

Use and Finance Bi-Annual Reporting Form

Reporting Period: July 2016 through December 2016  
 University/College: University of Michigan - Ann Arbor  
 Number of Projects to Report: 12

Estimated Impact on Tuition and Fee Rates <sup>1</sup> : 0

	Project Description	Project Timeline	Project Costs	Funding Sources
1	<p>Joseph Aldrich and Marguerite Knowlton Bursley Hall Window Replacement</p> <p>Constructed in 1968, Joseph Aldrich and Marguerite Knowlton Bursley Hall houses approximately 1,270 students. This project will replace the student room windows throughout the complex that are original to the building's construction with high-performance and energy-efficient units.</p>	Start Date: Dec-16 Completion: Dec-17	Property Acquisition \$ Remodeling \$ 4,536,098 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ Other (Professional Fees, Moving) \$ 363,902 Total: \$ 4,900,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Housing resources) \$ 4,900,000 Total: \$ 4,900,000
2	<p>Central Power Plant Boiler 3 and 4 Efficiency and Reliability Improvements</p> <p>The Central Power Plant provides steam for the heating and cooling of buildings on Central Campus and the Medical Campus, and also uses the steam produced to generate electricity. This project will improve the operating efficiency and reliability for boilers 3 and 4 which represent approximately 45 percent of the steam-generating capacity of the facility. New variable-speed electric drives for the combustion air fans will use 10 percent less electricity than the current control elements resulting in a savings of approximately \$25,000 per year. This will support lower emissions (including greenhouse gas emissions) by providing the ability to more closely match air and fuel for optimum combustion. The project will also install new burner controls allowing for automatic switching between natural gas and fuel oil to provide increased reliability in the event of a disruption in the supply of natural gas.</p>	Start Date: Sep-16 Completion: Dec-17	Property Acquisition \$ Remodeling \$ 2,733,739 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ Other (Professional Fees) \$ 516,261 Total: \$ 3,250,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Utility resources) \$ 3,250,000 Total: \$ 3,250,000
3	<p>Central Power Plant Chimney Stack Refurbishment</p> <p>The Central Power Plant provides steam for the heating and cooling of buildings on Central Campus and the Medical Campus, and also uses the steam produced to generate electricity. This project will repair the chimney stacks to extend their useful life for continued high reliability of Central Power Plant operations.</p>	Start Date: Jun-16 Completion: Dec-17	Property Acquisition \$ Remodeling \$ 1,039,220 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ Other (Professional Fees) \$ 160,780 Total: \$ 1,200,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Utility resources) \$ 1,200,000 Total: \$ 1,200,000

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4	<p>Chemistry Building and Willard H. Dow Laboratory Renovations for the Department of Chemistry</p> <p>The College of Literature, Science, and the Arts proposes a renovation of approximately 5,900 gross square feet of space on the third and fourth floors of the Chemistry Building and Willard H. Dow Laboratory to prepare laboratory space for new faculty and to accommodate associated relocations needed in the Department of Chemistry. The project will create updated wet laboratory, clean room, and student office spaces. The renovation includes updating infrastructure in the affected area, including electrical and data distribution, fire alarm, and heating, ventilation, and air conditioning systems, as well as architectural finish upgrades.</p>	<p>Start Date: Jun-16                      Completion: Jun-17</p>	<p>Property Acquisition \$                      Remodeling \$ 2,072,803                      Additions/New Construction \$                      Landscaping/Roads \$                      Equipment/Furnishings \$ 25,000                      Other (Professional Fees, Telecommunications) \$ 602,197</p> <p>Total: \$ 2,700,000</p>	<p>Tuition \$                      Millage \$                      Bond Proceeds \$                      Donations \$                      Federal \$                      Other (College of Literature, Science and the Arts resources) \$ 2,700,000</p> <p>Total: \$ 2,700,000</p>
5	<p>Institute for Social Research Wing Two Elevators Replacement</p> <p>The Institute for Social Research is an approximately 225,000-gross-square-foot, seven-story facility that houses the institute's central administration and five research centers. Two elevators in the 1976 addition to the building, now commonly referred to as Wing Two, are original to the wing's construction, have reached the end of their useful lives, become difficult to maintain, and have decreased in reliability. This project will replace two elevators and related equipment, and upgrade the hoistways and machine room to meet current codes and standards.</p>	<p>Start Date: Oct-16                      Completion: Dec-17</p>	<p>Property Acquisition \$                      Remodeling \$ 1,243,689                      Additions/New Construction \$                      Landscaping/Roads \$                      Equipment/Furnishings \$                      Other (Professional Fees) \$ 156,311</p> <p>Total: \$ 1,400,000</p>	<p>Tuition \$                      Millage \$                      Bond Proceeds \$                      Donations \$                      Federal \$                      Other (General Fund resources) \$ 1,400,000</p> <p>Total: \$ 1,400,000</p>
6	<p>Walter E. Lay Automotive Laboratory Dynamometer Installation</p> <p>The Walter E. Lay Automotive Engineering Laboratory was constructed in 1955 and houses the engine dynamometer laboratories of the Department of Mechanical Engineering. The College of Engineering proposes a renovation of approximately 1,300 gross square feet of space in order to accommodate the installation of a new dynamometer in an existing laboratory test cell and add a control room. This will increase our capabilities for compressed natural gas and flexible fuel engine research, including a current grant from the U.S. Department of Energy.</p>	<p>Start Date: Jun-16                      Completion: Dec-16</p>	<p>Property Acquisition \$                      Remodeling \$ 874,018                      Additions/New Construction \$                      Landscaping/Roads \$                      Equipment/Furnishings \$                      Other (Professional Fees, Telecommunications) \$ 275,982</p> <p>Total: \$ 1,150,000</p>	<p>Tuition \$                      Millage \$                      Bond Proceeds \$                      Donations \$                      Federal \$                      Other (College of Engineering resources) \$ 1,150,000</p> <p>Total: \$ 1,150,000</p>

