

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

I.3. Capital Planning and Budget Committee

Thursday, June 6, 2013
UW-Milwaukee Union
Milwaukee, Wisconsin

1:00 p.m. Meeting of the Capital Planning and Budget Committee – Ballroom West

- a. Approval of the Minutes of the April 4, 2013 Meeting of the Capital Planning and Budget Committee
- b. UW-Milwaukee Presentation: UWM's Integration of Academic, Strategic, and Space Planning
- c. UW System: Authority to Construct All Agency Maintenance and Repair Projects [Resolution I.3.c.]
- d. Report of the Associate Vice President
 - Building Commission Actions
- e. Closed session for purposes of considering personal histories, as permitted by s.19.85(1)(f), *Wis. Stats.*, related to the naming of facilities at UW-Madison

Authority to Construct All Agency
Maintenance and Repair Projects,
UW System

CAPITAL PLANNING AND BUDGET COMMITTEE

Resolution:

That, upon the recommendation of the President of the University of Wisconsin System, authority be granted to construct various maintenance and repair projects at an estimated total cost of \$7,455,600 (\$4,987,000 General Fund Supported Borrowing; \$1,197,000 Program Revenue Supported Borrowing; and \$1,271,600 Program Revenue-Cash).

THE UNIVERSITY OF WISCONSIN SYSTEM

Request for Board of Regents Action June 2013

1. **Institution:** The University of Wisconsin System
2. **Request:** Authority to construct various maintenance and repair projects at an estimated total cost of \$7,455,600 (\$4,987,000 General Fund Supported Borrowing; \$1,197,000 Program Revenue Supported Borrowing; and \$1,271,600 Program Revenue-Cash).

FACILITY MAINTENANCE AND REPAIR

INST	PROJ. NO.	PROJECT TITLE	GFSB	PRSB	CASH	GIFT/GRANT	BTF	TOTAL
MSN	13E3P	Nielsen Tennis Stadium Roof Repl	\$ 128,800	\$ -	\$ 128,800	\$ -	\$ -	\$ 257,600
FMR SUBTOTALS			\$ 128,800	\$ -	\$ 128,800	\$ -	\$ -	\$ 257,600

HEALTH, SAFETY, AND ENVIRONMENTAL PROTECTION

INST	PROJ. NO.	PROJECT TITLE	GFSB	PRSB	CASH	GIFT/GRANT	BTF	TOTAL
MSN	13E1B	Sullivan Hall Sprinkler Retrofit/Lobby Renv	\$ -	\$ -	\$ 379,000	\$ -	\$ -	\$ 379,000
HSE SUBTOTALS			\$ -	\$ -	\$ 379,000	\$ -	\$ -	\$ 379,000

UTILITY REPAIR AND RENOVATION

INST	PROJ. NO.	PROJECT TITLE	GFSB	PRSB	CASH	GIFT/GRANT	BTF	TOTAL
MSN	13D2T	Dayton St. Utility Renv, Ph. II	\$ 2,065,200	\$ -	\$ 763,800	\$ -	\$ -	\$ 2,829,000
SUP	13D1S	Steam Dist Sys Repr/Repl (Flood Restoration, Ph. III)	\$ 2,793,000	\$ 1,197,000	\$ -	\$ -	\$ -	\$ 3,990,000
URR SUBTOTALS			\$ 4,858,200	\$ 1,197,000	\$ 763,800	\$ -	\$ -	\$ 6,819,000

	GFSB	PRSB	CASH	GIFT/GRANT	Z450	TOTAL
JUNE 2013 TOTALS	\$ 4,987,000	\$ 1,197,000	\$ 1,271,600	\$ -	\$ -	\$ 7,455,600

3. **Description and Scope of Project:** This request provides maintenance, repair, renovation, and upgrades through the All Agency Projects Program.

Facility Maintenance and Repair Requests

MSN – Nielsen Tennis Stadium Roof Replacement (\$257,600): This project replaces roof coverings and concrete plaza decks and completes all other associated ancillary work to maintain the building envelope integrity and prevent damage to the building and its contents. Project work includes removing ~16,665 SF existing PVC roofing and associated insulation and installing a new 60-mil Ethylene Propylene Diene Monomer (EPDM) membrane over new insulation to achieve a minimum average R-24 value. Roofing work must be coordinated around electrical conduits that run across the roofing surface, mechanical equipment curbs, and other roof penetrations. The lighting protection system will be modified as necessary. Roof counter flashings and metal roof edges will be replaced as required.

Health, Safety, and Environmental Protection Requests

MSN – Sullivan Hall Fire Sprinkler System Retrofit and Lobby Renovation (\$379,000):

This project installs a new fire sprinkler system, including a new 6-inch water service, to serve the entire building and renovates the main entrance, first floor lobby, and main staircase. Project work includes retrofitting a new fire sprinkler system per National Fire Protection Association 13 and establishes a new wet sprinkler zone for each floor; installing a new 6-inch water service to supply the new fire sprinkler system; and renovating the main entrance, lobby, and main staircase into a single large gathering space. The new gathering space will receive new lighting and accessibility upgrades and all finishes will be replaced. The gathering space renovations will be similar to those already completed at Bradley Hall (10A3K) and Cole Hall (11L1Q).

