

Contact: Joan Racki

REGISTER OF UNIVERSITY OF IOWA
CAPITAL IMPROVEMENT BUSINESS TRANSACTIONS

Actions Requested: Consider recommending approval of the:

1. Following actions for the **College of Nursing Building – Building Modifications** 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, including the design professional selection process.
2. Revised project description and budget for the **University of Iowa Children's Hospital** (\$360,200,000).

Executive Summary:

The University requests permission to proceed with project planning, including the design professional selection process, for the **College of Nursing Building – Building Modifications** project, which would revitalize the Nursing Building, constructed in 1971. The project would enable the College of Nursing to address the needs of the student body and to adapt to current pedagogical methods that emphasize active student learning. Additionally, approximately 10,000 gross square feet of building courtyard space would be enclosed. The estimated project cost of \$22,500,000 would be funded by College of Nursing gifts and earnings, treasurer's temporary investment income and building renewal funds. The location of the College of Nursing Building is shown on Attachment B.

The University requests approval of the revised project description and budget (\$360,200,000) for the **University of Iowa Children's Hospital**. In June 2012, the Board approved a revised schematic design, and project description and budget for the project, which incorporated a number of changes from the originally approved design, including changes to the siting and layout of the building and adjacent parking facility. As development of the Children's Hospital has progressed since that time, additional necessary enhancements have been made to the project to strengthen the child and family experience. These reflect the latest and most innovative thinking in design of children's hospitals and address factors related to safety, building infrastructure and clinical programs. In addition, labor market conditions have changed dramatically as construction of the Children's Hospital has proceeded. For these reasons, a detailed and thorough review of the project schedule and budget was undertaken.

This review has resulted in additional changes to the proposed budget, which are summarized below:

	<u>(\$ millions)</u>
Safety Enhancements, including greater focus on façade and resiliency of of key mechanical systems, specialized infrastructure to care for patients who have contracted emerging pathogens, addition of safe rooms	\$13.95
Clinical Program Enhancements, including improvements in Magnetic Resonance Imaging Suite, addition of Human Brain Research Laboratory, addition of radiation protective environment in the Pediatric Cancer Center	16.65
Design Enhancements to improve the patient experience and promote a healing environment, including connecting building graphics and design elements, and increased opportunities for programming on the level 12 rooftop	16.35
Other Building Considerations including precise building systems integration, delays in schedule and premium payments for skilled labor	21.25

Detailed information on these proposed changes is included beginning on page 5.

Details of the Projects:

College of Nursing Building – Building Modifications

Project Summary

	<u>Amount</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed with Project Planning		Sept. 2015	Requested
Initial Review and Consideration of Capital		Sept. 2015	Receive
Project Evaluation Criteria			Report

The College of Nursing has been housed in its existing building since 1971. The College has outgrown its academic space, specifically its simulation labs and skills areas. The building has not undergone a major renovation in many years and does not appropriately support the program’s current and future needs. The building currently has more than \$1 million in deferred maintenance. Based upon the studies done to date, the University believes that most cost-effective option to address the program deficiencies is to enclose the courtyard on the lowest level (upper floors are office and research space) and completely renovate both of the lower two floors. With the modest addition, approximately 60,000 assignable square feet will receive major upgrades and the redesign of architectural, technology, electrical and mechanical systems needed to revitalize the 45-year old facility.

As noted in the responses to the evaluation criteria (see page 8), the College of Nursing has developed goals to respond to three major forces/challenges (significant nursing shortage, passage of the Affordable Care Act and the future of nursing) affecting the nursing profession.

Over one million of the nation’s three million nurses are projected to retire in the next 10 years. Emerging health care delivery models, with a focus on managing health status and preventing acute health issues, will likely contribute to new demand for nurses to take on expanded roles in primary care, preventive care and care coordination. The College of Nursing is expanding its enrollment in its graduate nurse practitioner programs to address these forces.

Concurrent with these shifts in workforce demands, advances in pedagogy that emphasize active student learning and competency-based curricula require learning environments that actively engage students in higher-order thinking tasks. High fidelity simulation, virtual learning and case-based collaborative team learning are replacing traditional classroom settings as teaching methods to promote students’ development of synthesis and integration skills. Although a simulation environment is available in the shared Nursing Clinical Education Space at UIHC, the space is inadequate to meet growing enrollment needs. To ensure that College of Nursing students have access to these learning environments, major renovation of the existing space is essential.

