

BOARD OF REGENTS
EASTERN MICHIGAN UNIVERSITY

SECTION: 21
DATE: October 13, 2015

RECOMMENDATION

FISCAL YEAR 2017 STATE CAPITAL OUTLAY PLAN

ACTION REQUESTED

It is recommended that the Board of Regents approve the University's Capital Outlay Plan and delegate authority to the President to submit the renovation of Strong Hall as the University's top project request for state cost participation for Fiscal Year 2017.

STAFF SUMMARY

The State Budget Office issued its Fiscal Year 2017 Capital Outlay Budget memorandum to University Presidents on August 27, 2015. The Management and Budget Act, Public Act 431 of 1984, as amended, requires universities to present a Five-Year Capital Outlay Plan no later than November 1 of each year. Universities may also elect to submit a capital outlay project request for state cost participation.

Once again, the renovation of Strong Hall has been identified as the University's top capital outlay project. Strong Hall has been Eastern's number one request for funding since Fiscal Year 2010; the year after Eastern received state funding for the Pray-Harold building renovation.

Strong Hall is part of Eastern's Science Complex and houses the Physics & Astronomy and Geology & Geography departments. Built in 1957, Strong Hall has not received any significant improvements or renovation since its construction. The project reflects a major renovation of the 80,713 gross square foot structure including, modernizing classroom and labs, lecture halls, student commons areas, and faculty offices, as well as, creating flexible use spaces for both research and instruction and replacement of architectural, structural, mechanical, and electrical systems.

The Strong Hall project, along with the \$90 million self-funded addition and renovation of the Mark Jefferson Science Complex, demonstrates the University's commitment to the sciences and would result in first-class science facilities on Eastern's campus. To comply with the statutory requirements, Eastern Michigan University will post its Five-Year Capital Outlay Plan on the institution's internet site by October 30, 2015. In addition, the Fiscal Year 2017 Capital Project Budget request of Strong Hall will also be on this site.

FISCAL IMPLICATIONS

The estimated cost to renovate Strong Hall is \$39.5 million. At a funding mix of 75% State / 25% Eastern, the University's cost share would be \$9.9 million.

ADMINISTRATIVE RECOMMENDATION

The proposed Board action has been reviewed and is recommended for Board approval.

University Executive Officer

Date

**FISCAL YEAR 2017
CAPITAL OUTLAY PROJECT REQUEST**

Institution Name: Eastern Michigan University

Project Title: Strong Hall Renovation

Project Focus: Academic Research Administrative/Support
Type of Project: Renovation Addition New Construction

Program Focus of Occupants: Students and Faculty

Approximate Square Footage: 80,713 s.f.

Total Estimated Cost: \$39,536,000

Estimated Start/Completion Dates: July 2016 / July 2019

Is the Five-Year Plan posted on the institution's public internet site? Yes No
Is the requested project the top priority in the Five-Year Capital Outlay Plan? Yes No
Is the requested project focused on a single, stand-alone facility? Yes No

Describe the project purpose.

The Strong Hall project is a continuation of Eastern Michigan University's commitment to the enhancement of the educational experience within the science, technology, engineering and mathematics (STEM) fields. Strong Hall is a building within Eastern Michigan University's Science Complex that maintains an emphasis on the natural sciences, but that also supports the other STEM programs. The Strong Hall renovation project will enhance the classroom, lecture halls and laboratories, which will create a modern educational environment. The renovation will complete a combined state of the art science complex at Eastern Michigan University that will attract prospective students and better prepare graduates for STEM related careers.

Current building systems and attributes are outdated and do not provide the highest quality educational support. In addition, the building systems are inefficient and in some cases non-functional, limiting the use of the building. The purpose of this project is to correct these deficiencies, and to enhance the STEM learning experience with modern systems and technology, flexible design with collaborative learning spaces.

Strong Hall houses the Departments of Physics & Astronomy and Geology & Geography, part of Eastern Michigan University's largest college, the College of Arts and Science.

Describe the scope of the project.

The work scope for the Strong Hall renovation project will include renovations to all 80,713 square feet in order to bring it up to modern standards. All building systems, exterior glazing and interior finishes will be updated or replaced. Extensive interior renovations to the configuration of the classrooms, lecture halls and laboratories will be completed to maximize spatial efficiencies and

accommodate flexibility with future needs. In addition, fire suppression systems will be updated and architectural, structural, mechanical and electrical systems will be replaced.

Full building envelope and systems renovations include the following:

- Building envelope materials, windows, doors, roofs;
- Mechanical, Plumbing, Electrical and Life Safety systems;
- Interior systems and finishes;
- Americans with Disabilities Act (ADA) accessibility;
- Voice, data infrastructure and systems;
- Elevator

Highlights of the renovation scope of work that will make significant improvements to the quality of education that can be provided include:

- Instructional and research laboratories for Physics & Astronomy and Geology & Geography;
- Modernized classrooms and lecture halls;
- Flexible laboratories;
- Welcoming and receptive informal learning spaces with views to the exterior

Please provide detailed, yet appropriately concise responses to the following questions that will enhance our understanding of the requested project:

1. How does the project enhance Michigan's job creation, talent enhancement and economic growth initiatives on a local, regional and/or statewide basis?

