

**MICHIGAN STATE
UNIVERSITY**

October 29, 2021

APPROVED
OCTOBER 29, 2021
BOARD OF TRUSTEES
MICHIGAN STATE UNIVERSITY

MEMORANDUM

To: Committee on Budget and Finance

From: Samuel L. Stanley, Jr., M.D.
President

Subject: State of Michigan Fiscal Year (SFY) 2023 Capital Outlay
Project Request and Five-Year Capital Outlay Plan

RECOMMENDATION

The Trustee Committee on Budget and Finance recommends that the Board of Trustees adopt Michigan State University's SFY2023 Capital Outlay Request for State of Michigan cost participation for the project titled "Greenhouses – Renovation of Existing and Addition – Research Expansion and Learning", and the Five-Year Capital Outlay Plan.

Action on the request authorizes the Administration to respond to the State of Michigan Budget Office reporting requirements and submit a Capital Outlay request for state cost participation. The report and request are due to the State Budget Office no later than October 29, 2021.

RESOLUTION

BE IT RESOLVED that the Board of Trustees of Michigan State University hereby adopts the 2023 Capital Outlay Project Request, and Five-Year Capital Outlay Plan included as Attachment A hereto.

BACKGROUND

The State of Michigan Capital Outlay process requires that public universities and community colleges submit a Five-Year Capital Outlay Plan that is intended to provide state policymakers with the most current information available on institutional priorities and needs. Institutions may request state funding of a capital outlay project. The requested project must be a logical extension of information contained in the Five-Year Capital Outlay Plan and address a specific academic or research need of the institution. The plan must be approved annually by the institutions governing body and is to include state supported and institutional funded projects.

To optimize flexibility the university provides a more significant potential list of priority projects, hence the list appears greater than the number of projects that would move forward in the five-year timeframe. The MSU capital outlay project request and capital priorities support programs that



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have strong national reputations, expanding research bases, and have high enrollment demand that will sustain the university and its contributions to Michigan. Funding of these requests will provide economic development in the state, now and in the long term.

Capital Outlay Project Request is for renovation and addition of the plant science greenhouses to modernize and expand this capital asset necessary to support cutting-edge research and teaching and learning. MSU is a global leader in plant sciences in Michigan and across the globe. For MSU to remain nationally competitive in Plant Science research and able to address the 21st century challenges of agriculture, the greenhouse facilities must be dramatically improved and expanded.

Two-thirds of the greenhouse facilities were built between 1955 and 1978, with the most recent addition in 2002. These aging greenhouses lack modern controlled environments necessary to perform year-round research in specialized conditions. The proposed renovations and additions will provide robust, energy efficient greenhouse facilities with the environmental controls and sensors necessary for testing the growth and productivity of new plant varieties in defined environments, and an essential requirement for the critical research on resilience in agronomic crops.

Investment in the greenhouses will expand research and funding opportunities for current researchers now restricted to laboratory settings, accelerating the translation of new discoveries including in areas critical to Michigan's agricultural community, which in turn are essential for the state's continued economic growth and stability. Currently the greenhouses serve 72 of the over 150 Plant Science faculty and 600 students who are engaged in approximately 260 grants from federal agencies, with over \$30M in research funding annually, including the Great Lakes Bioenergy Research Center, having attracted \$160M since 2007.

These greenhouse infrastructure improvements will expand our research capabilities beyond what is possible today and increase our faculty's competitiveness for extramural funding; enable MSU to expand world-leading research in crop yield improvement and resistance to a variety of stresses including pests, drought, flooding and low nitrogen and other nutrients; and attract and retain the very best faculty and students. Improvements in the greenhouse facilities will allow MSU to remain the premier land grant institution in plant sciences.

Attachment A: Five-Year Capital Outlay Plan

cc: Board of Trustees, T. Woodruff, N. Beauchamp, M. Woo, M. Zeig, B. Quinn, D. Bertram, L. Frace, B. Kranz, V. Gore, D. Bollman, T. Glasmacher, D. Gage

MICHIGAN STATE UNIVERSITY
Fiscal Year 2023 Capital Outlay Project Request and Five-Year Capital Outlay Plan

FY22 Est. (mil.)

