STANDING COMMITTEES

Finance and Asset Management Committee

Computer Science & Engineering 2: Approve Project Site, Preferred Development Alternative and Mitigation

RECOMMENDED ACTION

It is the recommendation of the Administration and the Finance and Asset Management Committee that the Board of Regents approve:

1) Project Site (Development Site 16C);

2) Preferred Development Alternative; and

3) Mitigation in the form of a virtual reality tour of More Hall Annex to be made available to anyone with an internet connection, and documentation of the Annex per Washington State DAHP Mitigation Standards Level I.

BACKGROUND

See Attachment 2.

ANTICIPATED FUTURE ACTIONS

Approve Project Budget
Approve Project Financing Plan
Approve Donor Naming Plan

Attachments
1. Computer Science & Engineering Expansion (CSE II) Project Summary
2. Project Background
3. Site Selection
4. Preferred Development Alternative
5. Explanation from the Department
6. Recommendation
7. Computer Science Engineering Expansion Presentation
Computer Science & Engineering Expansion (CSE II)

Regent Actions

Stage 1 Actions: January 2015
- Approve project architect selection
- Delegate authority to award design contract to LMN Architects
- Approve alternative public works contracting (GC/CM)
- Delegate authority to select the GC/CM and award preconstruction contract

Stage 2 Requested Actions: February 2016
- Approve final site (Development Site 16c)
- Approve preferred development alternative and mitigation effort
- Approve budget, financing plan, and donor naming plan

Objective

To provide collaborative research and teaching space to meet increasing demand for student growth in the College of Engineering, Computer Science and Engineering program for the next ten years and enable the program to remain competitive.

Description

Design and construct a 135,000 gross square foot building to provide space for an additional 30 full-time faculty, associated postdocs, graduate students and researchers. The facility will have an undergraduate focus and will foster interdisciplinary research and collaboration. The program includes 16 labs, a lecture hall, two classrooms, 3 seminar rooms, an event space, communal and study spaces, associated office and support spaces and is planned for LEED Silver.

Financials

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<th>Proposed Budget</th>
<th>Proposed Funding</th>
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<tr>
<td>Consultant Service</td>
<td>$7,494,043 7%</td>
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<tr>
<td>Construction Cost</td>
<td>$72,913,285 70%</td>
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<tr>
<td>FF&amp;E &amp; Other Costs</td>
<td>$11,165,370 11%</td>
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<tr>
<td>Contingency</td>
<td>$3,662,410 4%</td>
</tr>
<tr>
<td>Escalation</td>
<td>$9,364,892 9%</td>
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<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$104,600,000 100%</strong></td>
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Benchmarks

Costs escalated to 2017 (project costs)
Cornell University, William and Melinda Gates Hall ($887/GSF)
University of Texas Austin, Bill & Melinda Gates Computer Science Complex ($1,048/GSF)
Carnegie Mellon, Gates Center for Computer Science ($608/GSF)
University of Washington, Paul G. Allen Center for Computer Science and Engineering ($713/GSF)

Metrics & Indicators

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<th>Current</th>
<th>Targets</th>
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<tr>
<td>Net Assignable SF</td>
<td>77,366</td>
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<td>Gross SF</td>
<td>135,401</td>
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<td>Efficiency (NASF/GSF)</td>
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<td>58%</td>
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<tr>
<td>Construction Cost/GSF</td>
<td>$538</td>
<td>$545</td>
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<td>Project Cost / GSF</td>
<td>$773</td>
<td>$782</td>
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Schedule

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Project Background

The primary mission of the University of Washington is the preservation, advancement and dissemination of knowledge and as one of the University's fastest growing programs, the CSE Program contributes significantly to the University's ability to fulfill its primary mission. The CSE Program includes two undergraduate programs (Computer Science in the College of Arts and Sciences, and Computer Engineering in the College of Engineering) and a graduate program. The CSE Program currently has approximately 600 undergraduate students, 375 graduate students, as well as 50 faculty members and 50 staff members.

