A PRESENTATION OF THE SCHEMATIC DESIGN FOR THE ENVIRONMENTAL HEALTH AND SAFETY/REGULATED MATERIALS FACILITY PROJECT WILL BE MADE AT THE APRIL MEETING

G.D. 15b

MEMORANDUM

To: Board of Regents

From: Board Office

Subject: Register of Iowa State University Capital Improvement Business Transactions for Period of March 13, 2003, Through April 10, 2003

Date: March 31, 2003

Recommended Actions:

1. Approve the Register of Capital Improvement Business Transactions for Iowa State University.

2. **ROLL CALL VOTE** to approve the demolition of Westgate Residence Hall.

Executive Summary:

Requested Approvals

Program statement for the **General Classrooms and Auditoriums** project for the construction of a new auditorium for LeBaron Hall and the renovation of two existing auditoriums in Physics Hall (see page 2).

Schematic design for the **Environmental Health and Safety/Regulated Materials Facility** project which would construct a new facility to consolidate the University's Environmental Health and Safety regulated materials handling operations, laboratories, training programs and offices (see page 5).

- The schematic design booklet is included with the Board's docket materials.

Project descriptions and budgets:

Lied Recreation Athletic Center—Turf Replacement project ($350,000) which would replace the deteriorated artificial turf practice field in the Lied Center (see page 10).

Westgate Hall Demolition project ($195,200) which would raze the residence hall, which has exceeded its life expectancy, and clear the site for future development of a parking lot (see page 11).

- A resolution for the abandonment of Westgate Hall is included in

B.C. 5; bond resolutions for Iowa State University's Residence System require specific approval of the Board of Regents prior to the abandonment of any units in the system.

Revised project budget ($8,524,000) and construction contract award ($1,062,654) for window replacements for the **Beardshear Hall Remodeling** project (see page 12).

- The revised budget would provide an additional $527,193 to allow award of the construction contract for the replacement of all of the Beardshear Hall windows, which are original to the building's construction and have experienced significant deterioration.

Engineering agreement with Farris Engineering, Des Moines, Iowa ($1,150,000) for the **Utilities—Power Plant Turbine Generator #6** project which would increase the electrical generating capacity of the power plant to serve all of the campus electrical needs (see page 15).

Background and Analysis:

General Classrooms and Auditoriums

Project Summary

	Amount	Date	Board Action
Permission to Proceed		Sept. 2002	Approved
Project Description and Total Budget	$ 14,238,500	Jan. 2003	Approved
Architectural Agreement—Pre-Design and Schematic Design Services (Baldwin White Architects, Des Moines, IA)	175,000	Jan. 2003	Approved
Program Statement (LeBaron Hall Auditorium and Physics Hall Auditoriums)		April 2003	Requested

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Background

The University currently operates and maintains a total of 233 classrooms, including 13 auditoriums; these facilities do not provide the necessary capacity, media technology, space flexibility and specialized classroom components for modern instructional programs.

In addition, the facilities suffer from accessibility and mechanical/ electrical deficiencies.

Project Scope

The improvements would provide air conditioning, improved lighting and lighting control, and classroom furniture, to create an environment that supports instructional technology.

The project would include the following:

- LeBaron Hall Auditorium and systems upgrade, which includes removal of the existing auditorium (214 seats, 2,400 net square feet) and construction of a new lecture hall, and replacement of the heating, ventilating and air conditioning systems, at a project cost of $5,815,700;

- Physics Hall Rooms 3 and 5, which include remodeling of the two classrooms (a total of 388 seats, 4,050 net square feet), at a project cost of $1,483,600; and

- Remodeling and installation of media technology in various existing general classrooms.

Funding

Capital appropriations authorized by the 2002 General Assembly.

Program Statement

<u>LeBaron Hall Auditorium (new construction)</u>

The new general classroom auditorium would provide a seating capacity of approximately 360.

- The auditorium would be adaptable for flexible and non-traditional teaching styles and instructional technologies.

- Sufficient queuing space would be provided to accommodate the exchange of auditorium users between classes.