University of Iowa Children’s Hospital

Project Summary

	<u>Amount (to date)</u>	<u>Date</u>	<u>Board Action</u>
Permission to Proceed – UIHC Strategic Facilities Master Plan		Mar. 2008	Approved
Initial Review and Consideration of Capital Project Evaluation Criteria		Mar. 2008	Received Report
Selection of Design Professional (Heery International, Iowa City)		May 2008	Not Required*
Selection of Construction Manager (Gilbane Building Company, Chicago)		Aug. 2008	Not Required*
Design Professional Agreement (Master Planning, Programming and Schematic Design)	\$ 5,097,990	Oct. 2008	Not Required*
Construction Manager Agreement (total)	12,204,097	various	Not Required*
Program Statement – Children’s Hospital (CH)		Dec. 2010	Not Required*
Schematic Design – Children’s Hospital		Feb. 2011	Approved
Project Description and Budget - CH	270,750,417	Feb. 2011	Approved
Final Review and Consideration of Capital Project Evaluation Criteria		Feb. 2011	Received Report
Design Professional Agreement (Design Development through Record Documents)	24,191,294	Dec. 2011	Not Required*
Revised Program Statement		May 2012	Not Required*
Revised Schematic Design		June 2012	Approved
Revised Project Description and Budget	291,987,000	June 2012	Approved
Construction Contracts (CC) – Substructure, Superstructure, Canopy & Connector (Knutson, Iowa City)	33,077,357		Not Required*
CC - Exterior Construction (Cupples, St. Louis)	25,291,700		Not Required*

Project Summary Continued

	<u>Amount (to date)</u>	<u>Date</u>	<u>Board Action Approved</u>
CC – Elevator Construction (Schumacher, Denver, IA)	5,412,120		Not Required*
CC – Temporary Hoisting Equip & Landscaping (Calacci Const., Iowa City)	6,752,230		Not Required*
CC – Colloton Connector Tunnel (Gerard Electric, Iowa City)	861,609		Not Required*
CC – Framing, Drywall, Ceilings, Doors, Hardware, Casework, LL1, LL2, 12 Gen. Package, Radiology / Infusion (Merit Construction, Cedar Rapids)	35,889,300		Not Required*
CC – Mechanical (Modern Piping, Cedar Rapids)	30,173,700		Not Required*
CC – Electric – Main Building (Gurtz Electric, Arlington Hts, IL)	23,062,958		Not Required*
CC – Fire Protection (Tri State Automatic Sprinklers, Davenport)	1,218,237		Not Required*
CC – Interior Finishes (Woodruff Const., Fort Dodge)	9,528,513		Not Required*
CC – Building and Access Controls Siemens Industries, Ankeny)	2,471,151		Not Required*
CC – Signage (ASI Signage, Grinnell)	239,928		Not Required*
CC – Casework Package B (Tricon Constr, Dubuque)	1,155,000		Not Required*
Revised Project Description and Budget	360,200,000	Sept. 2015	Requested

*Approved by Executive Director, consistent with Board policies

In June 2012, the Board approved a revised schematic design and project description and budget for the Children's Hospital which incorporated a number of changes. The design was modified from a largely rectangular, eleven story, precast and steel building adjacent to Pappajohn Pavilion and the former Hospital Parking Ramp 2, to a state-of-the-art 14 story concrete structure that takes advantage of natural sunlight and spectacular views of the surrounding area.

The following summary outlines subsequent design improvements and environmental factors necessitating an amendment to the Children's Hospital project budget.

Safety Enhancements: Due to recent severe weather events, UIHC decided to put a much greater focus on the Children's Hospital façade and the resiliency of key mechanical systems during inclement weather. The design of the exterior cladding system has been augmented with a composite glazing system. Design parameters were increased nearly five times from baseline code and extensive testing was conducted to ensure maximum protection against identified risks. For example, a robust window system was designed and comprehensively tested to assure its integrity would not be compromised during severe weather events, such as a tornado or straight line winds. Each patient room now also incorporates two protective automatic shades that have the proven capability of containing shards of glass associated with debris projected at the equivalent of EF3 wind speed.

Recognizing that operation of the core building infrastructure is imperative following severe weather events, steps were taken to protect the Children's Hospital utility infrastructure by enclosing essential systems in a hardened mechanical room. This roof-mounted infrastructure and equipment have been designed and located in precise areas to protect essential equipment from flooding, high winds, and flying debris. The intake louvers for the air handling systems were designed to withstand severe weather as well. For additional protection, the building design was modified so the mechanical systems are positioned in three distinct zones; each zone can then function independently if one becomes impaired.

To further augment safety and mitigate the risk of critical equipment failure during patient transport, a large oversized emergency transportation elevator that features emergency medical gas outlets, emergency power, and other services required to provide patient care was added. This transportation system will enable physicians, nurses and other health care providers to continue administering uninterrupted care, should it become necessary.

Specialized infrastructure to care for patients who have contracted an emerging pathogen, such as the Ebola virus, or another deadly infectious disease agent has also been incorporated into the design to ensure optimal patient, visitor, and staff safety. Design of the inpatient units was further refined to increase the number of airborne infection isolation and protective environment rooms required to safely address the needs of immuno-suppressed and/or contagious patients. In total, there will be seven isolation rooms and four isolation/protective environment rooms with an adjoining negative pressure anteroom. Developing these rooms required modifications to the heating, ventilating and air conditioning system.