Currently, the CSE Program is primarily housed in the six-story Paul G. Allen Center for Computer Science and Engineering which was constructed in 2003 and contains approximately 160,000 gross square feet of building area. The CSE Program has grown significantly at every level (undergraduate students, graduate students, faculty, staff, etc.) to meet the high demand in the region for CSE graduates and research. Due to the success of the CSE program's educational and research initiatives, the amount of space in the Paul G. Allen Center is substantially short of the current program needs and the deficiency becomes even greater when taking into account the consistent rate of program growth. The proposed CSE II Project would provide additional academic and research space to meet the current and future needs of the CSE Program while maintaining connections and allowing continued collaboration with the existing CSE Program within the Paul G. Allen Center. The preferred location of the CSE II Project, across Stevens Way NE from the Paul G. Allen Center, would allow for the creation of a unified CSE complex encouraging collaboration between students, faculty and staff within the two buildings.

The Supplemental Environmental Impact Statement (SEIS) analyzed five alternative designs/locations on two sites, plus the no action alternative. The preferred alternative on Site 16C is the only alternative that meets the programmatic needs of the CSE Department. However, the preferred alternative produces the most significant adverse impact on historic resources because it requires removal of More Hall Annex, which is listed on the State and National Registers of Historic Places, and is nominated for designation as a City of Seattle Landmark. The Administration received and reviewed many comments to the Draft SEIS that expressed the position that the Annex, because of its historic value, should be retained on site and the CSE II building constructed on Site 14C, next to the UW Club.
Site Selection

The project team examined two sites (Sites 16C and 14C). The preferred project site (Site 16C) is located adjacent to the Paul Allen Center for Computer Science and Engineering, bounded by Mason Road and Stevens Way to the east and west and by Mechanical Engineering and More Hall to the north and south. The Power Plant is located off the northeast corner of the site. There are two existing buildings on the site; the More Hall Annex and Plant Operations Annex #7 (a temporary Facilities Services building). This site is preferred primarily because of the adjacency to the existing Paul Allen Center.
Site Selection (continued)

Potential development of the CSE II project was also analyzed on Development Site 14C, which is generally bounded by the University of Washington Club Building and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west. Due to the site location, development of the CSE II project on this site would be disconnected from the existing program within the Paul G. Allen Center and would not result in a unified CSE Program Complex. The two alternatives studied for this site either impact views from the University of Washington Club, or require a small and inefficient floorplate in a seven-story building.
Preferred Development Alternative

The preferred development alternative for Site 16C creates a strong connection to the existing Paul Allen Center and enhances the historic Snohomish Lane and the connection to the Athletic Complex. By taking advantage of the topography, the building can create multiple connections between the interior and the exterior, enhancing the campus experience and respecting the adjacent Engineering buildings. However it requires the demolition of two small buildings: More Hall Annex and Plant Operations Annex #7 (a temporary Facilities Services building).
Preferred Development Alternative (continued)

A number of development alternatives were studied to preserve More Hall Annex, including wrapping around it and incorporating it into the new CSE II building (see four images below). All of these significantly compromised the historic context of the Annex and would require re-routing of historic Snohomish Lane. Furthermore, More Hall Annex could not be incorporated into the new CSE II building without seismic upgrades that would adversely impact the historic character of the Annex.

Incorporation or preservation of the Annex would also compromise essential functions of the new building in the manner described in the Explanation from the Department (see Attachment 5). Many issues would arise from the occupancy of a former nuclear reactor building, a structure never intended to be occupied for the extended hours that CSE students, faculty, and staff work.

Additional alternatives briefly studied but not carried forward include incorporation of some or all of the More Hall Annex into the CSE II building interior or façade. These alternatives did not preserve the historic form, integrity, or distinctive features of the More Hall Annex, eliminated the spatial experience of the Annex, and added substantial cost and construction complexity.
Computer Science & Engineering Expansion (CSE II)

Explanation from the Department

We write to describe why it is essential to the future of the CSE program, and we believe to UW as a whole, that the new CSE II building be located using the preferred alternative site studied in the Environmental Impact Statement.

