All Agency Project Request

2011 - 2013 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Milwaukee	285-0B-1932	Northwest Quadrant (Columbia St. Mary's)

Project No. 12B1R **Project Title** NWQ Fire Alarm/Telcomm Renv

Project Intent

This project replaces the obsolete fire alarm systems in the Northwest Quadrant (NWQ) Buildings A, B, C, D, and E and installs a security system in critical locations. The project also constructs one telecommunication riser in both Building C and Building D to allow central reporting of fire alarm systems and security systems in the NWQ complex. Systems upgrades are needed to ensure the safety of building occupants and protect the building contents.

Project Description

Fire Alarm System: Project work includes removing and replacing the fire alarm control panels with new multiplex intelligent control panels with one-way voice evacuation capability. Smoke and heat detection devices will be replaced as needed to be compatible with the new control panels and to meet UL listing requirements. The fire sprinkler flow and tamper switches will be connected to the new control panels and the engineered smoke control systems will be interfaced with the new control panels. The new control panels will be sized to have adequate capacity to support all existing and anticipated future devices. All elevators will be interfaced with the new control panels for the elevator recall function. All panels will report centrally to the campus security office through the campus building automation system through the campus fiber optic backbone. The new fire alarm control panels in Buildings A and D will meet all high rise structure code requirements.

Telecommunication Risers: Project work includes extending the telecommunication infrastructure from the NWQ complex MDF/Data Center location in the basement of Building B to one new riser in Building C and one new riser in Building D. New risers will be constructed in each building including raceway, fiber optic cable, copper cable, and stacked closets. Preliminary pathway and closet locations have been determined by the University Information Technical Services (UTIS) office. The proposed design concept will provide one closet on every third floor. Each closet will serve telecommunication outlets on the same floor, one floor above, and one floor below. There will be limited horizontal connections between telecommunication components, life-safety systems, and other critical infrastructure components. Horizontal cabling required for occupant stations will be done at time of occupancy under a separate project. The project also includes the removal of obsolete legacy components. Consultant will consult with UWM UITS office in design of telecommunication facilities.

In Building C, a new telecommunication room will be constructed on basement and second floors with vertical paths or closets on intermediary floors. Building C telecommunications rooms will be between 400 and 600 ASF and the vertical paths will be approximately 40 ASF. In Building D, a new telecommunications room will be constructed on first floor, fourth floor, and seventh floor with vertical paths or closets on intermediary floors. Building D telecommunications rooms will be between 200 and 600 ASF and vertical paths will be approximately 40 ASF.

Security/Access Control System: Project work includes replacing security and access control items removed by the previous facility owner and establishing a reliable security and access control system that is fully integrated with the campus METASYS building automation system. The project will install a minimal number of cameras and electronic door access equipment as an initial installation. The initial installation will include 11 interior cameras, 4 exterior cameras, 5 card readers on exterior doors, and 3 card readers on interior telecommunication room doors. Additional cameras and electronic key access will be included in future projects. The campus standard access control system is an Andover type consisting of electric locks, door contacts, and card readers placed as needed to secure and access a building or portions of buildings. Typical locations include exterior doors, telecommunication rooms, MEP facilities, critical storage spaces, and areas requiring special security and/or after hours access and reporting. Security cameras are located in critical locations with a tie to the campus security backbone. The design consultant will coordinate design solutions with the campus Police Department and Facility Services in the design of these systems.

Project Justification

Fire Alarm System: The NWQ complex fire alarm system is a Johnson Controls IFC 2020 Notifier system consisting of a master panel in the hospital security office and twelve subpanels located throughout the complex. Portions of the system were upgraded in 2000 but many of the panel components are obsolete and repair parts are difficult to find. The system also includes an engineered smoke control subsystem consisting of area ionization detectors that provide alarm by area and control various fire doors and smoke dampers. This system reported to the security office on a continuous basis and alarms were reported to the fire department. The new system will continue to report centrally to the security office and also be connected to the campus METASYS system and report directly to the campus Police Department, in the same manner as other buildings on campus.