A separate informal meeting/gathering area to accommodate small groups would provide a variety of seating options.

The existing Cyber Café, which is a study area with computer access, would be preserved or recreated.

<u>Physics Hall Auditoriums (renovation)</u>

The project would provide two general University classrooms:

- An auditorium with a seating capacity between 260 and 300.

- A smaller classroom with a seating capacity between 90 and 120.

- The classrooms would be adaptable for flexible and non-traditional teaching styles and instructional technologies.

The existing staging and storage areas, currently located between the two classrooms, would be relocated to allow expansion of each classroom.

Square Footage Table

The following table provides the detailed square footages for the two projects.

Detailed Building Program

LeBaron Hall Auditorium (new construction)			
Auditorium	5,600		
Queuing Area	1,350		
Copy Center	750		
Informal Meeting/Gathering	650		
Cyber Café	650		
Storage/Custodial	224		
Total Net Assignable Space		9,224	nsf
Total Non-Assignable Space		6,152	
Total Gross Square Feet		15,376	gsf
Net-to-Gross Ratio = 60 percent			
Physics Hall Auditoriums (renovation)			
Auditorium	3,875		
Classroom	1,060		
Staging/Storage Areas	750		
Total Net Assignable Space		5,685	nsf

Environmental Health and Safety/Regulated Materials Facility

Project Summary

	Amount	Date	Board Action
Permission to Proceed		May 2002	Approved
Architectural Agreement—Pre-Design Phase (Architects Smith Metzger, Des Moines, IA)	$ 120,000	Sept. 2002	Approved
Program Statement		Jan. 2003	Approved
Architectural Agreement—Schematic Through Construction Phase Design Services (Architects Smith Metzger, Des Moines, IA)	818,000	Jan. 2003	Approved
Schematic Design		April 2003	Requested
Project Description and Total Budget	10,000,000	April 2003	Requested

Background

The project would construct a facility of 34,449 gross square feet to house all Environmental Health and Safety staff and facilities for processing and storing hazardous waste materials for all on-campus, extension and research farm activities of the University.

The project would consolidate in the building the University's regulated materials operations and Environmental Health and Safety functions to provide program and cost efficiencies, and would respond to the deficiencies with the University's Chemical Waste Handling Facility which currently houses the regulated materials operations.

The following functions would be housed in the building:

- Regulated Materials Facility, which would identify, label, sort and store various materials regulated by state and federal agencies, which are received from campus departments prior to transport for disposal or incineration.

- Radioactive Materials Area, which would process both new radioactive materials received for delivery to various campus departments, and radioactive waste material received from campus departments.

- Learning Center, and associated training laboratory, which would be used for safety training programs, including those required by state and federal regulations, which are conducted by the Department of Environmental Health and Safety for University faculty, staff and students.

- Industrial Hygiene Laboratory, which would provide analysis of bulk asbestos, lead paint, mold and similar materials.

- Administrative Offices and Support Areas, and Shop Space.

Project Site

The facility would be constructed in the West Pammel Court area in the University's north campus. (A map indicating the proposed location for the facility is included as Attachment A.)

- This site was selected due to its proximity to the main campus and major traffic routes; the building design parameters and quantity shipping limitations would allow the facility to be operated within an acceptable risk to the neighboring campus facilities.

Schematic Design

The following are highlights of the **interior design**:

The facility would consist of one level divided into three distinct functional areas.

- The Regulated Materials Facility, which includes the Radioactive Materials Area, would be located at the north end of the building, which is the least public area of the site.

    - The design of this area reflects a "flexible cell" concept that allows the secure storage of materials in rooms sized to hold the expected quantities with minimal air circulation.

    - The east-west corridor has been designed for the safe movement of materials in and out of the facility; the expanded central corridor space would provide a central control point to allow clear visual access to all of the storage cells.

    - All entrances to the area would be secured with an access control system.

    - A secure, enclosed loading dock would be located to the north of the facility.

    - The area would include a sloped floor and a system of underground storage tanks for spill containment and fire sprinkler water containment.

