

MEMORANDUM

To: Board of Regents
From: Board Office
Subject: Register of University of Iowa Capital Improvement Business Transactions for Period of April 24, 2003, Through May 20, 2003
Date: June 9, 2003

Recommended Action:

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

Executive Summary:

Requested Approvals

Permission to proceed with project planning and architectural agreement with HDR, Architects, Des Moines, Iowa (\$92,530) for the **University Hospitals and Clinics—Magnetic Resonance Imaging (MRI) Systems Installation** project which would replace one of three existing MRI units and develop a fourth MRI procedure suite to meet the UIHC's current and future demand for MRI services (see page 3).

- Since HDR, Architects completed the feasibility study for the project, the University requests approval to waive provisions of the Board's **Policy Manual** related to the use of an Architectural Selection Committee for projects of \$1 million or more and approve the agreement.

Program statement and schematic design for the **West Campus Chilled Water Plant Development/Expansion** project which would construct an addition to the existing plant to increase its chilled water capacity to serve the expanding needs of the west campus and Arts Campus (see page 5).

- A booklet outlining the building program and schematic design is included with the Board's docket materials.

The following projects in the Bowen Science Building on the Health Sciences Campus:

Program statement for the Bowen Science Building—Remodeling for Biochemistry Cores 4-300, 4-600 and 4-700 project which would remodel laboratory space in the building for the Department of Biochemistry of the College of Medicine (see page 9).

Project description and budget for the Bowen Science Building—Replace Air Handling Units—Phase 2 project (\$580,000) which is the second phase of a multi-phased project to upgrade the building's heating, ventilating, and air conditioning systems (see page 10).

Engineering agreement with Design Engineers, Cedar Rapids, Iowa (\$86,000) for the Bowen Science Building—Replace Aluminum Wiring project (see page 12).

Project description and budget for the Trowbridge Hall—Renovate Room B40 project (\$630,000) which would provide a clean room research laboratory for the Department of Geological Sciences (see page 12).

The selection of Neumann Monson Architects, Iowa City, Iowa, to provide design services for the Kinnick Stadium Renovation project which would address the most critical deficiencies with the stadium (see page 13).

Architectural agreement with Rohrbach Carlson, Iowa City, Iowa (\$90,100) for the Institute for Rural and Environmental Health—Renovation of Laboratory project (see page 15).

Background and Analysis:

University Hospitals and Clinics—Magnetic Resonance Imaging (MRI) Systems Installation

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
<u>Master Plan Study</u>			
Feasibility Study Agreement (HDR, Architects, Des Moines, IA)	\$ 99,310	Nov. 2002	Approved
Permission to Proceed with Project Planning Architectural Agreement—Design Development Through Construction Phase Services (HDR, Architects, Des Moines, IA)	92,530	June 2003	Requested

Background

The current patient volume of the UIHC Magnetic Resonance Imaging (MRI) Suite, located in the lower level of Colloton Pavilion, exceeds its capacity; over the past two decades, the growth in patient volume has exceeded 700 percent.

The increasing demand for MRI services has created significant scheduling backlogs, which delays the receipt of diagnostic information for patient treatment and disrupts research studies.

The UIHC MRI Suite currently houses three MRI units which were installed in 1988, 1993 and 1998; the oldest unit was upgraded in 1995.

The 1993 unit is technologically obsolete and lacks the image quality of newer generation systems; it can no longer be upgraded which precludes its use for a number of state-of-the-art procedures.

The University has undertaken a feasibility study for the renovation of the MRI Suite to accommodate current and future patient volume.

- The feasibility study, conducted by HDR, Architects, addressed expansion options, reviewed existing equipment and state-of-the-art MRI technology, and developed phasing plans, schedules and cost estimates.

