

Contact: Sheila Doyle

**REGISTER OF IOWA STATE UNIVERSITY CAPITAL IMPROVEMENT
BUSINESS TRANSACTIONS**

Actions Requested: Consider recommending to the Board approval of:

1. Permission to proceed with project planning, including the architectural selection process, for the **Agricultural and Biosystems Engineering** project, a major capital project as defined by Board policy.
 - 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.
2. Ratification of the Executive Director's authorization to utilize the services of a construction manager (CM) and begin the selection process for a CM firm for the **Jack Trice Stadium Improvements – 2006** and **Hilton Coliseum Renovation and Additions** projects.

Executive Summary: The **Agricultural and Biosystems Engineering** project would construct a new facility to house the Department of Agricultural and Biosystems Engineering, which has the potential to be rated the top department of its kind in the nation, the Office of Biorenewable Programs, and the Engineering Policy and Leadership Institute. The project would consolidate the Department's space, currently located in five facilities, including Davidson Hall constructed in 1922 with a portion rebuilt in 1941 following a fire. The Department of Agricultural and Biosystems Engineering, which is jointly administered by the Colleges of Agriculture and Engineering, has seen significant growth in its enrollment of undergraduate and graduate students, research output, and critical outreach programs to assist the people of Iowa.

The anticipated project cost of \$63.3 million would be funded by state appropriations / academic building revenue bond authorization (\$51.3 million) and gifts (\$12 million). The project is included in the proposed five-year capital plan for state funds. (see Agenda Item 4b) A site for the proposed facility has not yet been selected; the final decision may be influenced by the location of biorenewable facilities developed cooperatively with private industry or federal initiatives.

At the June 2006 meeting, the Board approved permission to proceed with project planning, including fundraising, for the **Jack Trice Stadium Improvements – 2006** and **Hilton Coliseum Renovation and Additions** projects. Both projects are intended to upgrade athletic facilities and to enhance and expand event accommodations in accordance with the Athletics Department Facilities Master Plan.

Given the scope and complexity of these projects, the University wishes to utilize a construction manager (CM) to serve as its agent in coordinating and managing multiple prime contractors to complete the work. The University reports the use of a CM on these projects is expected to provide many benefits, including expertise in construction means and methods, current material and labor costs, material availability, and industry workload; CM oversight would optimize the

balance between construction cost, quality and schedule. The schedules for the projects must be coordinated around athletic schedules and events, and include critical completion dates that impact revenue producing activities.

The University wishes to conduct the selection process for the **Jack Trice Stadium Improvements-2006** and **Hilton Coliseum Renovation and Additions** projects simultaneously, with the option of selecting a single construction management firm for both projects. Since these projects are both part of the athletic facilities master plan, share common elements and goals, and the schedules for the elements of both projects overlap, it is believed that the coordination of both projects by a single entity may provide economies to the University. Additional anticipated benefits include the CM's ability to develop feasible and cost-effective phasing schemes, ensure construction continuity, and maximize competition and participation of Iowa-based contractors. In addition, the University anticipates that the CM will have experience in the construction of stadium and arena projects.

The University received Executive Director approval to proceed with advertisement for CM services; the University will proceed with interviews of the CM firms contingent upon Board ratification of the Executive Director's action.

Details of Projects:

Agricultural and Biosystems Engineering

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Sept. 2006	Requested
Initial Review and Consideration of Capital Capital Project Evaluation Criteria		Sept. 2006	Received Report

Jack Trice Stadium Improvements – 2006

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		June 2006	Approved
Initial Review and Consideration of Capital Capital Project Evaluation Criteria		June 2006	Received Report
Use of Construction Manager		Sept 2006	Ratification*

* Approved by Executive Director in accordance with Board procedures

**Hilton Coliseum Renovation and Additions
(formerly Hilton Coliseum Improvements – 2004)**

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Aug. 2004	Approved
Initial Review and Consideration of Capital Project Evaluation Criteria		Aug. 2004	Received Report
Architectural Selection (RDG Planning and Design, Des Moines, IA)		Dec. 2004	Approved
Negotiated Architectural Agreement— Pre-Design and Schematic Design Services (RDG Planning and Design, Des Moines, IA)	\$ 259,350	Feb. 2005	Not Required
Program Statement		Sept. 2005	Not Required
Permission to Proceed (revised scope)		June 2006	Approved
Initial Review and Consideration of Capital Capital Project Evaluation Criteria		June 2006	Received Report
Use of Construction Manager		Sept 2006	Ratification*

* Approved by Executive Director in accordance with Board procedures

**Agricultural and Biosystems Engineering
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 Department of Agricultural and Biosystems Engineering (ABE) is jointly administered by the Colleges of Agriculture and Engineering. The department is central to the mission of both colleges and the university. ABE is the oldest department of its kind in the nation and is consistently ranked in the top 7 among its peers, often in the top 3. July 2004 marked the beginning of a new era; the Department of Industrial Education and Technology (IEDT) merged with Agricultural and Biosystems Engineering (ABE). With the merger, there are now more than 500 undergraduate and 80 graduate students in the department. The ten year enrollment goal is 600 undergraduate students and 100 graduate students.