- The Learning Center, Industrial Hygiene Laboratory, shop space and mechanical support areas would be centrally located in the facility.

    - The Learning Center functions would be housed near the main public entrance and lobby area on the east side of the building.

    - The Industrial Hygiene Laboratory, shop space and mechanical support areas, all of which are high mechanical demand spaces, would be located in this area of the building to maximize building operating efficiency.

    - The laboratories and shop space would be organized around the secured service entrance on the west side of the building.

- The administrative office areas would be located at the south end of the building.

    - The administration area would provide a central open office environment; the perimeter of this area would house enclosed offices, conference rooms and support spaces.

    - The open office area would provide flexibility to meet changing needs and technologies.

Restrooms

Public restrooms would be centrally located within the building near the Learning Center functions.

- The restrooms would provide ten female toilet fixtures and three female lavatories, and two male toilet fixtures, two urinals, and two male lavatories.

The public restrooms would serve all areas of the building with the exception of the Regulated Materials Facility, where combined locker room, shower, and restroom areas would be provided within this secure area of the building for the users.

The following are highlights of the **exterior design**:

The building would be constructed of pre-cast concrete, metal panels, and glass.

- The materials were selected to provide a modern/industrial character consistent with the building's function and its relationship to other adjacent facilities in the area, particularly the Library Storage Building and Administrative Services Facilities Office Building.

- Exterior windows would be positioned to provide natural lighting for the building and to take advantage of site views to the east and west.

    - A glass curtain wall system would be constructed on the west facade; clerestory windows would be constructed on the east facade to balance natural light levels.

    - The use of glass would be minimized on the north and south facades to improve security, energy efficiency, and to reduce noise from the nearby railroad.

Roof

The roof would feature a low-sloped design constructed of a rubber membrane material.

- The proposed roofing system is consistent with adjacent facilities in the area.

- The rubber membrane material was selected for its durability and life expectancy (approximately 20 years).

Parking

A parking area for up to seven departmental vehicles would be located on the west side of the building near the secure service entrance; two accessible parking areas would also be provided along the east side of the building.

Square Footage Table

The following table compares the square footages in the schematic design with the square footages in the building program approved by the Board in January 2003.

Detailed Building Program

	Building Program	Schematic Design	
Administrative Offices/Support Areas	7,420	7,746	
Regulated Materials Facility	6,550	6,490	
Radioactive Materials	2,895	2,701	
Learning Center	1,850	1,865	
Industrial Hygiene Laboratory	1,100	1,063	
Shop Space	400	418	
Total Net Assignable Space	20,215	20,283	nsf
Total Gross Square Feet	33,692	34,449	gsf

Net-to-Gross Ratio (Schematic) = 59 percent

Schedule

The University anticipates that the project would be bid in November 2003 for completion by June 2005.

Project Budget

Construction Cost	$ 7,902,780
Professional Fees	1,625,220
Movable Equipment	263,000
Relocation	9,000
Contingency	200,000
TOTAL	$ 10,000,000
Source of Funds:	
Revenue Bonds/Chemical Materials Fee*	$ 6,000,000
Facilities Overhead Use Allowance	4,000,000
TOTAL	$ 10,000,000

* The bond sale for the project is scheduled for July 2003, in accordance with the calendar year 2003 bond issuance schedule approved by the Board in November 2002.

Lied Recreation Athletic Center—Turf Replacement

Project Summary

	Amount	Date	Board Action
Project Description and Total Budget	$ 350,000	April 2003	Requested

Background — The existing artificial turf practice field in the Lied Center, which was installed in 1990 with construction of the building, has deteriorated and poses an injury risk to athletes and students; repair of the turf is not feasible.

Project Scope — The project would remove and replace the 28,000 square foot artificial turf surface in the Lied Center.

Funding — Recreation Facility Revenue Bond Improvement Funds.