Project Scope	<p>The University wishes to replace the obsolete 1993 MRI unit, and develop a fourth MRI procedure area in the MRI Suite.</p> <ul style="list-style-type: none">• The existing MRI unit would be replaced with a state-of-the-art MRI system of equal strength.• This would require renovation of an existing procedure room and the adjoining control and equipment areas (approximately 4,000 square feet) to accommodate the new system, and installation of a dedicated exhaust system for the equipment.• The new MRI procedure area would house a more powerful MRI system which would provide improved anatomic detail in shorter scan times; this would be the first system of this type in Iowa.• This would require construction of an additional MRI procedure room, with magnetic and radio frequency shielding, and adjoining control and equipment areas (approximately 2,200 square feet), installation of a dedicated exhaust system, and other associated building modifications.
Anticipated Cost/Funding	<p>Estimated at \$1.5 million, to be funded by University Hospitals Building Usage Funds.</p>
Consultant Services	<p>The University requests approval to waive provisions of the Board's <u>Policy Manual</u> which require the selection of an architectural firm for projects of \$1 million or more by an institutional Architectural Selection Committee.</p> <p>The University requests approval to enter into an agreement with HDR, Architects, Des Moines, Iowa, to provide design development through construction phase design services for the project.</p> <ul style="list-style-type: none">• The firm prepared the master plan feasibility study for the project, which included programming, pre-design and schematic design services.• The firm was selected to undertake the study based on the strength of its combined architectural, engineering and medical planning experience.• UIHC recommends the selection of HDR, Architects based on the firm's performance with the master plan feasibility study, its familiarity with the project concept, and the need to provide improved MRI services in the shortest time frame possible. <p>The agreement would provide design development through construction phase services for a fee of \$92,530, including reimbursables.</p>

Additional Information

This project incorporates the work from the University Hospitals and Clinics—3T Magnetic Resonance Imaging (MRI) Installation project presented to the Board in May 2003 to develop the fourth MRI procedure area.

- This work has been combined with the replacement of the existing MRI unit for design and construction efficiencies.

West Campus Chilled Water Plant Development/Expansion

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Oct. 2002	Approved
Engineer Selection (Stanley Consultants, Muscatine, IA)		Jan. 2003	Approved
Executive Director Authorization to Approve Schematic Design Agreement		Jan. 2003	Approved
Negotiated Schematic Design Agreement (Stanley Consultants, Muscatine, IA)	\$ 316,900	April 2003	Ratified*
Program Statement		June 2003	Requested
Schematic Design		June 2003	Requested

* Approved by Executive Director as authorized by Board in January 2003.

Background

The West Campus Chilled Water Plant provides chilled water service for the academic and medical facilities on the west campus; the plant has a current capacity of 16,000 tons.

- The chilled water plant is located within Hospital Parking Ramp #3, which is located north of Kinnick Stadium.

The plant was constructed in 1970 and the equipment was installed in phases, with the last 3,000 tons of cooling capacity installed in 1988.

The continuing expansion of the west campus and the growth of the Arts Campus will require an increase in the capacity of the West Campus Chilled Water Plant.

In addition, the existing chilled water equipment is beyond or nearing the end of its useful life, increasing the amount of required maintenance.

Project Scope

To address the expanding chilled water needs, the University proposes to construct an addition to the West Campus Chilled Water Plant.

- The proposed addition would increase the chilled water capacity by 12,000 tons, and would provide for future expansion by an additional 4,000 tons; this represents the University's current estimate of future west campus and Arts Campus cooling requirements.

- This is greater capacity than the University's original estimate, which would have increased capacity by up to 10,000 tons and provided for future expansion by an additional 5,000 tons.

The project would also replace the existing equipment in the chilled water plant in a subsequent phase following construction of the addition.

Project Site

The University would construct the addition on the site immediately to the north of the West Campus Chilled Water Plant; this is the former site of the outdoor Football Practice Facility. (A map indicating the proposed location for the facility is included as Attachment A.)

- Since the Football Practice Facility was relocated to the west of the Recreation Building, the site is available for expansion of the chilled water plant.

Building Program

The building would house three 4,000 ton capacity chillers and mechanical and electrical equipment necessary to support and maintain the chilled water plant operation.

The facility would also include equipment and storage space, mechanical and instrument shops, office and support areas, and restrooms.

The following table shows the square footage of the building functions.

