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Momentum

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System Upgrade Resolves Moisture Concern at University of Maryland Building

Fast, Creative Work Enables University to Keep Building in Use

◄ L to R:
Jerry Hauprich, University of Maryland; Gene Nerf, Mueller Associates

"This project confirms that a retrofit is a viable method of updating HVAC systems. It was fast, creative work and I was impressed with Mueller's entire team."

—Jerry Hauprich, PE
Assistant Director for Campus Project Planning and Design
University of Maryland, College Park

Careful analysis, creative engineering, and a fast-track design and construction solution helped the University of Maryland to upgrade critical building systems this summer in Jimenez Hall, a heavily used classroom building at the university's College Park campus. A 56,000-square-foot, five-level building, Jimenez Hall is located in the southwestern quadrangle of the campus and serves as home to many of the university's foreign language programs.

Originally built in 1962, with a 1971 addition, Jimenez Hall was experiencing moisture-related problems due to the design concept of its aging HVAC systems. Excessive humidity was contributing to the presence of mold in the building, prompting the university's Department of Environmental Safety and Department of Facilities Management to commission a comprehensive evaluation of the HVAC system, along with short-term and long-term recommendations for needed improvements.

"We knew from the start that the mold problem was probably related to the poor performance of the HVAC system, and Mueller's study confirmed that diagnosis," says Jerry Hauprich, PE, Assistant Director for Campus Planning and Design. "We needed to retrofit the HVAC system to bring it into this century."

A Challenging Schedule

When the mold problem became more severe—causing concern about the environmental conditions within the building—Hauprich called on Mueller to expedite a design and construction solution that responded to the issues raised in the study while allowing construction to take place in the occupied building. "My boss made a promise to the faculty that the ventilation problem would be fixed by the end of the next school year, before the really hot weather set in," Hauprich says. "When he laid down that challenge I was on the phone with Mueller the next day. Within three days we had the fee negotiated, the schedule set, and the deliverables identified. I was really impressed with their responsiveness."

"The HVAC system was inadequate and not functioning properly—largely due to its age," says Mueller Project Manager John Morris, PE. "The building was under severe negative pressure. As an initial measure, we designed a replacement system, housed in an infill wing."

The first phase encompassed the installation of an auxiliary ventilation system in a small, two-story addition tucked into a courtyard within the H-shaped building. Construction on this phase was completed this summer, before classes resumed. A subsequent phase will address replacement of the fan coil units throughout the remainder of the building.

To minimize ongoing energy costs, a series of occupancy sensors were installed in selected areas throughout the building. Mueller's design also incorporated a readily available, on-campus chiller at the university's request, and included provisions to tie in the campus chilled water loop to supplement the chiller when the next phase is implemented. The project team included Melville Thomas Architects, Inc.; Delon Hampton & Associates for civil and structural engineering; general contractor Baltimore Contractors, LLC; and mechanical contractor Welsh and Rushe, Inc.

A Smart Approach

Hauprich credits Mueller's ability to assemble a strong team quickly and develop an innovative design approach that enabled the project to move forward at an aggressive pace. "This job would have bombed if it hadn't been done on time," he says. "The only way to do it was to deliver the design in pieces, so that we could buy the construction in pieces, and that's what Mueller did. They prepared the documents in phases, which was a very smart thing to do." The documents were submitted in four packages to contractors that were on board at the university, and all of the work except utilities and the new addition was completed during off-hours.

"Jerry Hauprich also deserves a lot of credit for the project's success," says Mueller Principal-in-Charge Gene Nerf, PE. "He planned it and pushed it through, and promptly delivered on all of the university's responsibilities. While the time constraint was challenging for all parties, our job was made easier due to his helpful input and feedback throughout the process."

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"Mueller really excels with the field investigative work. They spend time on the site and research existing conditions thoroughly. They respond very quickly—they're not 'armchair' engineers."

—Paul Ouellette
Construction Project Manager
Wake Forest University Baptist Medical Center

Supporting Growth at Wake Forest University Baptist Medical Center

Facility Improvements Help Enhance Patient Care, Medical Advances

When it comes to facilities planning and management, few environments are as challenging as hospitals and related research and laboratory settings. Accommodating steady growth, new technology and equipment, advances in medical practice and patient care, and the need to modernize aging facilities are among the constant priorities of healthcare facility professionals nationwide.

Paul Ouellette, WFU construction project manager, stands in one of the medical center's new Burn Unit patient rooms, which feature Aragona adjustable thermal panels.

At Wake Forest University Baptist Medical Center in Winston-Salem, NC, an ambitious program of facility improvements and expansion has played a vital role in the institution's robust growth and rising national reputation. The medical center, which recently ranked as one of "America's Best" in *U.S. News & World Report's* 2002 listing of top U.S. hospitals, has completed dozens of major renovation and new construction projects over the past decade.

The Domino Effect

"It's like dominoes," says Paul Ouellette, construction project manager for the campus, explaining the complicated nature of keeping up with healthcare facility growth: "If you move one thing, it affects something else. And in spite of long-range planning, there are always projects that just crop up—a new laboratory, or an upgrade to a patient care unit. We're growing so rapidly, it's hard to project many years ahead."

As a result, Ouellette points out, the need for reliable design consultants is crucial. "It's important to use the best consultants so that we can avoid problems," says Ouellette. "We've worked with Mueller since 1991 and they've done a great job for us. They are good with complicated projects and they know the codes and requirements well."

Mueller has supported the hospital through the design of more than two dozen renovation and new construction projects. Work has ranged from the renovation of the hospital's 15,000-square-foot Comprehensive Cancer Center and the similarly-sized Cardiac Care Unit to the design of the J. Paul Sticht Center for the Aging, a 200,000-square-foot geriatric care facility.

Completed work at the hospital also includes:

- Relocation and upgrades to the Patient Burn Unit
- Power upgrades to the Cardiac Catheterization Lab
- Renovation of the Hemodialysis/ Renal Urology Clinic
- Renovation of the Special Procedures Room
- HVAC and power upgrades to the Central Telemetry Surveillance Monitoring Room
- Renovation of the Neurology/ Sleep Disorder Clinic
- Renovation of the Endoscopy Suite

Currently, a renovation of the Plastic Surgery Suite is under construction in the hospital's North Tower, and Mueller is now designing an Epilepsy Monitoring Unit, two new Intervention Rooms, and an Intermediate Care Unit. In addition to Mueller, the design/construction team for most projects also includes the Charlotte-based architecture firm of Franceschi & Roberts, general contractor Frank L. Blum, mechanical contractor Benner & Fields, and electrical contractor Salem Electric.

A Close Working Relationship

In addressing complex renovation projects, "Mueller really excels with the field investigative work," says Ouellette. "They spend time on the site and research existing conditions thoroughly. They never take the as-builts as gospel. It pays off—there are fewer changes as the project moves forward. They respond very quickly—they're not 'armchair' engineers."

Mueller's Tom Schrieber has overseen projects at Wake Forest University Baptist Medical Center for several years. He points to the unique relationship with the hospital's Office of Facilities Planning as critical to the success of the many challenging assignments. "This is a knowledgeable, innovative client with an ambitious program," he says. "We've worked so closely together that the hospital has almost become a second home to me."

Ouellette agrees that the close working relationship between Mueller and the campus facilities staff has been instrumental in the number of successful projects that have been completed. "Mueller has really proven itself over the years. I have a lot of faith in them—I've seen them do an incredible amount of work in a short amount of time. They can really save the day."