Project Budget

Construction Cost	$ 300,000
Professional Fees	32,500
Contingency	17,500
TOTAL	$ 350,000

Westgate Hall Demolition

Project Summary

	Amount	Date	Board Action
Project Description and Total Budget	$ 195,200	April 2003	Requested

Background

Westgate Residence Hall, constructed in 1955, is located at the intersection of Union Drive and Sheldon Avenue. (A map indicating the location of the facility is included as Attachment B.)

The facility, which consists of 27,252 gross square feet with a capacity for 83 beds, will not be occupied after June 2003.

The building has exceeded its life expectancy and would require major renovation and remodeling to make it functional.

The demolition of the building was included in the Union Drive Neighborhood Master Plan presented to the Board in 2000.

Project Scope

The project would raze Westgate Residence Hall; the site would be leveled and graded following the demolition and would be developed into a parking lot under a future project.

Additional Information

A resolution for the abandonment of Westgate Hall is included in B.C. 5.

Bond resolutions for Iowa State University's Residence System require specific approval of the Board of Regents prior to the abandonment of any units in the system.

Funding

Residence System.

Project Budget

Construction Cost	$ 166,700
Professional Fees	25,240
Contingency	3,260
TOTAL	$ 195,200

Beardshear Hall-Remodeling

Project Summary

	Amount	Date	Board Action
Permission to Proceed		July 1998	Approved
Project Description and Total Budget	$ 5,750,507	July 1998	Approved
Architectural Agreement through Schematic Design (Brooks Borg and Skiles)	80,390	Oct. 1998	Approved
Construction Contract—Replace Roofs A, E and F (Wood Roofing Company)	200,650	March 1999	Ratified
Program Statement		June 1999	Approved
Schematic Design		July 1999	Approved
Architectural Agreement through Construction Services (Brooks Borg and Skiles)	621,720	July 1999	Approved
Amendments #1-3 (Brooks Borg and Skiles)	66,412		Approved*
Construction Contract - General Construction (HPC, L.L.C.)			
Revised Project Budget	3,552,000	July 2000	Ratified
Construction Contract -	6,076,707	Oct. 2000	Approved
Telecommunications (Wiring by Design)	266,000	Feb. 2001	Ratified
Revised Project Budget	7,996,807	June 2001	Approved
Change Orders (Estimated Amount)	777,200	June 2001	Approved
Architectural Amendment #4 (Brooks Borg and Skiles)	10,319	July 2001	Approved
Architectural Amendment #5 (Brooks Borg and Skiles)	85,637	May 2002	Approved
Construction Contract Award—Dome Renovation (EverGreene Painting)	167,580	Sept. 2002	Ratified
Revised Project Budget	8,524,000	April 2003	Requested
Construction Contract Award (Bergstrom Construction)	1,062,654	April 2003	Requested

*Approved by the University in accordance with Board procedures.

Background

This project has remodeled space in Beardshear Hall to consolidate various student-related functions in one central campus location.

The project has also relocated and consolidated other administrative offices within the building, and addressed building code, accessibility, and life safety deficiencies.

An expanded project scope approved in June 2001 incorporated window replacements for the facility; for the most part, the existing windows are original to the building's construction and have experienced significant deterioration.

The window replacement work was put on hold in the fall of 2001, but the project was recently reinstated and the construction contract was bid in March 2003.

The bids for the window replacements exceeded the original estimates; the University attributes the high bids to inflationary cost increases while the project was on hold, and the need for additional lead and asbestos abatement.

Revised Project Budget

The revised budget of $8,524,000, an increase of $527,193, would allow award of the construction contract for the replacement of all of the window sashes in Beardshear Hall.

Construction Contract Award

Subject to approval of the revised budget, the University requests award of the construction contract to Bergstrom Construction for Base Bid #1 plus Alternates 1A, 1B, 1C and 1D, for a total award of $1,062,654.

- The four alternates would provide for the replacement of all of the windows in the facility.

- Bergstrom Construction is the low bidder for the recommended award.

