MARQUETTE UNIVERSITY: McCabe Hall

Virtual Tour and Sustainable Features
THE SITE

Newly acquired by Marquette, the vintage 1920’s building is located on the northeast corner of Wisconsin and 17th Streets. The urban setting offers immediate access to the heart of the campus, public transportation, service resources and restaurants.
THE BUILDING

The 1920’s building has a structural steel frame, brick veneer, and stone detailing. It rises 8 floors tall with 1 subterranean level. Each floor is just over 10,000 gsf serviced by 2 staircases, 1 passenger and 1 freight elevator. The building was originally designed as a 93 unit apartment building with a first floor retail component.
THE PROJECT

Marquette commissioned the team to perform a Level 1 renovation of the upper floors to convert the apartments into suite style living arrangements for 2-3 students each. The end result houses 225 students and 2 full time staff members in 91 units. Additionally, the team performed a Level 2 renovation at the first floor to create study, community, service and support spaces for the residents.
Project challenges included schedule, existing retail tenants and complex constraints that commanded focused design strategies. Schedule: The entire process was executed in 12 months with a requirement of opening August of 2009 for incoming sophomore students. At the onset of the project, existing tenant lease buy outs left plans for the first floor in flux for months, challenging the project schedule.
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Study: Before and After

Lounge: Before and After

CHALLENGES

Complex Parameter Set: Existing building constraints, desire for high reuse while inserting modernized systems, partial occupancy during demolition, top down phasing, winter conditions and LEED aspirations.
THE EXTERIOR ENVELOPE

Reuse and rehabilitation of the building’s original brick veneer and stone detailing.
Complete replacement of window units to improve thermal properties of the building.
Replacement of all roof surfaces to improve thermal and performance properties of the building.
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FIRST FLOOR PLAN

Service Level: Administration, Student Services, and Facility Support
THE PUBLIC LOBBY

**Features:** Multiple types of seating and levels of engagement.

**Finishes:** Modular flooring has 35% recycled content, water based adhesive, and is easily maintained with mild cleaners.

**Furniture:** Selections have recycled content and are designed to be broken down for recycling at the end of their useful life.

**Lighting:** Day lighting opportunities were maximized and high efficiency light fixtures installed in all areas.
THE RECEPTION AREA

**Finishes:** Solid surface countertop is made of 40% recycled content.
Back wall surface is a tack-able, self-healing wall covering made of natural, highly renewable elements such as cork.
**THE RESIDENT LOUNGE**

**Finishes:** Building’s original terrazzo floors were reused and reconditioned. Low VOC paint was used throughout.

**Furniture:** Selections have recycled content and are designed to be broken down for recycling at the end of their useful life.

**Lighting:** Day lighting opportunities were maximized by renovating an existing sky light. High efficiency, fluorescent light fixtures were installed throughout.
THE RESIDENT LOUNGE

**Finishes:** Reuse and renovation of original wood beams. Carpeting with recycled content backing installed.

**Furniture:** Selections have recycled content and are designed to be broken down for recycling at the end of their useful life.

**Lighting:** High efficiency, fluorescent light fixtures were installed throughout.
CIRCULATION AND STAIRS

**Finishes:** Reuse and reconditioning of existing terrazzo stairs and brass handrails maintains the historic character of the building while minimizing the environmental impact of installing new elements.
FLOORS 2 THROUGH 8 FLOOR PLAN

Resident Levels: 13 Living Units per Level and Support Spaces
THE RESIDENT CORRIDOR

**Finishes:** Reuse and reconditioning of existing woodwork. Low VOC paint applied. Carpeting installed with recycled content.

**Doors:** New doors installed with recycled content cores and low emission adhesives.

**Lighting:** LED light fixtures to achieve a low energy consumption rate for the building.
Suite Style Unit: Accommodates 3 students.
THE RESIDENT UNIT – STUDY AREA FEATURES

**Finishes:** Reconditioned terrazzo floors and wood work. Low VOC paint used throughout.

**Furniture:** Pieces have recycled content and durable construction for a long useable life.

**Lighting:** Day lighting opportunities were maximized and high efficiency light fixtures installed in all areas.
THE RESIDENT UNIT – KITCHENETTE FEATURES

**Finishes:** Reconditioned terrazzo floors and wood work. Low VOC paint used throughout.

**Cabinetry:** Cabinets and counters have recycled content cores bound by low emission / water based adhesives.
THE RESIDENT UNIT - BATHROOM FEATURES

**Finishes:** Floor and wall tile was reused and reconditioned where possible. Low VOC paint applied throughout.

**Fixtures:** Water efficiency was achieved with new low-flow shower heads and dual flush toilets reducing water use by 20%.

**Lighting:** Efficient fluorescent light fixtures were installed.
THE RESIDENT UNIT – BEDROOM FEATURES

**Finishes:** Carpeting has recycled content. Low VOC paint applied throughout.

**Furniture:** Selections have recycled content and are designed to be broken down for recycling at the end of their useful life.

**Lighting:** Day lighting opportunities were maximized and high efficiency light fixtures installed in all areas.
McCabe Hall utilizes a ventilation energy recovery unit to transfer energy from the exhaust air stream to the outside air stream, saving the energy that would otherwise be required to heat and cool the raw outside air. High efficiency steam-to-water heat exchangers are used to heat the building’s heating and domestic hot water using steam from the city. Energy efficient variable frequency pumps are used to circulate the water throughout the building. A high efficiency, air cooled condensing unit is used to provide cooling for the ground floor area. All of the heating and lighting systems were commissioned at the end of the project to ensure they were working properly and using the least amount of energy possible.
TEAMWORK

Marquette fosters a team approach that involves all parties early on in the design process, an approach often talked about, but rarely executed. This allowed the team to make informed and holistic decisions on how to maintain a simple and elegant aesthetic while inserting modern technology into this 1920’s building. Additionally, a balanced leadership effort was put forth by the design team (KTA) and construction team (KBS) throughout the process to ensure a single objective.
INNOVATION

The major innovation that this project brought about is the project delivery approach as mentioned earlier. The entire team was involved early and the leadership team established a highly collaborative environment to foster creative problem solving in the face of a complex parameter set. The complexity of each decision demonstrated to the team that each member had an equally important role to play.
CONTRIBUTIONS

The McCabe Hall project presented opportunities to contribute to the MU community and overall neighborhood. The process and job site became an extension of the classroom for multiple engineering courses on campus. Additionally, the project became a demonstration piece of sustainable renovation practices and will continue to do so as students live and study within it. The exterior improvements further establish the neighborhood as re-emerging.