Detailed Building Program

	<u>Building Program</u>
Cooling Towers and Mechanical/ Electrical Space	58,233
Equipment and Storage Areas	12,523
Control Room, Water Analysis Lab, Shop Space	3,204
Office and Support Areas	2,704
Restrooms/Locker Rooms	<u>830</u>
 Total Square Feet	 <u>77,494</u>

Schematic
Design

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

The chilled water plant addition would be constructed as an extension of the existing Hospital Parking Ramp #3.

The design, mass and site of the addition have been developed to minimize the impact on the surrounding area.

- Extensive effort has been made to minimize the overall height of the facility and towers by placing as many functions as possible below grade.
- The roof of the addition would align with the second level of Hospital Parking Ramp #3.
- The building would be set back from Hawkins Drive to the east to preserve the existing landscape buffer to the north and east of the site.
- The facility would feature a rounded northeast corner to soften the building lines and increase the distance from Hawkins Drive.
- The design of the cooling towers would be similar to those in the existing chilled water plant in the adjacent Hospital Parking Ramp #3.

The building would be constructed of multi-toned red brick with gray stone accents to blend with the finishes of the adjacent parking structure and other nearby buildings, including Kinnick Stadium.

Cooling Towers

The cooling towers would be constructed along the west side of the addition and would extend approximately 49 feet above the roof of the addition.

- Three cooling towers would be constructed initially; the fourth cooling tower, which would be needed when the plant's capacity is expanded, would be located in the southwest corner.

Roof

The roof of the addition would also serve as a parking deck for approximately 100 vehicles, similar to how the roof of the North Campus Chilled Water Plant on the east campus is used for basketball courts.

The roof has also been designed to support the future vertical development of an addition (up to three additional floors), which could provide office or research space.

- Accordingly, the roof would be constructed of a material that would be suitable for both parking and future vertical development. (The specific material has yet to be determined.)

The following are highlights of the interior design:

The building would consist of three levels—a main operating level, a mezzanine level, and a basement level.

- The main level would house the chillers and associated mechanical and electrical equipment.
 - The control room, water analysis laboratory, shop space, office areas, and restrooms/locker rooms would be located along the east wall of this level.
- The mezzanine level above would house HVAC and telecommunications equipment and storage areas.
- The basement level would house condenser water pumps and other operating equipment.

Anticipated
Cost/Funding

Approximately \$38 million, to be funded by Utility System Revenue Bonds and Parking System Funds.

Project Schedule

The University plans to begin construction in March 2004. The University anticipates that this would allow start-up and commissioning in July 2005, and full operation of the facility in November 2005.

Bowen Science Building—Remodeling for Biochemistry Cores 4-300, 4-600 and 4-700

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Nov. 2002	Approved
Architectural Selection (Rohrbach Carlson, Iowa City, IA)		Nov. 2002	Approved
Architectural Agreement (Rohrbach Carlson, Iowa City, IA)	\$ 248,500	Jan. 2003	Approved
Program Statement		June 2003	Requested

Background	<p>One component of the Health Sciences Campus Plan is the remodeling of space in the Bowen Science Building to provide upgraded research facilities for the Carver College of Medicine.</p> <p>To date, the University has undertaken renovation projects for the Department of Biochemistry in the Bowen Science Building totaling approximately \$3.5 million.</p> <ul style="list-style-type: none"> • The majority of the laboratory areas for the Biochemistry Department had not been renovated since construction of the building in 1972.
Project Scope	<p>The project would continue the upgrade of research laboratory space for the Department of Biochemistry and would remodel approximately 15,000 net square feet of space in the 4-600, 4-700, and a portion of the 4-300 cores on the fourth floor of the Bowen Science Building.</p>
Program Statement	<p>The project would create 11 new research laboratory spaces, with support rooms and offices, in each of the three cores.</p> <p>The goal of the project is to create on the fourth floor a state-of-the-art research environment for the Department of Biochemistry that facilitates interaction among researchers, both within the Department and with other departments, to enhance the research productivity and career development of the participants.</p> <p>The renovated space would provide laboratories, equipment rooms, flexible support rooms, tissue culture rooms, a shared cold room, computer support rooms, and ten offices.</p>
Anticipated Cost/Funding	<p>Approximately \$3.2 million. Of this amount, the sum of \$1.6 million would be funded by a grant from the National Institutes of Health; the University anticipates that the additional funds would be provided by Carver College of Medicine gifts and grants.</p>

Square Footage Table The following table provides the detailed square footages for the project.