Project Budget

	Revised Budget June 2001	Revised Budget April 2003
Construction Costs	$ 6,487,900	$ 6,838,000
Professional Fees	1,303,700	1,503,500
Movable Equipment	42,500	42,500
Relocation	80,000	135,000
Contingency	82,707	5,000
TOTAL	$ 7,996,807	$ 8,524,000
Source of Funds:		
Income from Treasurer's Temporary Investments	$ 6,224,571	$ 5,639,390
General University/Building Repair Funds	1,468,926	2,546,300
Business and Finance Endowment Administrative Reserve	180,000	180,000
Telecommunications Improvement and Extension Funds	98,310	98,310
ISU Foundation	15,000	50,000
Unrestricted Gifts	10,000	10,000
	$ 7,996,807	$ 8,524,000

Utilities—Power Plant Turbine Generator #6

Project Summary

	Amount	Date	Board Action
Permission to Proceed		Jan. 2003	Approved
Project Description and Total Budget	$ 12,000,000	Jan. 2003	Approved
Engineering Agreement (Farris Engineering, Des Moines, IA)	1,150,000	April 2003	Requested

Background

The campus electrical needs continue to increase due to the construction of new buildings and normal electrical load growth.

In addition, the cost of purchased electricity has increased to the point where it is now more economical to generate electricity in the campus power plant than to purchase it.

However, the power plant does not currently have sufficient capacity to reliably generate the amount of electricity needed to serve all of the campus electrical needs.

Project Scope

This project would increase the electrical generating capacity of the power plant by replacing an existing 3 megawatt turbine generator with a new 15 megawatt generator.

- The University reports that this upgrade would allow the power plant to supply for several years all of the campus electrical needs.

The project would also include necessary structural, mechanical and electrical alterations to the power plant to accommodate the installation of the new generator and connection to the power plant systems.

Design Services

Requests for Qualifications (RFQ) to provide design services for the project were distributed to several Midwestern firms known to have the necessary expertise and the request was also advertised; 14 firms expressed an interest in the project and received information packets from the University.

- The RFQ outlined the expertise required for the project and stipulated that preference would be given to Iowa firms or partnerships that include Iowa firms.

- The University indicated that it would accept proposals for either the turbine generator portion of the work, for the steam piping portion of the work, or for both components; the latter required two separate lead mechanical engineers.

The University received eight proposals to provide design services for the

project; all of the proposals included the involvement of an Iowa-based firm.

The selection team reviewed the proposals and evaluated the firms in accordance with the following criteria:

- Quality of the proposal and understanding of the project;
- Capabilities of the firm, and experience of the individuals and the project team;
- Experience in a campus environment, and experience and past performance at Iowa State University;
- Specific recent, relevant experience for the turbine generator and piping portions of the project;
- Iowa office or partnership with firms with Iowa offices;
- Reasonable schedule and estimate of man-hours;
- Reference checks; and
- Ability to work with the University project team.

Three firms were selected for interviews by a selection committee.

Based upon the results of the interviews and recommendation of the selection committee, the University recommends the selection of the team of Farris Engineering, Des Moines, Iowa, and Sega, Inc., Overland Park, Kansas, to provide design services for both components of the project.

- The recommendation is based on the strength and experience of the project team, its proven track record of successful projects at Iowa State University and other Midwestern universities, its understanding of the project and its challenges, and its recent experience in similar complex retrofit projects.
- The firms have experience working in a partnered environment; they have worked together on several projects over the last five years and have developed a strong working relationship.
- Each firm would provide a lead mechanical engineer for the project.

The design agreement would provide full design services for a fee of $1,150,000, Including reimbursables.

Also presented for Board ratification are two project budgets under $250,000. The register

prepared by the University is included in the Regent Exhibit Book.

