

## Capital Project Stage Gate: Cordley Hall

The Cordley Hall renovation project is included in the Ten-Year Capital Forecast and the university has completed the schematic design phase. The following information is provided for consideration by the Finance & Administration Committee to advance this project to the next phase of development, pursuant to the Board’s recently adopted [Approval of Capital Projects policy](#).

### PROJECT DESCRIPTION, SCOPE AND PROGRAM

Cordley Hall is a 235,914 square foot research and education building constructed in two phases in the late 1950s and early 1960s. The building currently houses the departments of Integrative Biology (IB) and Botany and Plant Pathology (BPP). These two programs serve more than 1,100 students and in FY2018 obtained over \$10.5M in new grant funding. The natural history collections of the OSU Herbarium and the Oregon State Arthropod Collection (OSAC) contain over 3.5 million specimens, are the premiere Pacific Northwest collections, and serve as a rich resource for all aspects of OSU’s mission.

Cordley Hall has served long past its expected life and now faces failure or obsolescence of nearly every system. Capital improvements will include fire sprinklers and alarms, seismic safety, accessibility, modern mechanical and electrical systems, standby power, lighting, windows and entries, and interior finishes. The building’s functional arrangement will be updated to new research space guidelines that include modular designs of laboratories, which are adaptable for future research. Collaborative and shared laboratory and support spaces and shared services (e.g. freezer farms and growth chamber rooms) are a priority. This design will result in a more resilient building that is responsive to current and projected research needs.

The project includes building a district chiller within an existing chiller loop in order to obtain adequate cooling capacity for Cordley Hall. This new district chiller would remove the need to replace aging chillers in two other research-intensive buildings, currently scheduled for 2017-19 state bond funded capital improvement and renewal funds. A new district chiller would provide increased system reliability and reduced maintenance costs. It also offers the potential for future expansion, which would allow for the replacement of an additional building’s chiller and provide cooling capacity for two more existing research buildings (both are forecasted for renovation and have no central cooling).

### ESTIMATED TOTAL PROJECT BUDGET, FUNDING AND TIMELINE

The renovation will be accomplished through three funding phases. An outline of funding strategies and design and construction phases follows.

Phase & Biennium	Sources of funds				
	State-paid bonds	State-paid CIR	OSU-paid bonds	E&G CIR	Total
Phase 1: 2017 - 2019	\$15.00	\$6.10	-	-	\$21.10
Phase 2: 2019 - 2021	28.00	3.70	-	28.00	59.70
Phase 3: 2021 - 2023	30.00	8.00	25.00	15.00	78.00
<b>Total 3 Phases</b>	<b>\$73.00</b>	<b>\$17.80</b>	<b>\$25.00</b>	<b>\$43.00</b>	<b>158.80</b>

*Phase 1 (2017-2019)*

A comprehensive design will be developed and improvements to fire and life safety and HVAC systems will begin on one-half of the building, and the entire roof will be replaced.

*Phase 2 (2019-2022)*

One side of the building will be completely renovated. Estimated completion date is summer 2022.

*Phase 3 (2021-2024)*

The other half of the building will be renovated. Estimated completion date is summer 2024.

**IDENTIFICATION OF RISKS AND PROPOSED CONTINGENCY**

The following risks have been identified for the Cordley Hall project.

<b>Risks</b>	<b>Consequences &amp; Mitigations</b>
<i>Funding</i>	<p>The project relies on not-yet-approved state funding for the 2019-2021 and 2021-2023 biennia. The project is also dependent on OSU Revenue Bond and Education and General Fund (E&amp;G CIR) availability.</p> <p>A decrease in funding would require a change in scope, the delay in the renovation of one of the sides, or the cancellation of the project. For example, if the project were limited to the funds already approved (\$15M XI-Q bonds and \$6.1M in state bond funded capital improvement and renewal funds), the scope could be reduced to adding safety systems (sprinkler/alarms), HVAC component replacements, and limited air conditioning to the unconditioned side.</p>
<i>Undiscovered conditions</i>	<p>Renovations carry an inherent risk of the actual construction or conditions being different from archived documents or even explorative inspection and testing, especially in older buildings. Conditions beyond what is expected would present a risk to final cost, schedule, and/or the quality and scope of the project. This risk is mitigated by construction contingency.</p>
<i>City Public Improvement by Private Contractor (PIPC) requirements</i>	<p>Public improvement(s) and infrastructure may need to be constructed in accordance with the latest edition of the <i>City of Corvallis Standard Construction Specifications</i>. This would increase the cost and scope of the project. This risk is mitigated by construction contingency or the scope could be revisited to fit within the expected budget.</p>
<i>Labor and materials availability</i>	<p>Availability of resources beyond what contingency can mitigate presents risk to cost, schedule, and possible scope and are mitigated by construction contingency.</p>