An investment in Eastern Michigan University is an investment back into the State of Michigan as 90% of our students are residents of Michigan and 72% of graduates remain in Michigan. The renovation of Strong Hall will help Eastern Michigan University attract more students and generate more graduates into the STEM programs by providing an enhanced classroom and laboratory education experience. Eastern Michigan University is focused on continuing its investments in the STEM programs as evidenced by the \$90 million self-funded renovation of Mark Jefferson Hall, which together with Strong Hall comprises the Eastern Michigan University Science Complex. Since the completion of the Mark Jefferson renovation in 2011, Eastern Michigan University has seen an increase of 11% in the enrollment of STEM programs. Further increases in enrollment in the STEM programs are anticipated in upcoming years with the continued investment in Eastern Michigan University's Science Complex through the Strong Hall renovation.

Eastern Michigan University has demonstrated its commitment to the growth of women in STEM careers as evidenced by hosting the annual Digital Diva's conference which focuses on promoting the STEM fields to middle and high-school girls. While only 24% of the STEM jobs are held by women, Eastern Michigan University is committed to engaging middle and high-school girls to increase this percentage while providing greater numbers of graduates entering STEM careers. In the five years that Eastern Michigan University has held this conference, attendance has increased 500%. With the continued enhancement to the Science Complex, Eastern Michigan University anticipates increased female students in the STEM programs.

The Strong Hall project will provide critical updates to the classrooms, lecture halls, laboratories, and mechanical and safety systems. The reconfiguration of the building will address outdated and overcrowded spaces and provide a state of the art educational environment for students and faculty to perform research and instruction. Additionally, the fire suppression system will be updated. The HVAC, plumbing and electrical systems will be

replaced creating energy efficiencies, reducing utility costs by an estimated 35%. In addition to the Physics & Astronomy and Geology & Geography departments housed in Strong Hall, students enrolled in the other STEM based curriculum also attend classes, participate in laboratories and meet with faculty and fellow students in Strong Hall.

Eastern Michigan University STEM Facts

- Eastern Michigan University has experienced an 11% increase in enrollment for STEM fields of study since the completed renovation of Mark Jefferson Hall
- Eastern Michigan University STEM graduates have increased 15% over the past five years
- Students majoring in STEM-related fields comprise approximately 16% of the undergraduate population of Eastern Michigan University
- In 2014, Eastern Michigan University received a federal grant awarded by the U.S. Department of Education's Title III Program to strengthen the university's efforts in educating its students in STEM disciplines, with special emphasis on bringing women and minorities into these disciplines.
- Eastern Michigan University currently offers 39 majors in STEM disciplines, which most will utilize Strong Hall at some point during their time at Eastern Michigan University

In addition to the enhanced development of talented students entering the Michigan job markets, the Strong Hall renovation will also provide economic benefit and employment to the City of Ypsilanti and eastern Washtenaw County. Based on analysis of similar projects in the state, these areas could see a 95% indirect economic benefit for every dollar spent on construction. Based on the Strong Hall project estimates of \$15.4 million for direct construction related costs, we estimate that a total of \$30.1 million in direct and indirect economic benefit could be realized for the Ypsilanti and surrounding Washtenaw County areas.

2. How does the project enhance the core academic and/or research mission of the institution?

Included in Eastern Michigan University's mission is to enrich the lives of its students in a supportive and intellectually dynamic community and environment. The Strong Hall renovation allows our physical building to be as supportive and dynamic in their education as the faculty and staff currently provide, by bringing the outdated and overcrowded classrooms, lecture halls and laboratories into the modern age. Renovating Strong Hall into a flexible space with up to date mechanical and electrical systems ensures that the building will be able to keep up with the needs of the ever-evolving STEM programs.

The project will create or enhance an environment for STEM education in the following ways;

- Additional instructional and research laboratories for Physics & Astronomy, Geology & Geography, Global Mapping/GIS, and Geo-tourism,
- Modernized classrooms and lecture halls,
- Flexible laboratories,
- Informal and collaborative learning spaces

3. How does the project support investment in or adaptive re-purposing of existing facilities and infrastructure?

The renovation of Strong Hall will bring modern technologies to building systems and components such as lighting control and building automation systems, wireless data systems, modern lighting devices, finishes and equipment. By utilizing and repurposing existing infrastructure elements such as stairways, corridors, and structural components, we preserve elements whose remaining life expectancy will continue to serve the university for years to

come, and supplement it with new, modern elements suited to meet the needs of students and faculty today and for the foreseeable future.

4. Does the project address or mitigate any current health/safety deficiencies relative to existing facilities? If yes, please explain.

Yes. Notable deficiencies identified at Strong Hall that will be addressed in the renovation include:

- An automatic wet-pipe fire protection system will be provided for the entire building;
- Smoke detectors will be installed in supply and return air ducts for every air handler unit;
- Fire alarms will be connected to the University Fire Alarm system;
- Emergency showers/eye wash stations will be provided in each science classroom and laboratory utilizing chemicals;
- Chemical storage facilities will be created;
- Emergency shutoff valves for natural gas will be installed in laboratories and classrooms utilizing these systems;
- Data and communication system updates will allow for mass notifications of emergencies throughout the building;
- All renovations will be ADA compliant.

