



University of Detroit Mercy: A Campus on the Move

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Associate Editor

Photos by Christopher Lark Photography,
Courtesy TMP Architecture

Students at University of Detroit Mercy (UDM) can now be fit in mind, body and spirit. This private Catholic University has a strong academic backbone, having recently ranked No. 20 in the Top 20 Regional Universities in the Midwest by U.S. News & World Report's 2013 education edition. Its deep Jesuit roots are shown by its Lenten lecture series on the Spiritual Exercises of St. Ignatius. Students now have an open, airy and light-filled fitness center for exercises of another kind, thanks to TMP Architecture, Bloomfield Hills, and The Monahan Company, Eastpointe. Whether pumping iron, relaxing in the new student lounge or running on an indoor track with a full view of the campus's classic sandstone buildings, students now have a great place to workout and unwind. After 10 years on the University's wish list, the professional savvy of the project team - and a bit of

fundraising - have delivered what may be considered a type of miracle.

"Some of the alumni and students never thought it would come true," said UDM Director, Facility Operations, David Vandelinder. For all those Doubting Thomases, seeing is believing. As the first free-standing building constructed on UDM's McNichols campus in 42 years, this new 43,000-square-foot facility is clearly beautiful to behold and wonderful to exercise in, as proven by its high usage rate. An average of about 3,500 students a week, out of a total student population of over 5,000*

take part in Zumba, yoga and belly dancing classes or join Club Volleyball, cardio, basketball and weight training sessions. "People enjoy the space," said Jeff Latinen, UDM fitness center manager. "For our campus, that number of people a week is very strong. We've been close to 5,000 a week

a couple of times."

Prior to this project, fitness buffs at UDM had to "compete" for the gym with the formidable Detroit Titans and other student athletes engaged in competitive, intramural sports in the nearby Calihan Hall. Students were often confined to early morning or late night exercise sessions, but UDM students now have a home of their own, complete with gym courts, a dance studio with a mirrored wall and hardwood floor, and a cardio, weight and stretching area, as well as a main student gathering area and a second-story lounge.

A CONSTRUCTION AND DESIGN WORKOUT

Construction-wise, The Monahan Company, a well-respected firm celebrating its 90th anniversary this year, had to work in extremely close proximity to the underground grid of the University's primary and secondary electrical

feeds. At one point, they even had to tunnel below and temporarily support the primary feed to construct a tunnel to access steam and chilled water in a nearby building, said Project Director W. Daniel Monahan, The Monahan Company. At the end of the day, the company successfully linked the new building to the life line of MEP and domestic water systems, working with minimal disruption to the University.

The University commends The Monahan Company for keeping the campus safe and operational throughout the construction process. "One of our biggest concerns was keeping the area safe for students and keeping the campus operating," said Vandelinder. "The Monahan Company did an excellent job."

Design-wise, TMP had to balance two seemingly opposite building types. This amazing new fitness center complements the campus's six core buildings originally constructed in 1926 and 1927. "We wanted to keep some of the character of these sandstone buildings and their Spanish tile roofs," said Vandelinder. Classic, elegant and almost monastic, these structures are part of the identity of this well-established campus whose clay tile roofs, ornate clock tower and traditional academic buildings have been

gracing the intersection of McNichols and Livernois in Detroit for over 80 years.

"One of the design challenges of this building was to maintain the classic feel of the original buildings yet express the dynamism of a fitness center," said TMP Principal John Miller, AIA. A purely contemporary building would not align with the University's vision of its campus.

TMP's design solution crafted a structure expressive of both worlds. A building of buff-colored burnished block, a perimeter clay tile roof and gray-tinted windows with black mullions root the building in the campus's architectural tradition. The fitness difference: a large canopy dominates the entry and a two-story glass curtain wall wraps almost the entire southwest corner. "The key was this celebration of glass on the corner," said Miller. "The use of large expanses of glass inside and outside the building gives it that dynamic character. It is especially expressive in the evening."

This large glass "TV screen" is always tuned to the fitness channel. At night, this glass showcase glows with the light within and offers a full view of students jogging on the track or playing basketball in the gym. "We have done a number of recreation centers, and

one of the attributes of success is transparency," said TMP Senior Vice President, Chief Design Officer David W. Larson, AIA. "People see into the interior and are drawn in by the excitement."

