 square feet of space in the basement of Hach Hall was strategically left unfinished at the time of the original construction of the building. This space was reserved and planned for development to accommodate future key faculty hires in the Department of Chemistry.

Project Size and Impact on Other Facilities: This project will finish 10,500 square feet of space to provide additional research laboratory space for the Department of Chemistry.

Financial Resources for Construction Project: Private funding of \$4.0 million dollars has been obtained.

Financial Resources for Operations and Maintenance: The estimated operations and maintenance costs of the additional space are:

Operations and Maintenance - \$50,000

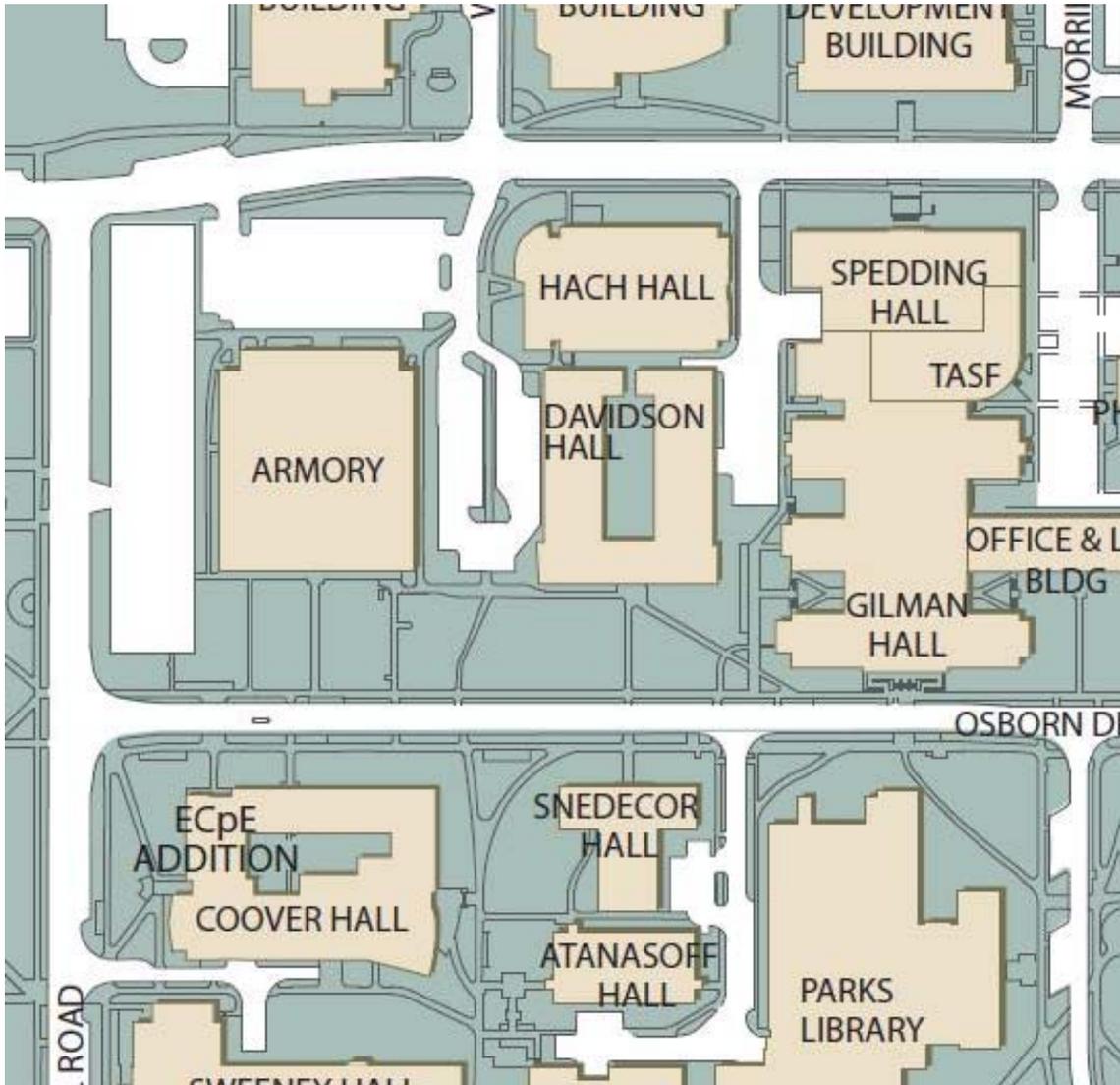
Utilities - \$100,000

Other (Grounds/Mail/EHS/DPS) - \$6,000

Proposed source of funds: College of Liberal Arts and Sciences

External Forces Justifying Approval: Research in the Chemistry department is congruent with stated goals in the College of Liberal Arts and Sciences through its Signature Themes. To achieve these goals, the department will need to retain and recruit the very best faculty and graduate students; additional high quality research laboratories are required.

Map
Showing Location of Hach Hall



Map
Showing Location of Haber Road Substation