The department develops and transfers engineering and related technological knowledge for the efficient production of food and fiber to citizens in Iowa, the nation and the world, while wisely managing natural resources. Department programs integrate basic biological and physical science, through application of engineering fundamentals and allied technologies to develop and deliver new knowledge and understanding of agricultural and biological systems. The university's motto of "science with practice" is closely mirrored by the mission of the Agricultural and Biosystems Engineering Department which promotes the teaching of students, the discovery and development of new technologies, and the sharing of expertise with the state, the nation and the world. The department's vision is to be an example of a leading department at an engaged institution by being responsive to clients and stakeholders needs, respecting partners in education, serving as a neutral academic resource, being accessible to all constituencies, integrating our mission with responsibilities, coordinating actions with other university entities, and partnering with government, business, and non-profit organizations.

In support of the university's goal to promote interdisciplinary collaboration and cooperation, the new facility will also house two such programs: the Office of Biorenewable Programs (OBP) and the Engineering Policy and Leadership Institute (ELPI). The Office of Biorenewable Programs will house interdisciplinary activities and partners of the bioeconomy initiative. Such activities and partners include the Office of Biorenewable Programs, the Biorenewable Resources and Technology graduate program, the Center for Biorenewable Chemicals, and the Engineering Policy and Leadership Institute. Additionally, space will be allocated to major grant programs which require laboratory and office space including the Federal Biobased Product Preferred Procurement Program. The goals for all of these programs is to develop public policy, educational leadership and technologies for converting crops and plant materials into chemicals, fuels, fiber, and energy.

Other Alternatives Explored: ABE is currently headquartered in Davidson Hall, which was built in 1922. Office space was remodeled in 1941 following a disastrous fire that destroyed the south section of the building. Since 1993, several of the research and teaching laboratories have been remodeled to meet the department's emerging animal waste and animal environment research needs. These small remodeling projects, as well as borrowed space in the National Swine Research and Information Center, have allowed the department to continue to compete with other universities in the recruitment and retention of faculty and graduate students. However, this is getting increasingly difficult as poor and inadequate facilities give the impression of a poorly supported program.

Consideration has been given to continuing with large scale remodeling and an addition to provide modern facilities at Davidson Hall. This alternative has been rejected because the current building's architecture does not match with the changing needs of the department, where large power machinery laboratories are being displaced by water quality labs that require wet chemistry lab spaces. The existing building is compromised by adaptations that have been made to meet fire and life safety codes. An addition to the building to provide the needed expansion space would be difficult and expensive because of the constraints of the existing building and the tight site surrounding the building. Davidson Hall is a substandard facility that would cost more to remodel than to replace.

A new facility will allow Davidson Hall to be razed, and the site reconfigured to allow for future expansion of neighboring facilities.

Impact on Other Facilities and Square Footage: The new facility for ABE will have approximately 166,000 GSF. After the new building is completed, Davidson Hall (40,000 GSF), the Ag Engineering Machine Shed (5,700 GSF), and Industrial Education 1 (12,500 GSF) will be razed. The department will vacate about 20,000 GSF in the National Swine Research and Information Center, and about 30,000 GSF in Industrial Education II.

Financial Resources for Construction Project: Estimated project cost is \$63,300,000, with \$51,300,000 from state appropriations and \$12,000,000 from private funds. A major donor has made a lead gift towards the private fundraising.

Financial Resources for Operations and Maintenance: Estimated operations and maintenance costs of the new facility are:

- Custodial and routine maintenance - \$378,000
- Utilities - \$724,000
- Other (Grounds/Mail/EHS/DPS) - \$160,000
- Annual Capital Renewal - \$633,000

Reallocation of the current operating and maintenance costs of approximately \$150,000 for Davidson Hall, the AE Machine Shed, and Industrial Education 1 will be applied to the project to reduce the new building O&M funding.

The proposed source of funds for operations and maintenance is the university general fund.

External Forces: The department has been a leader in attacking major resource management problems such as the impact of water quality from agricultural productions systems, air quality issues for agricultural production workers and neighbors, preservation of grain quality, and the prediction and control of soil erosion from our extensive croplands. These are important state and national policy issues and ABE is expected to play a role in answering these difficult questions.

Global events are revolutionizing the agricultural and pharmaceutical industries. ABE is an important contributor to the engineering expertise needed for the commercialization of life science discoveries and transferring the technologies to the emerging biotechnology industries of the state.