Capital Outlay Project Request – Renovation and Addition	
• Greenhouses - Renovation of Existing and Addition - Research Expansion and Learning	\$23.0
Five-Year Capital Outlay Plan (Alphabetical Order)	
Renovations and Additions	
• Aquatic Species Core Facility - Renovation and/or Addition Research Support and Expansion	\$25.0 - \$30.0
• Barrier-Free Accessibility Projects - Single Occupant/ADA Restrooms	\$4.0 - \$5.0
• Bioeconomy - Plant and Environmental Science Facilities	
○ Plant and Environmental Sciences - Research, Teaching and Learning - New Construction (Ph. 1)	\$130.0 - \$140.0
○ Plant and Environmental Sciences - Renovate Existing Plant Biology Building Research, Teaching and Learning (Ph. 2)	\$76.0 - \$95.0
• Biomedical Frontier	
○ Biomedical Animal Resources - Provision for Large Animal (\$19.4M - \$26.0M)	
▪ Housing and Surgery	\$12.4 - \$18.0
▪ Imaging (NIH infrastructure grant recently awarded)	\$7.0 - \$8.0
○ Clinical Center A-Wing – Renovate for Research Expansion	\$71.4 - \$82.3
○ Clinical Center B-Wing – Renovate for Research Expansion & Learning	\$16.5 - \$21.9
○ Research Laboratory Renovation – Various (STEM and ISTB Related Backfill)	\$16.5 - \$19.7
• BSL-3 - Research Expansion Multi-Species Flexible Housing/Procedure Space (Ph. 2)	\$10.5 - \$11.5
• Doug Meijer Medical Innovation Building - 5th Floor Dry Research Fit-out	\$3.5 - \$4.5
• Engineering and Computational Sciences	
○ Engineering - New Construction (Ph. 1) - Research Support and Expansion	\$180.0 - \$200.0
○ Engineering - Renovations - Research and Learning (Ph. 2 - New Construction Related Backfill)	\$10.0 - \$12.0
• Football Building - Renovation and Additions - Program Support	\$40.0 - \$50.0
• Grand Rapids Research Center (GRRC) 5th Floor Lab Fit-out	\$8.4
• Healthy Campus – Recreation, Fitness, Sport	
○ Intramural Facilities - New Construction, Additions and/or Renovations	\$200.0
• Learning Spaces	
○ Learning Space Improvements – Annual Investment for Updates and Improvements (5-Year need, \$12.0 annually)	\$60.0
○ Library Improvements - Special Collections - Renovate Space on Third Floor	\$5.0-\$6.0
• Life Science Building (A & B) HVAC replacement and related (phased approach)	\$70.0 - \$80.0
• MSU Museum - Infrastructure Improvements - Accreditation	\$11.0-\$13.0
• Music Building – Renovation of Existing for Improved Program Support	\$10.3 - \$36.6
• Old Botany – Comprehensive Renovation	\$11.3 - \$11.6
• Student Services Building - Renovate for Student Support - First Floor Career Services Area	\$2.0 - \$3.0
• 600 Crescent Road - Modifications to 1st and 2nd floors for IT Services space consolidation	\$1.1

Attachment A

Five-Year Capital Outlay Plan (Alphabetical Order) - cont'd		FY22 Est. (mil.)
New Construction - New Building		
• Chemical Waste Facility 1 - Study - New Waste Facility		\$32.9
• Dairy Facility - Research and Teaching and Learning - Accreditation - New Construction		\$40.0 - \$50.0
• Henry Ford Health Systems - New Construction		TBD
• Health Education Building - Teaching and Learning and Academic Support - Renovations and/or New Construction		\$135.0 - \$155.0
• Transportation Services and Mobility Research Center		\$21.9 - \$24.1
Major Systems Maintenance & Utilities (Alphabetical Order)		
• Capital Renewal (5-Year need, \$35.0 annually)		\$175.0
• Farm Lane Infrastructure and Mobility Upgrades including Bridge Replacement		
○ Bridge Replacement and Adjacent Approaches (Ph. 1)		\$15.2
○ North of bridge to Auditorium Road (Ph. 2)		\$21.4 - \$26.6
○ South of bridge to Wilson Road (Ph. 3)		
• Utilities (5-year) – Power Plant Modernization		
○ Battery Energy Storage System		\$10.0-\$15.0
○ Electrical Centrifugal Chillers – 8,400 tons		\$29.0-\$36.0
○ Shared Natural Gas Pipeline		\$80.0-\$100.0