<u>Detailed Building Program</u>			
<u>Core 4-300</u>			
Laboratory and Support Areas	2,810		
Office Areas	<u>290</u>	3,100	nsf
<u>Core 4-600</u>			
Laboratory and Support Areas	5,206		
Office Areas	<u>580</u>	5,786	nsf
<u>Core 4-700</u>			
Laboratory and Support Areas	5,720		
Shared Computer Room	145		
Shared Cold Room	171		
Office Areas	<u>580</u>	<u>6,616</u>	nsf
Total Net Assignable Space		<u>15,502</u>	nsf

Bowen Science Building—Replace Air Handling Units

<u>Project Summary</u>			
	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		Oct. 2001	Approved
<u>Phase 1</u>			
Project Description and Total Budget Engineering Services (SUI) Construction Contract Award (Unzeitig Construction Company)	\$ 1,240,000	June 2002	Approved
	908,100	July 2002	Ratified
<u>Phase 2</u>			
Project Description and Total Budget	580,000	June 2003	Requested

Background One component of the Health Sciences Campus plan is the remodeling of space in the Bowen Science Building to provide upgraded research facilities for the College of Medicine (such as the **Bowen Science Building—Remodeling for Biochemistry Cores 4-300, 4-600 and 4-700** project outlined previously).

Since February 1997, the Board has approved laboratory modernization projects in the building totaling approximately \$15 million.

The remodeling projects completed to date have revealed various deficiencies in the building's heating, ventilating, and air conditioning (HVAC) systems.

The increasing HVAC demands of modern laboratories are further straining the systems.

A University-commissioned study of the building systems concluded that the central HVAC equipment, which is original to the building's 1972 construction, is near the end of its useful life and should be replaced.

The University has begun a multi-phased project to upgrade the HVAC systems in the Bowen Science Building, consistent with the study recommendations.

The work has been planned in six phases, at a total estimated cost of approximately \$4 million, to allow the building to remain operational during construction.

- The Phase 1 project has replaced the heating function of the building's six air handling units and the cooling components that serve one of the central building cores (Core 500).

Project Scope The Phase 2 project would continue the upgrade of the building's HVAC system with the replacement of the air handling system that serves the Core 300 area of the building.

Funding Building Renewal Funds and/or Income from Treasurer's Temporary Investments.

Project Budget

Construction	\$ 447,703
Design, Inspection and Administration	
Design and Construction Services	76,600
Consultants	11,000
Contingency	<u>44,697</u>
TOTAL	<u>\$ 580,000</u>

Bowen Science Building—Replace Aluminum Wiring

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Architectural Agreement (Design Engineers, Cedar Rapids, IA)	\$ 86,000	June 2003	Requested

Background	The existing electrical distribution aluminum wiring in the Bowen Science Building must be replaced to meet current fire safety codes.		
Project Scope	The project would replace the aluminum feeder wires with new copper wiring.		
Design Services	The agreement with Design Engineers would provide full design services for a fee of \$86,000, including reimbursables.		
Anticipated Funding	Fire Safety Funds.		

Trowbridge Hall—Renovate Room B40

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Project Description and Total Budget	\$ 630,000	June 2003	Requested

Background	The University wishes to convert a former basement mechanical room to a clean room research laboratory for the Department of Geological Sciences.		
Project Scope	The project would include demolition and installation of new mechanical and electrical systems, partitions, doors, windows, casework, fume hoods and interior finishes, and relocation of an existing chilled water recirculation pump; the laboratory would total 505 square feet.		
Funding	Building Renewal Funds.		