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7	<p>North Campus Research Complex Buildings 40 and 50 Demolition</p> <p>North Campus Research Complex Buildings 40 and 50 were constructed in 1960 and 1977 respectively. Due to their specialized nature, both have become outdated and are at the end of their useful lives. Both buildings total approximately 30,000 gross square feet, are vacant with no identified potential use, and are ready for demolition. This project will demolish both buildings, including hazardous material abatement, utilities disconnection, and debris removal, and includes site restoration to provide sidewalks, landscaping, and storm water management.</p>	Start Date: Dec-16 Completion: Jun-17	Property Acquisition \$ Remodeling \$ 1,158,269 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ Other (Professional Fees, Telecommunications, Moving) \$ 341,731 Total: \$ 1,500,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Medical School resources) \$ 1,500,000 Total: \$ 1,500,000
8	<p>North Campus Research Complex Building 550 University Collections Relocation Renovations</p> <p>The Office of the Provost proposes the renovation of the North Campus Research Complex (NCRC) Building 550 to serve as a storage facility for university collections. The unoccupied three-story, approximately 240,000-gross-square-foot building was constructed in 1998 as a pharmaceutical manufacturing facility. A renovation of approximately 78,200 gross square feet of space is planned to create efficient storage spaces for collections housed both on campus and in leased space of the Bentley Historical Library; William L. Clements Library; Museum of Art; School of Music, Theatre &amp; Dance; and University Library, as well as shared collection processing space.</p>	Start Date: Dec-16 Completion: Mar-17	Property Acquisition \$ Remodeling \$ 3,058,590 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ 50,000 Other (Professional Fees, Telecommunications) \$ 691,410 Total: \$ 3,800,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Office of the Provost resources) \$ 3,800,000 Total: \$ 3,800,000
9	<p>North Campus Research Complex Building 80 North Cooling Tower Replacement</p> <p>North Campus Research Complex (NCRC) Building 80 provides electrical power, steam, chilled water, and other utilities to most NCRC buildings. The north cooling tower at Building 80 has reached the end of its useful life. This project will replace the north cooling tower with a new tower that uses less energy to achieve the same amount of heat dissipation, allowing the horsepower rating to be reduced by one-half.</p>	Start Date: Nov-16 Completion: Dec-17	Property Acquisition \$ Remodeling \$ 2,637,992 Additions/New Construction \$ Landscaping/Roads \$ Equipment/Furnishings \$ Other (Professional Fees) \$ 362,008 Total: \$ 3,000,000	Tuition \$ Millage \$ Bond Proceeds \$ Donations \$ Federal \$ Other (Medical School resources) \$ 3,000,000 Total: \$ 3,000,000