The NWQ fire alarm system and fire sprinkler system is monitored by a third party that reports alarms directly to the City of Milwaukee Fire Department. Follow-up reporting from the fire department to the campus Police Department has been unreliable. Hospital equipment that was monitored and used without interruption is no longer being used in the same manner, triggering numerous false alarms. This project will replace the fire alarm system components with a system that will remove proprietary equipment, eliminate the need for third party monitoring, and restore campus confidence in the reliability of the system. This project is needed to ensure the safety of the thousands of daily occupants of these buildings and protect building contents.

Telecommunication Risers: The telecommunication riser for Building B was constructed by the campus to allow Building B to be occupied by occupants of Bolton Hall, who relocated to allow a comprehensive HVAC and Life-Safety Improvement project for that facility to proceed. The telecommunication risers for Building C and Building D must be constructed to allow the campus Children's Center to relocate to Building C and a portion of Building D. Telecommunication risers must be in place in Building C and Building D to allow the Children's Center program and other programs that will occupy the other portions of Building D to have connectivity with the campus computer network. The Children's Center Relocation (11C2L) will be the first occupants of Buildings C and D. The telecommunication risers need to be in place so the horizontal cabling provided under that project can be terminated. This project is also needed to enable complete tie in of critical life safety and security systems to the campus automation system.

Security/ Access Control System: Prior to the Columbia Saint Mary's (CSM) hospital sale, the owner removed the security cameras, Matrix control panels, and card readers at doors with electronic strikes. The electronic strikes, door contacts and distribution cabling to these doors and camera locations still remain. The Matrix system used by CSM was proprietary and obsolete and is not compatible with the campus Andover system. This complex is large with a vast number of exterior doors that are not easily monitored from the interior or the perimeter of the property. The large number of wings with exterior courtyards also poses a safety risk to pedestrians. With the purchase of the CSM complex, the campus suddenly grew by 20%. The resulting area that requires patrolling also increased, but the number of security personnel did not increase. Electronic monitoring and access controls will effectively and efficiently aid circulation through the buildings, and help protect the building's occupants and contents. This project is needed to ensure reliable safety to hundreds of people that will use these buildings on a daily basis.

A/E Consultant Requirements

☑ A/E Selection Required?

The consultant team should have specific expertise and experience in the design, coordination and installation of core telecommunication systems, building automation systems, life safety systems, and security systems as part of an integrated building network. Work includes: site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents; and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

The design consultant will consult with the campus Police Department, campus Facilities Management, and the local fire marshall. The location of the fire alarm command center will be coordinated with the local fire marshall.

Commissioning

☑ Level 1

☐ Level 2

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Project Budget		
Construction Cost:		$1,140,800
Haz Mats:		$0
Construction Total:		$1,140,800
Contingency:	15%	$171,100
A/E Design Fees:	8%	$91,300
DFD Mgmt Fees:	4%	$52,500
Equipment/Other:		$0
		$1,455,700

Funding Source	Total
GFSB - Health, Safety, & Environmental Protection	$1,300,500
PRSB - []	$0
Agency/Institution Cash [AGF0]	$155,200
Gifts	$0
Grants	$0
Building Trust Funds [BTF]	$0
Other Funding Source	$0
	$1,455,700

Project Schedule

SBC Approval:	04/2012
A/E Selection:	05/2012
Bid Opening:	04/2013
Construction Start:	06/2013
Substantial Completion:	06/2014
Project Close Out:	09/2014

Project Contact

Contact Name:	Andrew C. Nelson
Email:	<acnelson@uwm.edu>
Telephone No.:	(414) 229-4013 x

Project Scope Consideration Checklist

	Y	N
1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction.	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.		
2. Is the project an extension of another authorized project? If so, provide the project #...	☐	☑
3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?	☐	☑
Hazardous materials abatement is not anticipated on this project. Comprehensive building survey inventory data is available on Wisconsin's Asbestos & Lead Management System (WALMS) <http://walms.doa.state.wi.us/>.		
4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?	☐	☑
5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent?	☐	☑
6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope.	☐	☑

7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III? ☑ ☐

   Type III.

8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here. ☐ ☑

9. Are there any other issues affecting the cost or status of this project? ☐ ☑

10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution. ☐ ☑

11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? ☑ ☐

    Completion of this project will decrease operational maintenance costs.

12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s). ☐ ☑

13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <http://www.focusonenergy.com> or the local utility provider)? If yes, describe here. ☐ ☑

14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here. ☐ ☑