Beyond its transparency, the building extends in front of the rest of the campus buildings that begin at the University's main Livernois Avenue entrance and line the length of the now-closed Florence Avenue, a former city street now converted into an outdoor campus commons. "We projected the building out from the main campus entrance so people could see the energy within the fitness center as they entered campus or from the nearby dorms," said Larson.

EXERCISING IN A POOL OF LIGHT

The glass is a bridge drawing together this classic campus and the new fitness center. These large expanses of glass fill the interior with wonderful vistas of the campus's classic buildings. Walk the mezzanine-level track and get a glimpse of the beautiful clock tower on UDM's powerhouse. Shoot some hoops in the first-level court and enjoy the view of the carved stone festooning the doorway of the neighboring Engineering Building. Take in the view of the new campus commons through the



Inspired design and the generous use of glass have created a fitness center with an open, airy and light-filled interior.



The new fitness center's clay tile roof and burnished block is in perfect harmony with the classic buildings and ornate clock tower of UDM's core campus buildings, originally constructed in 1926 and 1927.

glass curtain wall fronting the lobby lounge on the first floor and a pocket lounge on the second.

Glass walls, in lieu of block, divide the interior, creating open sight lines between virtually all spaces. A wall of tempered glass divides the lobby lounge from the gym court and the court from the main corridor. "We did not want to create a series of separate spaces where you walk down the corridor and behind a series of doors is the gym or the exercise room," said Miller.

Students walking up the wide, open staircase to the second-level cardio, weight and stretching area can enjoy the view of the new outdoor tennis pavilion through the large windows of the stair landing. On both levels, the extensive use of glass and the layout join to create an open, high-volume space. "You can see everything from everywhere," said Miller. "When you go upstairs the exercise areas are wide open to the courts, and the track wraps around the entire interior. The track on the second floor actually extends around the perimeter of the lobby lounge. It doesn't just circle around the court like in most fitness centers."

This open, glass-filled space almost becomes a vessel or pool constantly being filled with natural light. An actual pool is slated to

become Phase II of this dynamic new facility. Joggers on the track will have an amazing view of both the gym and the sun-washed waters of this new natatorium, currently in the fundraising stages.

For safety and security, the combination of interior glass walls and the placement of the welcome desk give the staff a clear view of the entire facility. "Security and safety wise, we can see everything that is happening," said Latinen. "If someone is injured, we can get to them more quickly."

A SLIM BUDGET

The project is even more amazing given its limited budget and tight timeframe for both design and construction. Using today's tight dollars, TMP designed a building remarkably similar to the campus buildings originally constructed in 1926. "Replicating the sandstone with a burnished block was a significant cost savings," said Miller. "The burnished block has a finish very similar to sandstone. The quality control can be very good, because it is a manufactured product."

The clay tile roof is a lovely optical illusion, said Larson, because the tiles only blanket the sloped perimeter. The flat, central portion of the roof is a white PVC membrane on a steel metal deck, said Monahan.

"We had a very tight budget, and the challenge to maintain the image of this building was something we fought hard to hold onto," added Larson. "To keep the amount of glass and other materials, we kept all the other systems as simple as possible. The structural system is very straightforward. We saved a significant amount of money by getting the building footprint to the size where we didn't have to put fireproofing on the structural steel."

The schedule was as tight as the budget. "We had a total of 18 months from the time we began design to the time UDM wanted to open the doors," said Miller. "We had six months to complete the entire design, beginning with programming and on through schematic design, design development, construction documents and the bidding process."

The Monahan Company had less than a year to complete construction. The company launched construction in early November 2011 and reached completion in mid-August 2012, said Monahan. The schedule was accelerated to allow the students to use the facility at the beginning of the September semester.

Fortunately, the schedule was met, thanks to excellent teamwork and a prior history of partnership at UDM between all three organizations. "Having worked with the client and the contractor before was indispensable in meeting this aggressive schedule," said Miller. Troy-based Peter Basso Associates, Inc. as the MEP engineer was yet another



The windows at court level offer a glimpse of the classic details gracing the doorway of the neighboring Engineering Building.

familiar face on the project team.

TMP's long history with UDM includes design of the student union, the sciences building and one of the dormitories in the late 1960's. More recently, TMP was the architect for the complete renovation of UDM's commerce and finance building. TMP and The Monahan Company have worked together on the renovation of UDM's Chemistry Building, a new campus roadway and the new tennis courts and pavilion.