To address the increasing number of pediatric patients with a primary medical diagnosis and a secondary psychiatric diagnosis, four “safe rooms” have been created in a medical-surgical inpatient unit to better ensure the ability to provide the necessary medical treatment while minimizing the potential for the patient to injure himself / herself or others.

A total of 44 rooms have been redesigned to accommodate dialysis patients, thereby minimizing the need to relocate patients requiring this treatment. Six rooms will also include ceiling mounted patient lifts to reduce the risk of falls and injury to staff while supporting patients. A lower level discharge lobby has also been created to enable patients to exit the facility on level one of the underground parking ramp. The cost of the safety enhancements is estimated at \$13.95 million.

Clinical Program Enhancements: Further study of workflow and innovative care models revealed other opportunities to adopt or elevate emerging best practices. These include integrating three additional induction rooms in the Magnetic Resonance Imaging (MRI) Suite to more efficiently administer sedation prior to a patient undergoing a procedure. Simulation rooms have also been added in each of the five inpatient units to enable medical directors, nursing leaders and clinical faculty to observe staff in their work environment when responding to mock emergencies. This best practice accommodation will facilitate review of team interactions and decision-making.

A Human Brain Research Laboratory (HBRL) has been incorporated into the plans for the Children’s Hospital. The HBRL will be used to conduct advanced studies of the brain, including the advanced study and treatment of children with epilepsy and other neurological diseases; it will be the first of its type in a children’s hospital. Design of this laboratory required the inclusion of sophisticated technical accommodations such as radio frequency interference shielding and proximal EEG monitoring. Groundbreaking research and clinical trials are expected to result in additional pediatric neurosurgical patients from across the Midwest seeking care at UI Children’s Hospital.

To ensure that the facility can support emerging treatment modalities, the 11th floor Pediatric Cancer Center will now include a highly specialized radiation protective room, with lead shielding; it would be used to treat patients receiving targeted radioactive therapy for neuroblastoma and other cancers. With only six identified lead lined rooms in children’s hospitals across the United States, UI Children’s Hospital will be uniquely positioned to offer cutting edge therapy for neuroblastoma patients. Combined, the clinical program enhancements made to the building are adding approximately \$16.65 million to the cost of the project.

Healing Environment: Several design enhancements were incorporated to the project to enhance the patient experience and promote a healing and nurturing environment. Building graphics and design elements such as flooring, wall coverings and lighting are being connected with wayfinding to make the facility more navigable and welcoming. Additionally, interactive design elements have been added to create a heightened sense of discovery for patients and visitors throughout the building. The net effect of these changes is that public spaces and patient floors will be lively and engaging – bringing some of the feel of “home” to the hospital.

Programming for the Level 12 rooftop has been augmented by including an event space for pediatric patients, a meditation room, an indoor and outdoor garden, an event preparation space, a Child Life café for special programs and additional mechanical space. The design for Level 12 also includes the necessary costs associated with the structure, cladding and vertical transportation requirements. The improvements to the healing environment have an estimated value of approximately \$16.35 million.

Other Building Considerations: Construction associated with a project of this magnitude and complexity requires precise systems integration. Restrictive floor to ceiling heights, contiguous with existing UIHC facilities, created tight above-ceiling clearances, which increased the complexity of the design and coordination of the building systems. This, in turn, materially impacted the project cost and schedule.

The construction of the Children’s Hospital is occurring in an environment characterized by an unprecedented demand for skilled labor, especially in eastern Iowa. With a record number of large and complex construction projects, contractors are competing for the same limited skilled labor resources. In response, many regional jobs are offering attractive incentives such as per diem payments beyond established wage rates, bonuses, and in many cases, hourly wages significantly above prevailing levels.

While substantive efforts have been made by the project’s construction management team and trade contractors to develop and implement schedule recovery programs based on the labor pool and resources available, market conditions continue to result in project delays and cost increases. For these reasons, the project is expected to achieve substantial construction completion in August 2016, opening to provide patient care in December 2016. These building system considerations, delays in the schedule and premium payments for skilled labor are adding approximately \$21.25 million to the cost of the project.