The CSE II project is aptly named because the new building is, in effect, phase 2 of the Allen Center. The original Allen Center was limited in the kinds of spaces it could provide due to site, height limit, and budget constraints. CSE II is intended to provide many spaces that the Allen Center lacks: for example, the Allen center has no classrooms or lecture halls, insufficient research space, meeting spaces too small and too few for the current program, and inadequate and low quality space for our rapidly expanding undergraduate program. CSE II includes a 240-person lecture hall, two 100-person classrooms, rooms for graduate group meetings and seminars, significant high-quality undergraduate space (e.g., an undergraduate commons, special project rooms, TA breakout rooms for teaching, and an advising suite all on the same floor), a maker space, and significant new research and office space. Allen Center occupants must be able to access these new CSE II spaces easily and quickly, while occupants of the new CSE II building must be able to use the spaces in the Allen Center in the same way.

Expansion of CSE is essential:

There is extraordinary student demand for computer science education, not only for the major, but also more broadly across campus since fluency with “computational thinking” is an essential component of any 21st century liberal education. For example, we now teach introductory programing to 5,000 students per year and the number continues to increase. Growth of CSE is critical to the growth of Washington’s innovation economy and central to the overall excellence of UW. The legislature has funded CSE expansion, has invested in CSE II, and has expressed willingness to invest further.

Locating the new CSE II building close to the Allen Center is essential to preserving and enhancing the collaborative culture that is our competitive advantage in becoming one of the foremost programs in the field:

In recent years we have improved the CSE program from a Top 10 program to a Top 5 program (or better) nationally. The principal reason for this improvement and our rising reputation is our collaborative culture and the physical environment within the Allen Center that supports this culture. As we grow, we must promote and nourish rather than compromise and diminish this collaborative culture. Separating the buildings would make every space in both buildings less useful and functional, and would diminish the collaboration that we constantly strive to encourage.
and nourish, which is our competitive advantage in a challenging national and global competition for talent and innovation.

The field of computer science is dynamic and is changing perhaps more rapidly than any field of study in history. The work we do is increasingly complex as we build systems that require groups of people with differing expertise to work together. Today, and for the foreseeable future, the most important work will take place at the intersection of the sub-fields of computer science: computer architecture, operating systems, programming languages, artificial intelligence, computer vision, etc.

In every way we can in CSE, we break down traditional barriers among sub-fields and encourage both formal collaborations and spontaneous, informal interactions that promote innovation. For example, we explicitly assign faculty offices in a way that mixes people from different technical areas. While this means that people in the same sub-field are separated from each other in the building, it causes them to interact informally throughout the day with other researchers and groups. These constant, serendipitous interactions are essential to the identity and success of our program. We intend to continue this practice across the two buildings to avoid creating silos within the program, which requires adjacency of the buildings.

The physical environment of the Allen Center, with its design and large floor plates, supports our collaborative culture, and our new building must support rather than compromise this culture. Our faculty recognize the importance of this connectivity: the number one request from our faculty for CSE II is a bridge between it and the Allen Center.

**Incorporating the More Hall Annex into the new building would damage the building’s design, compromising both our program and our ability to fundraise for the new building:**

The design and function of the CSE II building must reflect the CSE program’s top-tier national status and help the program compete for the best faculty and students, as well as philanthropic dollars. To achieve the goals of the program, the new building must not only integrate seamlessly with the Allen Center, it must be an attractive building that faculty and students will want to be in, and that donors will want to fund. The quality of the building has two important impacts. First, we are responsible for recruiting the best possible faculty and students over challenging competition, such as MIT, Stanford, and Berkeley. Second, we are also responsible for raising tens of millions of dollars in private money for CSE II to supplement the funds appropriated by the Legislature and allocated by the University.
Explanation from the Department (continued)

Two alternatives studied in the EIS would require the new CSE II building to wrap around and preserve the More Hall Annex for use by the CSE program. Unfortunately, such construction would not only compromise the historic integrity of the Annex, it would make CSE II less useful and attractive, and would require us to make use of the cold, unattractive, and environmentally questionable space within the Annex. Our building must be attractive for people to work in for long hours; even a space such as a robotics lab must attract and comfortably house the best faculty and students, who will work closely with those robots for long periods of time every day.