Sullivan Hall does not have a fire suppression system and will be the first low rise residence hall to be retrofitted with a fire sprinkler system as part of the campus commitment to sprinkler all residence halls by 2025. The entry and stairwell renovations in this building will create more social and gathering space for residents. Previous projects have produced space where residents meet, gather, study, and socially interact. The main stairwell is well traveled and requires upgraded finishes.

Utility Repair and Renovation Requests

MSN – Dayton Street Central Utility Renovations, Phase II (\$2,829,000): This project renovates central utilities near the intersection of Charter Street and Dayton Street and under the Wisconsin and Southern Railroad corridor. Abandoned steam and condensate utilities will be removed, remaining steam/condensate utilities will be replaced, and chilled water south of the intersection will be upsized and extended further south. Project work includes replacing steam pit 16/11 and ~90 LF of concrete box conduit between steam pit 20/11 and 16/11. The concrete box conduit system work includes replacement of the 20-inch high-pressure steam, 8-inch pumped condensate return, and 3-inch compressed air piping, insulation, and support systems. Directly adjacent to steam pit 16/11, the signal communication manhole 3S07 will be demolished and replaced. The steam/condensate box conduit systems abandoned along Charter Street in phase one of this project are to be removed: the section from steam pit 17/11 to steam pit 18/11 at Johnson Street (including demolition of steam pit 17/11), the section south of the railroad tracks to the new steam pit 16/11, and the section south of the new steam pit 16/11 to the Charter Street Heating Plant (CHSP). The section of steam/condensate box conduit system directly under the Wisconsin and Southern Railroad corridor will be permanently abandoned-in-place and filled with concrete.

Project work also includes upsizing and extending the 12-inch chilled water supply and return piping under Charter Street, which is currently routed from the 48-inch mains on the west side of the CSHP to a point just south of the bike path. Following the same route as the existing piping, the system will be replaced with ~80 LF of 20-inch, ~160 LF of 18-inch, ~230 LF of 16-inch, and ~240 LF of 14-inch chilled water supply and return piping. Two or three segments of the existing main 48-inch piping at CSHP may require replacement to facilitate new 20-inch tie-in work due to the present configuration and condition. Upon completion of the piping installation work, the chilled water system will

be extended south of the bike path to a termination point at the east end of Capitol Court. Miscellaneous chilled water utility work includes reconnection of existing chilled water branch services to the Primate Annex and 45 N. Charter Street, and new branch piping stubs that will be extended and capped beyond the terrace and sidewalk for future connections to 30 N. Mills Street and Lot 54 in consideration of campus development plans. Miscellaneous project scope items include asbestos abatement of the steam pit and box conduit piping insulation (as required) and complete restoration of the site to pre-construction conditions, including roadways and gutters, pedestrian walkways, landscaping features, and site structures.

This project is phase two of three. Phase three will be constructed through a future project and will include installation of the second bore tunnel under Dayton Street and the Wisconsin and Southern Railroad corridor complete with a new concrete box conduit system and steam/condensate piping which will be connected to the existing systems routed east along Dayton Street.

Charter Street is in poor condition between Regent Street and Johnson Street. The city of Madison is planning to rebuild this section of Charter Street within the next few years. Coordination with the city will allow the university to complete the utility work described in this project in advance of the rebuilding of Charter Street. The project scope is a continuation of the phased central utility renovation near CSHP along with campus utility work within the Charter Street right-of-way that will be less costly and disruptive to complete prior to the start of the work being performed by the city of Madison.

The steam distribution system in the scope of this project was installed when the CSHP was constructed in 1958. This is the primary service to the campus from CSHP. There have been several recent condensate leaks in this section of distribution system. While inspecting the distribution system during the latest repair work, it was determined that the entire piping system is in poor condition, including the expansion joints, anchors, and concrete structures. In addition to the degraded condition of the steam distribution system in this area, a signal communications pit located directly adjacent to steam pit 16/11 (within the intersection of Dayton Street and Charter Street) is in poor structural condition and requires replacement.

Chilled water was extended to the south of CSHP in the late 1990s to serve the Primate Annex building at 1220 Capitol Court. In the 2005 Master Plan, several additional facilities were planned in the Capitol Court area and the piping is not adequately sized to serve the projected loads. Current planning indicates that this expansion will begin in less than 10 years contingent on fund-raising efforts.

