MICHIGAN STATE UNIVERSITY

June 16, 2023

MEMORANDUM

To: Committee on Budget and Finance

From: Daniel Bollman
Vice President for Strategic Infrastructure Planning and Facilities

Subject: **Authorization to Plan**
Bessey Hall – HVAC Equipment Replacement

RECOMMENDATION

The Trustee Committee on Budget and Finance recommends that the Board of Trustees authorize the Administration to plan for replacement of heating, ventilation and air conditioning (HVAC) equipment in Bessey Hall.

RESOLUTION

BE IT RESOLVED, that the Board of Trustees of Michigan State University hereby authorizes the Administration to plan for the project titled "Bessey Hall – HVAC Equipment Replacement."

BACKGROUND

Bessey Hall has two chillers that are at or near the end of their useful life. A chiller converts energy sources such as electricity or steam to chill water used to cool building spaces. Replacing such equipment before it experiences failure avoids more costly emergency work and ensures continued building operation with minimal negative effect on occupants.

Description of Project:

The project is expected to replace existing equipment, including chillers, pumps, controls, and a cooling tower as well as associated electrical upgrades, minor piping alterations, and other modifications for a complete and operable cooling system. Project planning will investigate adding thermal energy storage to the system with the intent of alleviating peak electrical grid load. It is expected that existing steam-using absorption chillers will be replaced with more energy efficient ones that use electricity.

Bessey Hall, primarily a classroom building, is at the corner of Auditorium Road and Farm Lane in the north academic district.

Office of the Vice President for Strategic Infrastructure Planning and Facilities

Daniel J. Bollman
Vice President

Michigan State University
IPF Building
1147 Chestnut Road
Room 101
East Lansing, MI 48824

517-432-0579
Fax: 517-353-6358

ipf.msu.edu

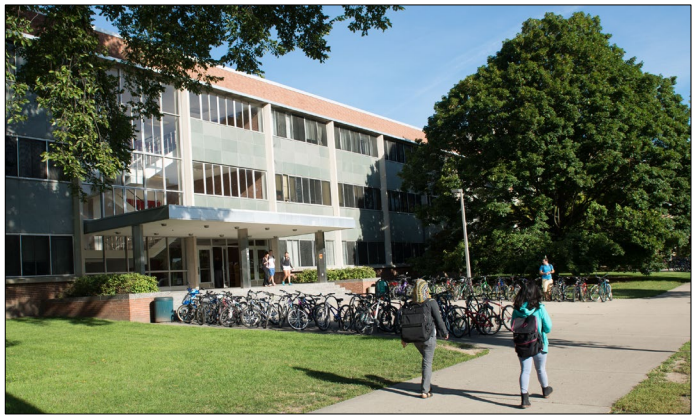
Communication Plan:
Input will continue to be solicited from the campus community during the planning phase.

Preliminary Project Cost Information
The planning for this project will incur costs for consultants, designers and cost estimating. The source of funds for the project is expected to be from the Capital Renewal Program.

cc: Board of Trustees, T. Woodruff, T. Jeitschko, N. Beauchamp, M. Woo, S. Fletcher, M. Zeig, B. Quinn, V. Gore, L. Frace, B. Kranz, M. McCabe, L. Gremel, A. Taneja, J. Andrews, K. Oosterhoff

CP23031

Building HVAC equipment has reached the end of its useful life and should be replaced.



REASON FOR PROJECT

After careful inspection, IPF staff have determined that Bessey Hall's chillers have reached or will soon reach their end-of-life. Replacing both chillers makes the most sense for reasons of energy efficiency, construction logistics, and performance purposes.