5. How does the institution measure utilization of its existing facilities, and how does it compare relative to established benchmarks for educational facilities? How does the project help to improve the utilization of existing space and infrastructure, or conversely how does current utilization support the need for additional space and infrastructure?

Eastern Michigan completed a 2008 Space Utilization study which examined current and forecasted conditions, benchmarked against state and national educational trends and data. This information is gathered from our classroom scheduling system which is utilized for determining demand of our educational offerings. It is clear from this information that the University is lacking necessary natural science educational spaces, which are essential for a contemporary, interactive and flexible STEM education investigative setting.

6. How does the institution intend to integrate sustainable design principles to enhance the efficiency and operations of the facility?

The Strong Hall renovation is designed to meet LEED Silver certification requirements. The renovation plan provides for upgrades to energy efficient windows, lighting levels, air flow exchanges, and exhaust. The renovated infrastructure will create utility efficiencies estimated at 35% compared to current levels.

7. Are match resources currently available for the project? If yes, what is the source of the match resources? If no, identify the intended source and the estimated timeline for securing said resources?

Yes. Eastern Michigan University will utilize a blend of capital reserves, private donations and/or capital funding (Including bond financing) to match state resources.

8. **If authorized for construction, the state typically provides a maximum of 75% of the total cost for university projects and 50% of the total cost for community college projects. Does the institution intend to commit additional resources that would reduce the state share from the amounts indicated? If so, by what amount?**

Eastern Michigan University intends to fund the Strong Hall renovation project beyond the State's maximum funding of \$30 million. Eastern Michigan University is looking forward to partnering with the State of Michigan and is open to further discussion regarding additional funding to make this project a reality.

9. **Will the completed project increase operating costs to the institution? If yes, please provide an estimated cost (annually, and over a five-year period) and indicate whether the institution has identified available funds to support the additional cost.**

No, we estimate the overall operating costs to decrease in total, driven by expected utility efficiencies, as a result of the Strong Hall renovation project.

10. **What impact, if any, will the project have on tuition costs?**

None.

The Strong Hall renovation project will not increase tuition. In fact, the renovations or replacements of mechanical and electrical systems are expected to create a 35% decrease to current utility costs at Strong Hall and also eliminate \$25.2 million in deferred maintenance costs. Additionally, with the renovation, Eastern Michigan University anticipates an increase in enrollment once the program is completed, specifically in the STEM disciplines.

11. **If this project is not authorized, what are the impacts to the institution and its students?**

Due to limited financial resources, Eastern Michigan University would be unable to complete the Strong Hall renovation without the State's support. The existing building is outdated and overcrowded, which negatively impacts the students and faculties ability to perform research and instruction. Without the renovation of Strong Hall into a modern building configuration, challenges to the student's ability to obtain, and faculty to deliver, the full educational experience necessary to properly develop future professionals in the STEM fields will exist.

Additionally, without the renovation, Eastern Michigan University will have to continue funding temporary repairs to Strong Hall, utilizing resources that could be better used in other areas. Current assessments of Strong Hall include deferred maintenance costs of \$25.2 million that would be eliminated upon the renovation of Strong Hall.

12. **What alternatives to this project were considered? Why is the requested project preferable to those alternatives?**

Eastern Michigan University is committed to the further development of the sciences programs to position students and graduates for careers in the STEM fields. Eastern Michigan University has recently invested in the Science Complex with the construction and renovation of the Mark Jefferson hall project. This has included the construction and renovation of additional classroom, lecture hall and laboratory space and purchase of new furnishings, creating an

enhanced educational environment. Additional investment in state-of-the-art technology has allowed students and faculty to perform research not previously possible at Eastern Michigan University.

Considering this past self-funded investment, Eastern Michigan University has determined that their highest priority is to complete the total renovation of the Science Complex through the Strong Hall project. By continuing our commitment to the Science Complex, Eastern Michigan University will maximize these existing investments and retain its focus on the importance of meeting the State of Michigan's and national goals of developing STEM program graduates. The continued investment in the Science Complex is directly investing in Eastern Michigan University's students majoring in Biology, Chemistry, Physics & Astronomy, Geology & Geography and Psychology.

Eastern Michigan University considered demolition and replacement of Strong Hall, but this approach was abandoned for numerous reasons. The cost implications of replacement versus renovation were considered during the preliminary programming, and its expected replacement could cost up to 25% more than renovation. Secondly, the University's efforts to maintain sustainable practices support the revitalization of existing facilities as opposed to constructing new facilities.

Strong Hall is centrally located on campus, contiguous to the Science Complex, close to residence halls, other academic facilities, library, and parking. Relocating the building to another site loses its adjacency to the Science Complex, and would require additional parking, and new infrastructure for utilities at costs that far exceed renovation costs. The building structural components are adequate for renovation. Strong Hall would still have to be renovated or raised should a new building be constructed.