We must raise private funds to defray much of the cost of the new building, but how can we effectively raise funds for a compromised building that will in turn compromise our program? What would we tell potential donors, particularly the potential naming-rights donors whom we will ask to donate tens of millions of dollars? Will they want their name on a building that will satisfy no one's goals, neither within the CSE program itself nor within the historic preservation community that values the Annex as it is? Even if re-purposing were feasible from a design point of view (which it is not), and even if we could raise the private funds to execute a badly compromised design (which we believe we cannot), would students, faculty, and staff be comfortable working in a facility that once housed a nuclear reactor and experienced a radiation-related accident? Would the UW be comfortable asking them to do so?

We believe the best solution is to build on the preferred alternative site, which is the only alternative that meets the needs of the CSE program, and to acknowledge and preserve the historic values of the Annex by other means. As just one example, our faculty are experts in the latest technology that is sweeping the world both for home and industrial use: virtual reality. We can produce a 3D application that will allow anyone anywhere, even in their own living room, to do a complete exploration of the exterior and interior of the Moore Hall Annex as if they were walking around and through the building, providing perhaps the first full 3D virtual reality tour of a historical building.

**In summary:**

Failure to approve the preferred alternative site at this time will seriously harm CSE, putting a halt to the department's remarkable trajectory. It will also harm all of UW's students by reducing our capacity to educate them in the latest technology that is required for everyone in the modern world. We therefore respectfully request that you choose the preferred alternative site and allow the CSE II project to move forward to enhance UW's mission of education, discovery and outreach.

Hank Levy, Chairman and Wissner-Slivka Chair in Computer Science & Engineering

Ed Lazowska, Bill & Melinda Gates Chair in Computer Science & Engineering
Computer Science & Engineering Expansion (CSE II)

Recommendation

The UW Administration has considered all relevant factors and values, both environmental and non-environmental. It reviewed the alternatives and their adverse environmental impacts described in the SEIS, and weighed these adverse environmental impacts against the adverse non-environmental impacts to the CSE program that would result from approval of an alternative other than the Preferred Alternative. Based on the investigations that have been conducted, the Administration concludes that the educational needs of the University and the CSE Department outweigh the value of preserving the Annex, a building for which the University has no reasonable use.

The Administration similarly concludes that the adverse impact to historic resources that will result from demolition of the Annex is substantially outweighed by the programmatic needs of the CSE Department, which are important not only the Department but to the University as a whole and to the region and the State, and which can be met only by the Preferred Alternative.

In light of the considerations above, and mindful of the environmental cost of demolishing the Annex, the Administration recommends that Board of Regents approve the Preferred Alternative as generally described in the SEIS.

As mitigation for the environmental cost, the Administration further recommends that the Board of Regents approve and make part of the project a virtual reality 3D tour of the exterior and interior of the Annex, to include available archival video and photos; to be prepared by the CSE Department and freely available on the internet. Such preservation by means of virtual reality will preserve much of what is historically and culturally important about the structure, its history and purpose, and will allow the public greater access to and through the building in virtual space than the public has enjoyed or could enjoy in the physical world.

Finally, the Administration further recommends that the Annex be documented per Washington State DAHP Mitigation Standards Level I.
Computer Science Engineering Expansion

Board of Regents

February 11, 2016

Presented by
Mike McCormick, AIA
Associate Vice President
Capital Planning & Development

W
CPD SERVICE REQUEST

- Response to TAP initiative for single entry point
- Clear entry point for customers
- Coordinated and timely response
- Strategic solutions
- Optimizes University resources
- Space Strategy Team ensures project alignment

Alternative 1 and 2 Site

Alternative 3 Site

Campus Map
Sites Considered
Campus Landscape Framework
Preferred Site - Existing Conditions
Massing Studies Retaining More Hall Annex
Alternative 3.1, Level 2