AN UNDERGROUND OBSTACLE COURSE

Construction for the new fitness center began in November 2011. At first glance, building a new structure on a vacant, treeless plot of land may seem like a job on easy street. But a web of underground electrical feeds presented a host of concerns. The campus's secondary electrical feed from the surrounding neighborhood runs along the former Florence Avenue, now the University commons located at the very doorstep of the new fitness center. "The power line actually crosses just in front of the building at about a distance of only 10 feet," said Monahan. Needless to say, The Monahan Company had to work very carefully along the south face of the site during installation of footings for the poured-in-place concrete foundations.

Along the west, the campus's primary electric feed threads its way between the fitness center and the neighboring Engineering Building. "This 4,800-volt power line was a major challenge," said Monahan. "It was only buried about two feet deep." Added Vandelinder, "Had there been damage to this line it would have taken the entire campus down – both our primary and secondary electric feeds. It was very critical work."

Adding even more complexity to the work below-grade, The Monahan Company had to build a tunnel between the fitness center and Engineering Building to access steam and chilled water for the mechanical system. The Monahan Company actually tunneled beneath the electric feed, temporarily supporting the concrete-encased electrical conduit. "Once we did all the underground work, we had to build a temporary road over the electric feed to protect it from the weight of the machinery as we worked on that side of the building," said Monahan.

Clearly, establishing the MEP systems for the new facility was quite a workout itself. In addition, tying the fitness center's electrical system to the main distribution system in the campus powerhouse located due northwest of the new building involved coordinating two or three major shutdowns of the campus. The Monahan Company also installed a new water main to service the building. "We had to bring a two- to three-inch domestic feed, plus another fire suppression system feed, into the

building, coordinating all the work with the University," said Monahan.

MUD VS. SNOW

Actual soil conditions presented additional concerns. "Soil borings showed that the first three feet of soil was unacceptable for building," said Monahan. "We removed this layer of soil, erasing the need to dig out the footings. The footings were basically built up out of the ground, and the building pad was filled back in." About 10 percent of the building pad required excavation of an additional foot of soft soil and installation of engineered backfill.

For much of the project, Old Man Winter took a vacation last year, turning off the snow machine and brutal cold on jobsites across Michigan in 2011. This easy winter was a blessing for the construction of a building with a great deal of masonry. However, the snow gave way to mud on the UDM jobsite. "With all the scaffolding and heavy forklifts needed for masonry work, we had an extensive system of temporary roadways around the building that had to be put in place to keep the work going through this muddy winter," said Monahan. "Once the work on the walls was complete, all of the stone for the temporary roads had to be removed to allow for landscaping."

BUILDING A PLACE TO PLAY

The Monahan Company enclosed the building in mid-March 2012, delivering the interior in five months. Working in an interior with exposed ceilings and infrastructure involved drawing together the web of overhead systems in a visually appealing way. With exposed ceilings, "all the conduit and pipe has to be installed aesthetically and painted to achieve a finish quality," said Monahan.

However, the prime interior challenge was the placement of the gym floor. This quintessential place to play takes a lot of work to build. Kiefer Specialty

Flooring, Inc., a national flooring specialist based in Lindenhurst, Illinois, handled the court floors in the gym, as well as the replacement of Calihan Hall's floor two years ago.

First, the crew had "to wait for moisture in the concrete slabs to migrate out," said Larson. "The wood has to acclimate before you can even think about installing the floor." Actual installation takes about eight weeks. "It takes a long time to put the wood down," said Monahan. "The subsequent stages are sanding, sealing and letting it dry and then repeating those steps again."

Additionally, all construction activities above the gym had to be completed prior to floor installation to avoid marring this new beautifully installed, sustainably harvested maple gym floor. "We had to make sure everything was in place, painted and finished

above the gym to avoid any dust or damage to the court floor," said Monahan.

The engineering of athletic court flooring is as complex as the installation. "The cushioning system used here is the same as in Calihan, which meets NCAA standards," said Larson. "These types of floors have very strict standards that mandate a certain amount of bounce and measure the deflection or amount of distortion in the floor."