PROJECT BACKGROUND

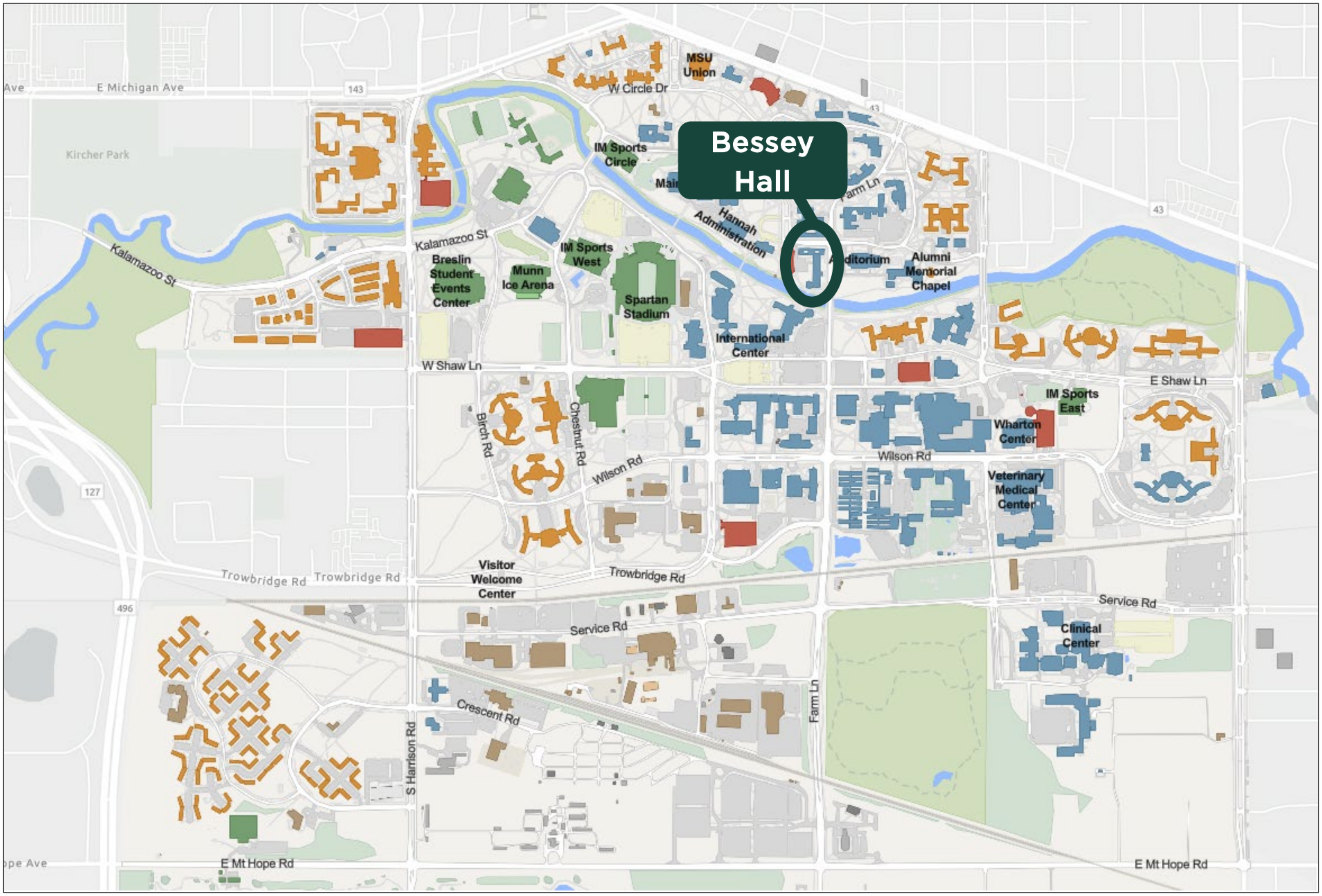
- Bessey Hall primarily contains classrooms. It is in the north academic district at Auditorium Road and Farm Lane.
- A chiller converts energy sources such as electricity or steam to cold water that is used for air-conditioned spaces within the building. Various forms of this HVAC technology are used in many campus buildings.
- Replacing old or failing chillers is a regular occurrence through the university's capital renewal process.
- The project is expected to replace existing equipment, including chillers, pumps, controls, and a cooling tower, as well as associated electrical upgrades, minor piping alterations, and other modifications for a complete and operable cooling system.

POINTS FOR CONSIDERATION

- The existing steam-powered absorption chillers would be replaced with chillers that use electricity and are more energy efficient.
- Failure of the equipment could result in uncomfortable classroom temperatures.
- Unplanned equipment replacement likely would be much more expensive and disruptive to the learning environment.

FUNDING PLAN

The planning for this project will be funded by Capital Renewal Program.


Bessey Hall
MSU Union
W Circle Dr
IM Sports Circle
E Michigan Ave
Kircher Park
Kalamazoo St
Breslin Student Events Center
Munn Ice Arena
IM Sports West
Spartan Stadium
Hannah Administration
Auditorium
Alumni Memorial Chapel
International Center
W Shaw Ln
E Shaw Ln
IM Sports East
Wharton Center
Wilson Rd
Veterinary Medical Center
Birch Rd
Chestnut Rd
Visitor Welcome Center
Trowbridge Rd
Service Rd
Clinical Center
Crescent Rd
S Harrison Rd
Farm Ln
E Mt Hope Rd
143
43
127
496