<i>Higher than expected construction market escalation</i>	This risk is based more on national/regional economics than labor availability (above), but risks are similar and are mitigated by escalation and design contingencies.
<i>Project delay</i>	Funding, permitting, logistical, contractual, or any reason for substantial delays in construction present not only schedule vulnerability, but also subject the project to further escalation in materials and labor costs. Stretching the construction period would likely increase the cost for the contractor to manage the project and pay for general logistics (general conditions). This risk is mitigated by having a team in place early that considers critical activities, appropriate timelines, and measures to avoid and accommodate delays.
<i>Lack of relocation space for occupants</i>	OSU's best practice is to temporarily relocate building occupants during a major renovation. Construction work around occupied spaces creates schedule and logistical liabilities that can add significant costs and can be detrimental to the occupants' health and productivity. If relocation space planned in the Research Way Laboratory were not available, it is very unlikely that this project could proceed within the proposed timeline; costs would also likely increase. The design process for renovations to the Research Way Laboratory building are underway and are planned to be completed before the vacation of one side of Cordley Hall.
<i>Changes in scope requirements</i>	Minor adjustments in scope are hard to avoid and are mitigated by a small percentage of the project contingency. Larger programmatic adjustments are mostly avoided once schematic design is complete, as the program scope is fixed. If specific requirements are not fully understood during design or even changed during construction, significant delays and costs could be incurred. This risk is mitigated by predictable and regular scope, budget and schedule assessments by the project team (OSU representatives, architect/engineer, and construction contractor) and regular project updates to university leadership. The capital project policy with two stage gates also mitigate this risk.
<i>Future legislative approval</i>	Phase 2 of the Cordley Hall project has requested \$28M to be funded by state paid bonds. The 2018 request was ranked second by the Higher Education Coordinating Commission (HECC) behind the capital improvement and renewal funding. The Governor's Recommended Budget does not list this project (nor any other major capital request submitted to the HECC). If funding is not obtained in this legislative session, OSU will seek funding in the next session. A request will be made to the HECC in spring 2020 to recommend \$30M in state bond funding for Phase 3 of the Cordley Hall renovation. A lack of legislative approval for funding would require a change in scope and/or delay in the renovation of one of the two sides of the building. (The design for the building enables us to

	renovate one half of the building, then wait until funding for the other half is secured).
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**Contingencies**

The project contingencies for design, construction, and owner are 3%, 5%, and 7%, respectively. These contingencies are higher than normal to align with the potential risks identified such as the potential for undiscovered conditions based on the age of the building and the need to phase the project over three biennia. The architects and general contractors are incorporating escalation rates in the project at 8% for the first year and 6% thereafter.

**PRELIMINARY PRO FORMA**

The preliminary pro forma provided in Attachment 1 includes debt service, estimated energy savings, savings on unused spaces during renovation, and capital renewal funding based on a componentized schedule.

**RECOMMENDATION**

Staff recommend that the Finance & Administration Committee approve advancing the Cordley Hall renovation project to the design development phase.

**Attachment 1.** Preliminary *pro forma* for the renovation of Cordley Hall. The first 10 years are shown and then critical milestones for capital renewal thereafter.

**Education and General Capital Project Preliminary Pro Forma: Cordley Hall - All Phases**

3/15/2019

**E&G OPERATING ASSESSMENT**

Forecasted Cost: \$158,800,000

	Rate/Amount	Year 1 - FY20	Year 2	Year 3	Year 4	Year 5 - FY24	Year all 3 phases complete Year 6 - FY25	Year 10	Year 20	Year 30	Year 35	Year 45	Year 55
<b>INCREMENTAL REVENUE PROJECTIONS</b>													
TOTAL REVENUES		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>INCREMENTAL EXPENSE PROJECTIONS</b>													
Debt Service (30 yr 5.25%)		-	-	-	(1,664,038.77)	(1,664,038.77)	(1,664,038.77)	(1,664,038.77)	(1,664,038.77)	(1,664,038.77)	-	-	-
Operations & Maintenance (O&M) incl Energy Savings		-	-	-	-	-	(2,604,032.50)	(2,930,861.52)	(3,938,832.80)	(5,293,461.92)	(6,136,573.17)	(8,247,041.19)	(11,083,333.74)
O&M saved on demo space during construction	-	663,508.13	1,327,016.25	1,327,016.25	1,327,016.25	1,327,016.25	-	-	-	-	-	-	-
Capital Renewal Funding		-	-	-	-	-	-	-	(21,372,389)	(83,369,034)	(80,540,381)	(17,531,835)	(106,856,045)
<b>TOTAL EXPENSES</b>		<b>663,508.13</b>	<b>1,327,016.25</b>	<b>1,327,016.25</b>	<b>(\$337,023)</b>	<b>(\$337,023)</b>	<b>(\$4,268,071)</b>	<b>(\$4,594,900)</b>	<b>(\$26,975,261)</b>	<b>(\$90,326,535)</b>	<b>(\$86,676,955)</b>	<b>(\$25,778,876)</b>	<b>(\$117,939,378)</b>
<b>ANNUAL OPERATING NET</b>		<b>\$663,508</b>	<b>\$1,327,016</b>	<b>\$1,327,016</b>	<b>(\$337,023)</b>	<b>(\$337,023)</b>	<b>(\$4,268,071)</b>	<b>(\$4,594,900)</b>	<b>(\$26,975,261)</b>	<b>(\$90,326,535)</b>	<b>(\$86,676,955)</b>	<b>(\$25,778,876)</b>	<b>(\$117,939,378)</b>
<b>ACCUMULATED BALANCE</b>			<b>\$1,990,524</b>	<b>\$3,317,541</b>	<b>\$2,980,518</b>	<b>\$2,643,496</b>	<b>(\$1,624,576)</b>	<b>(\$19,501,860)</b>	<b>(\$92,121,651)</b>	<b>(\$238,640,006)</b>	<b>(\$353,119,324)</b>	<b>(\$443,110,561)</b>	<b>(\$647,345,983)</b>

April 4-5, 2019 Board of Trustees Meetings