MORE THAN A GYM

The interior is as expertly designed and crafted as the gym floor and the classic exterior. The running track's guard rail has an Art Deco feel, linking the interior to the design of the classic exterior. "The interior has a nice finish feel to it, which relates to the refined exterior of the building," said Miller. "The guard rail is very detailed and falls into the craftsman-type mode, and acts as a necklace going around the entire space."

Color bands in the porcelain tile flooring in the lobby lounge, the corridor and in the tiled restrooms add another touch to this warm, inviting facility. Another special touch is the roofing treatment of the large canopy as viewed from the second-story lounge. Students gain a grand panorama of the campus, and a view of a specialty roofing membrane enhanced with a photo of small pebbles and cobbles.

The welcome desk is clad in a combination of wood veneers and solid surface countertops. Attractive pendant lighting fixtures in UDM's Titan red school colors add to the pleasant ambiance. Boosting the welcoming feel, acoustic clouds over the welcome desk and along the main corridor create spaces of human-scale in an interior with 40-foot-tall volumes. "The acoustic clouds give a little refinement and enclosure to the space," said Miller. The curved corridor clouds will ultimately provide a wonderful sight line to the new natatorium. "TMP tied this building into the future natatorium by playfully putting a wave in these acoustical clouds," said Vandelinder.

With its quality finishes, this new fitness facility was the perfect place for the University president's annual Christmas party. The facility even serves the non-fitness buff on a regular basis with the addition of the two student lounges, a café in the lobby lounge named Tommy's in honor of the University mascot, and even separate restrooms accessible without entering the exercise zone.

"Everything about the project is very positive," said Vandelinder. "The communication was very open, which is what we prefer on a project." TMP seconds that statement. "Working with UDM was really a pleasure, because of their ability to make firm decisions and communicate clearly," said Larson. "The

communication was very straightforward and clear, and I think that really contributed to the success of the project. They had done their homework, and they were able to clearly state what they wanted. This was good for the whole team."

Clearly, this great team delivered a great project. UDM students now have a secure, light-filled exercise facility with a full complement of fitness programs. To a full schedule of lectures, exams and study, a UDM student can now zap in "Zumba from 5 to 6 pm" in their daily e-planners. And the UDM campus now has another quality building to add to their classic collection.🍷

The following is a list of subcontractors on the UDM Fitness Center:

- Site Work – Cordelia Excavating, Clinton Township
- Asphalt Paving – Hutch Paving, Warren
- Fencing – Motor City Fencing, Troy
- Landscaping – Chas F. Irish, Warren
- Foundations – V & O Contracting, Clinton Township
- Concrete Flatwork – MJ Van Overbeke and Sons, Inc., Casco

- Masonry – D'Alosio Masonry and Construction, Farmington
- Structural Steel – B & A Structural Steel, Inc., Chesterfield
- Carpentry – Detroit Metropolitan Construction, Inc., Birmingham
- Joint Sealants, Waterproofing – Arisco Contracting Group, Detroit
- EIFS – Superior Design, Inc., Oakland Township
- Roofing, Metal Panels – Esko Roofing and Sheet Metal, Washington
- Doors, Frames, Hardware – Gamalski Building Specialties, Auburn Hills
- Glass & Glazing – Chamberlain Glass and Metal, St. Clair
- Tile – B & B Tile & Marble Co., Fair Haven
- Gym Floor, Running Track – Kiefer Floors, Lindenhurst, IL
- Fitness Equipment – Life Fitness, Schiller Park, IL
- Floor covering – Vocheck Flooring, Sterling Heights
- Painting – Michael Meda Painting and Finishing, Inc., Grosse Pointe
- TA, TP Lockers – Steel Equipment Co., Pontiac
- Shades – Delta Products, Harper Woods

- Gym Equipment – CM Associates, Brighton
- Millwork – Trend Millwork, Lincoln Park
- Elevator – Thyssen Krupp, Oak Park
- Fire Protection – Cardinal Fire Protection, Royal Oak
- Plumbing, HVAC – Long Mechanical, Northville
- Electric – V Pizzo Electric, Clinton Township
- Fireproofing – Russell Plastering Co., Ferndale
- Equipment Rental – NES Rentals, Lincoln Park
- Applied Foam – Stoney Creek Services, Westland
- Furniture – Sauder, Archbold, OH
- Site Surveying – Landwise, Inc., Dearborn

The Construction Highlight list of subcontractors list provided by owner, architect or contractor.

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