Project Budget

Construction	\$ 478,168
Design, Inspection and Administration	
Consultants	83,800
Design and Construction Services	20,215
Contingency	<u>47,817</u>
TOTAL	<u>\$ 630,000</u>

Kinnick Stadium Renovation

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed		March 2003	Approved
Architectural Selection (Neumann Monson Architects, Iowa City, IA)		June 2003	Requested

Background

Kinnick Stadium was constructed in 1929, and much of the stadium has received few improvements since its construction.

- Work in the facility has been limited to the reconstruction of the north bleachers approximately 20 years ago, and ongoing maintenance of the building masonry.

A recent analysis of the south end zone structural system has estimated its remaining life expectancy at less than five years.

The stadium press box, constructed in the mid-1950s, suffers from awkward elevation changes and low ceiling heights; its heating, cooling, and plumbing systems are original to the structure and in need of replacement.

The stadium's plumbing systems are original to the facility's construction and require extensive maintenance.

The number of men's and women's toilet facilities and concession stands is inadequate for the stadium population.

Project Scope

The University proposes to develop a master plan for the renovation of the stadium, which would phase the work to minimize the impact on the stadium during football seasons.

The plan is likely to include:

- Replacement of the entire south bleacher area and expansion of the south plaza area;
- Replacement of the west side press and viewing box;
- Renovation of restrooms, concession areas, and mechanical, plumbing, and electrical systems on the east and west ground level concourses; and
- Site restoration and improvements surrounding the stadium.

The timeframe for completion of the proposed improvements would be reviewed in the master planning process.

**Anticipated
Cost/Funding**

The University has completed an initial feasibility study for the renovation of Kinnick Stadium which indicates an approximate project cost between \$70 million and \$80 million.

- The University reports that the cost to raze Kinnick Stadium and construct a new stadium would be approximately \$400 million to \$600 million.

The University proposes to fund the renovation project with gifts to the University, Athletic Department earnings, and Athletic Enterprise Revenue Bonds.

Design Services

Expressions of interest to provide design services for the project were received from ten design teams.

Four design teams, which consisted of an Iowa-based design firm and a nationally recognized stadium design firm, were selected for interviews with the University Architectural Selection Committee, in accordance with Board procedures for projects of \$1 million or more.

Based on the Committee's recommendation, the University requests approval of the selection of Neumann Monson Architects, Iowa City, Iowa, in association with HNTB, Kansas City, Missouri, to provide master planning and full design services for the project.

- The design team was selected based on the experience of Neumann Monson on major University projects and the firm's ability to partner with national firms, and the expertise and national recognition of HNTB in stadium design and renovation work.

The University would return to the Board for approval of the negotiated agreement.

- The University anticipates that the initial agreement would provide master planning through schematic design services.
-

Institute for Rural and Environmental Health—Renovation of Laboratory

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Architectural Agreement (Rohrbach Carlson, Iowa City, Iowa)	\$ 90,100	June 2003	Requested

Background The existing laboratory areas in the Institute for Rural and Environmental Health on the Oakdale Campus have not been used for intensive laboratory purposes for several years.

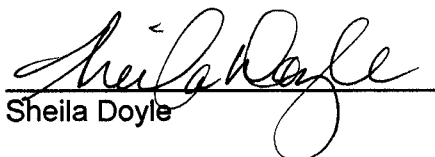
The University wishes to upgrade the laboratories for modern research use by faculty of the College of Public Health.


Project Scope The project would renovate laboratory areas on the second floor of the building.