SUP – Steam Distribution System Repair/Replacement, Phase III (\$3,990,000): This project repairs or replaces ~2,316 LF of underground conduit containing high-pressure steam and pumped condensate piping. This project completes repairs of damage caused by a flood in June of 2012, implements steam/condensate distribution system flood mitigation strategies, and replaces distribution components at or nearing the end of their service lives. Existing concrete box conduit systems project work includes excavation and exposure of the conduit box, removal and preservation of conduit lids, and removal and disposal of high-pressure steam and condensate piping insulation. Upon full exposure, a complete inspection will be performed on conduit systems including testing of concrete structures, high-pressure

steam and condensate piping, and piping supports as deemed necessary to determine remaining life. Based on the inspection and testing results, the concrete conduit box, steam and condensate piping, and piping supports are to be fully replaced, partially replaced, or reused as dictated by their condition and as directed by the Division of Facilities Development. Following the inspection, testing, and the repair or replacement work, the steam and condensate piping will be re-insulated, concrete lids will be repoured or reinstalled as appropriate, and conduit boxes will be waterproofed. The project areas will be backfilled and the site restored to pre-project conditions, including landscaping, pavements, and turf.

Existing direct-buried steel or cast-iron conduit sections project work includes excavation, removal and disposal of conduit systems complete with piping, supports, and insulation systems. After demolition work is complete, a new concrete box conduit system will be constructed, including new steam and condensate piping, new piping supports, and new piping insulation. The steam and condensate piping associated to the direct-buried systems between Steam Pit 5 & Steam Pit 10 and Steam Pit 10 & Steam Pit 11, will be upsized from 6-inch HPS/3-inch PCR to 8-inch HPS/4-inch PCR to increase steam flow capacity to the central campus. All new piping will be hydro-tested for leakage before box lids are poured. After the new box conduit system is waterproofed, the excavation will be backfilled, and the site restored to pre-project conditions, including landscaping, pavements, and turf.

The project scope also includes various repairs and renovations to steam pits and the associated equipment and installing bulkheads where existing box conduit systems penetrate building walls to prevent an uninhibited path of water entry into finished spaces if a flood event should occur. The bulkheads will be installed in the buildings impacted by the project scope: Barstow Hall, Erlanson Hall, Old Main, Curran-McNeill Ostrander Hall, Marcovich Wellness Center, and Wessman Arena.

Torrential rains on 06/19/12 and 06/20/12 flooded a significant portion of the campus, completely submersing most of the steam and condensate distribution system. The piping insulation was saturated or dislodged by water currents as the conduit systems quickly filled with water during the event. Some debris and silt was carried by floodwaters into the box conduit systems and remained after the waters receded. Most of the affected sections, dating to the 1960s and 1970s, contain aged insulation systems that are not well suited for heavy water exposure. As the piping insulation thermal resistance properties have been permanently compromised by the unique flood event, piping insulation replacement is the only option for returning the system to its former energy efficiency level. If left in its current state, boiler capacity will be taxed due to excessive heat transmission losses in the steam and condensate distribution system. Replacement piping insulation material will be selected to better resist water absorption and be well suited to withstand flowing water forces, if a flood event should reoccur.

Concurrent with the piping insulation replacement work, the condition of the concrete box conduit, steam/condensate piping, and piping supports will be inspected, tested, and repaired per the project description to ensure that the systems have significant useful life remaining after the restoration project is completed. Deterioration due to age may dictate the design solutions (repair or replacement). Since the box conduit and piping systems will

be fully exposed during re-insulation work, it is both timely and cost efficient to complete any additional repairs concurrently with the re-insulation work.

The steam pits were also constructed in the 1960s and 1970s and repairs are required due to age, moisture, and salt exposure. The salt-laden moisture originates from winter applications of de-icing agents on adjacent sidewalks and roadways. Due to repeated exposure, certain sections of the concrete reinforcement steel have rusted and caused concrete spalling. Where direct-buried steel or cast iron conduit was used to house steam and condensate piping, the systems are nearing the end of their expected life cycles with flood water exposure accelerating insulation and conduit degradation. There is not a cost effective or practical means to remove the conduit, preserve existing piping, replace piping insulation and install a new steel conduit. Therefore, the direct-buried conduit systems will be replaced with concrete box conduit systems.

The Federal Emergency Management Agency (FEMA) and Wisconsin Emergency Management (WEM) will be reviewing claim applications for this work. Preliminary discussions with both organizations have indicated that a substantial portion of the costs associated with flood restoration work may be covered and reimbursed after construction is completed.

4. Justification of the Request: UW System Administration and the Division of Facilities Development (DFD) continue to work with each institution to develop a comprehensive campus physical development plan, including infrastructure maintenance planning. After a thorough review and consideration of approximately 450 All Agency Project proposals and over 4,500 infrastructure planning issues submitted, and the UW All Agency Projects Program funding targets set by DFD, this request represents high priority University of Wisconsin System infrastructure maintenance, repair, renovation, and upgrade needs. This request focuses on existing facilities and utilities, targets the known maintenance needs, and addresses outstanding health and safety issues. Where possible, similar work throughout a single facility or across multiple facilities has been combined into a single request to provide more efficient project management and project execution.

5. Budget:

General Fund Supported Borrowing	\$ 4,987,000
Program Revenue Supported Borrowing	1,197,000
Program Revenue-Cash	<u>1,271,600</u>
Total Requested Budget	\$ 7,455,600

6. Previous Action: None.