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10	<p>Sam Wyly Hall Renovations for Executive Education and the William Davidson Institute</p> <p>Built in 1999, Sam Wyly Hall houses offices, classrooms, and guest rooms for the Stephen M. Ross School of Business. The Ross School proposes renovations to Wyly Hall to provide updated classrooms for its executive education program and to provide new space for the William Davidson Institute that was displaced by the Kresge Business Administration Library Renovation, Computer and Executive Education Building Demolition, Jeff T. Blau Hall, and Exterior Cladding project currently under construction. A renovation of approximately 10,400 gross square feet of existing office space on the first floor will provide offices and meeting spaces for the William Davidson Institute. Approximately 14,100 gross square feet of space on the second floor will be renovated to provide classrooms in flexible layouts for the executive education program sized to meet projected growth in enrollment and designed for new methods of instruction.</p>	<p>Start Date: Nov-16                      Completion: Dec-17</p>	<p>Property Acquisition \$                      Remodeling \$ 3,727,046                      Additions/New Construction \$                      Landscaping/Roads \$                      Equipment/Furnishings \$ 462,000                      Other (Professional Fees, Telecommunications, Moving) \$ 910,954</p> <p>Total: \$ 5,100,000</p>	<p>Tuition \$                      Millage \$                      Bond Proceeds \$                      Donations \$                      Federal \$                      Other (Stephen M Ross School of Business resources and William Davidson Institute resources) \$ 5,100,000</p> <p>Total: \$ 5,100,000</p>
11	<p>Central Campus Area Utility Tunnel Reinforcement</p> <p>Revised to include replacement of a portion of high voltage duct bank found to be in poor condition as well as additional tunnel reinforcement, waterproofing and interior tunnel patching. All financial obligations for the project were finalized Oct-16.</p> <p>Most Central Campus buildings utilize the Central Power Plant and a network of tunnels for the distribution of utilities. A recent study determined that some sections of tunnel require reinforcement to withstand heavy loads of emergency vehicles such as a fire truck. This project includes reinforcement of approximately 600 feet of tunnel near the Michigan League to create designated fire truck access, restoration of paving and landscaping, and the addition of fire hydrants, pedestrian lighting, storm water management improvements utilizing underground infiltration, and on-site power supply for events.</p>	<p>Start Date: Apr-15                      Completion: Nov-15</p>	<p>Property Acquisition \$                      Remodeling \$ 2,384,785                      Additions/New Construction \$                      Landscaping/Roads \$                      Equipment/Furnishings \$                      Other (Professional Fees) \$ 623,733</p> <p>Total: \$ 3,008,518</p>	<p>Tuition \$                      Millage \$                      Bond Proceeds \$                      Donations \$                      Federal \$                      Other ( Utility resources and General Fund resources) \$ 3,008,518</p> <p>Total: \$ 3,008,518</p>

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12	<p>Central Power Plant Feed Water System Deaerator Upgrade</p> <p>Revised to include the removal of a generator within the Central Power Plant for repair and reinstallation. All financial obligations for the project were finalized Jul-16.</p> <p>The Central Power Plant (CPP) provides steam for the heating and cooling of many buildings on Central Campus, and also uses the steam produced to generate electricity. This co-generation allows for a very efficient operation and the Environmental Protection Agency has recognized our efforts in efficiency, fuel energy savings, and greenhouse gas emission reduction. The CPP's feed water system includes deaerators that remove oxygen from water as part of the steam generation process. This project replaced two 1940's deaerators with two modern deaerators meeting current industry standards. Each deaerator weighs approximately 140,000 pounds when filled, measuring 18 feet in diameter and 20 feet in length. An existing decommissioned boiler was removed, including abatement of lead and asbestos, to provide space for the new system. The new equipment will yield higher-quality water and increase boiler system efficiency, reliability, life expectancy, and redundancy. It will also result in reduced boiler corrosion, component failure, and maintenance.</p>	<p>Start Date: Apr-13                      Completion: Dec-14</p>	<p>Property Acquisition \$ _____                      Remodeling \$ 4,835,668                      Additions/New Construction \$ _____                      Landscaping/Roads \$ _____                      Equipment/Furnishings \$ _____                      Other (Professional Fees) \$ 996,264</p> <p>Total: \$ 5,831,932</p>	<p>Tuition \$ _____                      Millage \$ _____                      Bond Proceeds \$ _____                      Donations \$ _____                      Federal \$ _____                      Other (Utility resources) \$ 5,831,932</p> <p>Total: \$ 5,831,932</p>

<sup>1</sup> This amount shall be calculated by dividing the amount of tuition revenue that is annually budgeted for the institution's share of a project's cost by the most recent fiscal year equated student count for the institution.