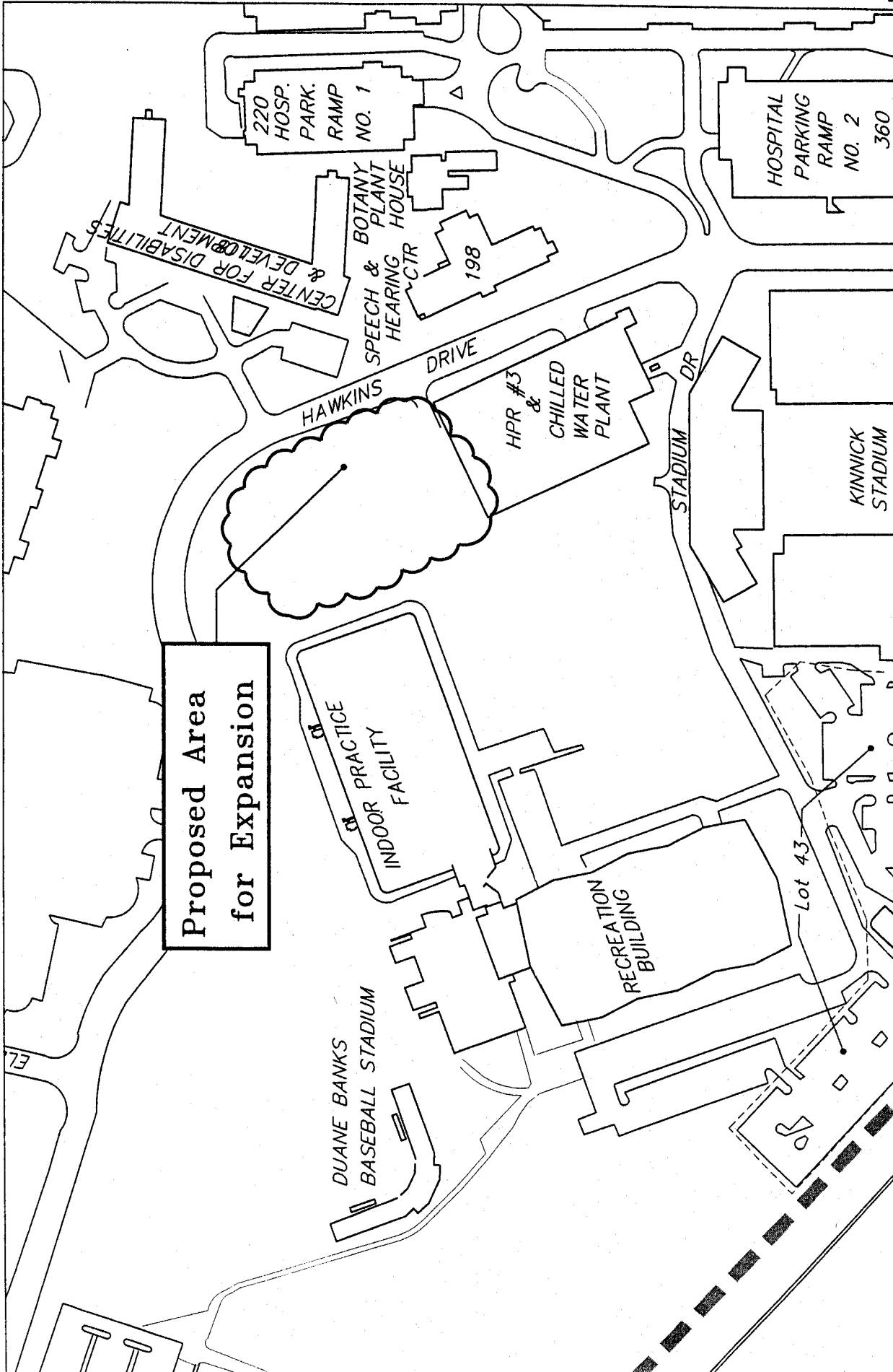
Design Services The agreement with Rohrbach Carlson would provide full design services for a fee of \$90,100, including reimbursables.

Anticipated Funding Building Renewal Funds.

Also presented for Board ratification is one project budget under \$250,000, four architect/engineer amendments approved by the University, seven construction contracts awarded by the Executive Director, the acceptance of three completed construction contracts, and 28 final reports. The register prepared by the University is included in the Regent Exhibit Book.


Sheila Doyle

Approved: 
Gregory S. Nichols



**Proposed Area
for Expansion**

THE UNIVERSITY OF IOWA - LOCATION MAP

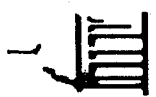
**West Campus Chilled Water Plant Development
& Parking Facility**



Scale: 1" = 200'

Legend

- University Property Line



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