Sheila Doyle

Approved: Gregory S. Nichols

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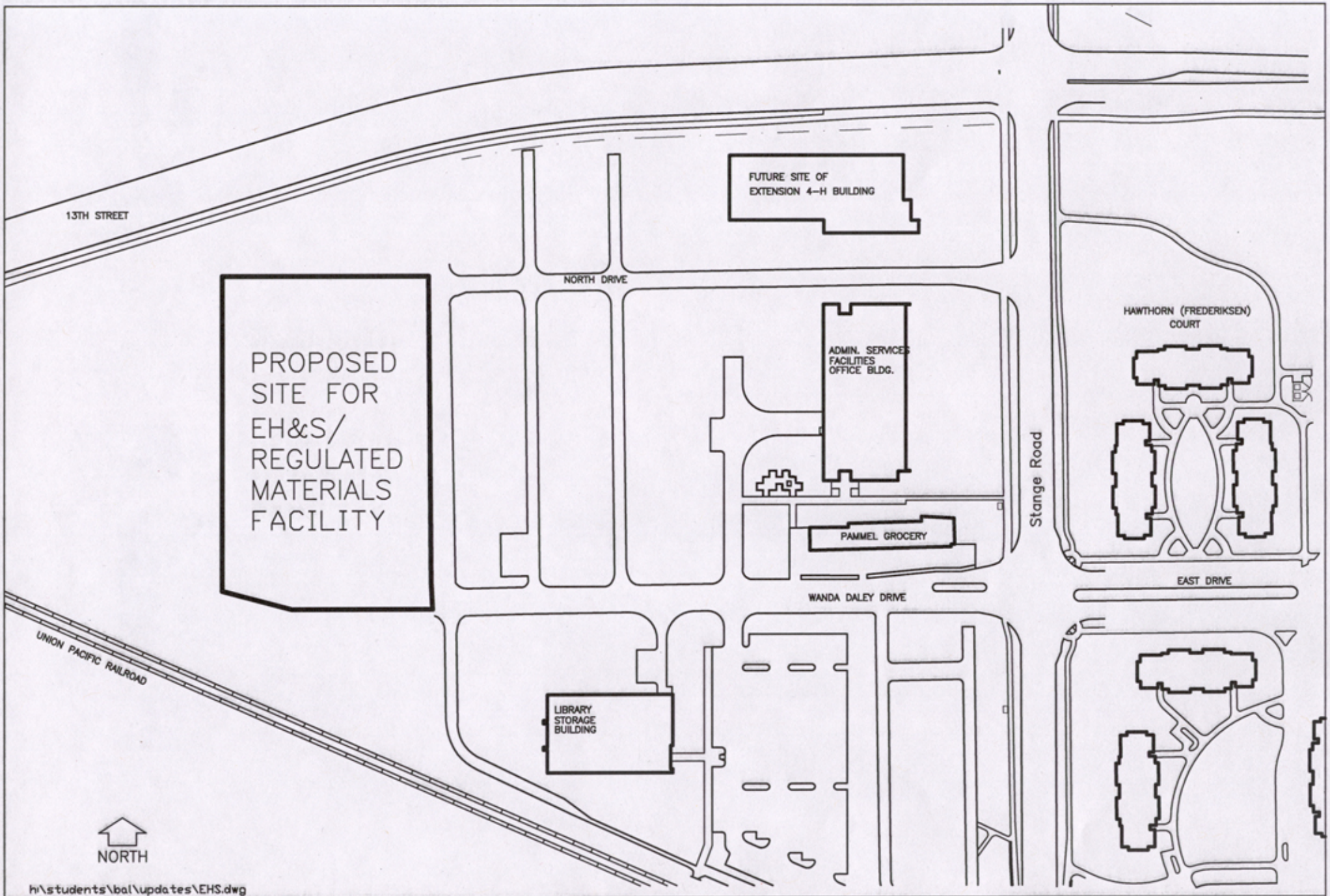