Project Budget

	Revised Budget <u>(June 2012)</u>	Revised Budget <u>(Sept. 2015)</u>
Construction	\$219,389,000	\$274,316,000
Professional Fees	26,123,000	37,700,000
Project Contingencies	18,900,000	20,000,000
Planning & Supervision	8,175,000	8,784,000
Equipment	19,400,000	19,400,000
TOTAL	<u>\$291,987,000</u>	<u>\$360,200,000</u>

Source of Funds: Hospital Revenue Bond Proceeds, University Hospitals Building Usage Fund, Designated Children’s Hospital Gift Funds

**College of Nursing Building – Building Modifications
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: This project will revitalize space within the Nursing Building to enable to the College of Nursing to address the needs of the student body and to adapt to current pedagogical methods that emphasize active student learning. Additionally, approximately 10,000 gross square feet of court yard space in the Nursing Building will be enclosed to help meet the challenges faced by the College. The UI College of Nursing has been housed in its existing building since 1971. The College has outgrown its academic space, specifically its simulation labs and skills areas. The building has not undergone major renovation in many years and does not appropriately support the program's current and future needs. The renovation will address numerous issues including quality, program adjacency and 21st century equipment requirements.

The UI College of Nursing is highly regarded as a provider of nursing education in the region. The proposed renovation/addition will enhance the College's ability to meet its strategic goals, expand the College's reach in the region and help sustain the very best in nursing education, research and service for the people of Iowa and beyond.

The College of Nursing (CON) has developed goals in the following areas to respond to three major forces/challenges (significant nursing shortage; passage of the Affordable Care Act; and the future of nursing) affecting the nursing profession:

Increased Enrollment

- To meet the primary care needs of Iowans, the graduate program must also grow. Currently there are 262 students in primary care programs at the CON, graduating approximately 50 – 60 students per year. The CON needs to increase enrollment in the primary care programs by at least 30% by year 2020.
- There is a growing demand for nursing faculty. To meet that demand, the enrollment in the CON's PhD program could increase to approximately 10 new students each year.
- In all programs, younger students with longer career trajectories are needed. Younger students demand more extensive use of technology and state of the art facilities.

Changes in Pedagogy

- Move from lectures – new and innovative methods of teaching, including expansion of simulation, are needed. Infrastructure to support these changes needs to meet the growing technological demands of education.
- Flexibility and adaptability – the rapid change in education, pedagogy and student needs necessitates an infrastructure that can change rapidly.

Technology

- The explosion of technology in education will continue. It enhances student learning, maximizes faculty time, and students are expecting it.
- While some technology allows students to learn outside of the CON building, other technology will require additional, flexible space (simulation).

New Programs

- The CON already has approval to offer two new sub-programs in the Doctor of Nursing Practice program: (1) the acute care nurse practitioner: pediatrics and (2) the acute care nurse practitioner: adult/gerontology. These non-primary care programs will require different laboratory and clinical experiences than the primary care sub-programs. Infrastructure to support these and other new programs on the horizon will be needed.

Student Centered

- More and more, students and their families are assessing a university and nursing program based on student support provided. To compete with other nursing programs, the CON needs a student-friendly and student-centered building.

The proposed renovation will expand the College of Nursing's reach in the region and enhance the College's ability to meet its strategic goals by providing the appropriate space to support new and innovative methods of teaching, accessible technology and clinical simulation in a student-centered environment.

Other Alternatives Explored: Except for the simulation center located at UIHC, the College is located in one facility. The simulation center is shared with UIHC and the demand on the facility has exceeded its capacity. Expanding that facility is not possible due to its constrained location. Since additional space is required, the best option is to locate this space adjacent to other College academic and administrative space, providing a more cohesive environment for students. This reduces the travel and increases collaborative opportunities for all students, faculty, staff and visitors to the Nursing Clinic Education Center. The solution addresses numerous space issues. It improves the quality of the outdated facility, provides space in an adjacent setting to reduce travel and safety concerns for students, and improves the utilization of space by creating a collaborative, multi-use environment.

Impact on Other Facilities and Square Footage: This project will not result in the abandonment, transfer or demolition of existing facilities.



Financial Resources for Construction Project: The project will be funded by College of Nursing gifts and earnings, Treasurer's Temporary Investment Income and Building Renewal funds.

Financial Resources for Operations and Maintenance: Operating and maintenance funding will not be impacted in any major way. The additional 10,600 gross square feet will be maintained with current operating funds.

External Forces Justifying Approval: Over one million of the nation's three million nurses are projected to retire in the next 10 years. Moreover, emerging health care delivery models, with a focus on managing health status and preventing acute health issues, will likely contribute to new demand for nurses to take on expanded roles in primary care, preventive care and care coordination. These external forces are compelling reasons why the College of Nursing is expanding its enrollment in both the baccalaureate and graduate nurse practitioner programs.

In all programs, students require more extensive use of technology and state of the art facilities. This renovation project will ensure that the latest changes in pedagogy and technology will be available to them.



 <p>THE UNIVERSITY OF IOWA</p> <p>Wednesday, August 05, 2015 Document Name: 20150805_College of Nursing Exhibit</p>	 <p>1" = 200'</p>	<p>Location Map: College of Nursing Building</p>
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