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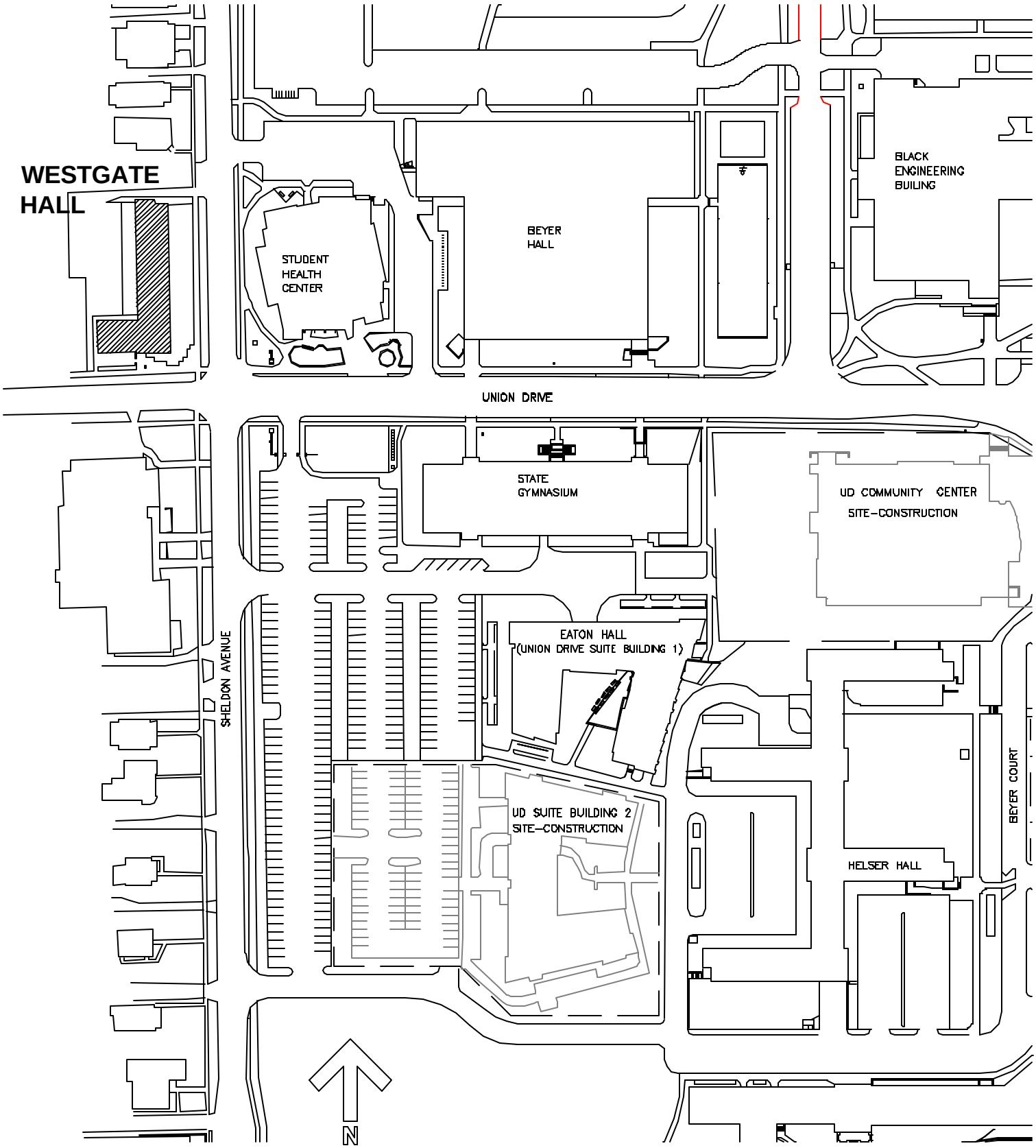
COMPLETED:	PROPOSED EH&S/ REGULATED MATERIALS FACILITY	SCALE: NOT TO SCALE
ISSUED:	FACILITIES PLANNING AND MANAGEMENT	
DATE: APRIL 17, 2002	IOWA STATE UNIVERSITY AMES, IOWA	SHEET NO: A101



REVISIONS:	WESTGATE HALL DEMOLITION	APPROVED BY:
		CHECKED BY:
		DESIGNED BY:
COMPLETED:		SCALE: Not to Scale
ISSUED:	FACILITIES PLANNING AND MANAGEMENT	REQUEST NO.
DATE: March 12, 2003	IOWA STATE UNIVERSITY AMES, IOWA	SHEET NO. 1