

## U-M Center for Innovation



### Project Description

The University of Michigan Center for Innovation (UMCI) is a proposed new academic building to be located in downtown Detroit. The proposed 200,000 gross-squarefoot building will be the first of 3 buildings to be constructed on the site, with the other two buildings to be constructed by a developer at a future date. Included within the building is shelled space that will provide flexibility and expansion opportunities in the future. UMCI will be a world-class research, education and entrepreneurship center designed to advance innovation and talent-focused community development to propel city, region and statewide job creation and inclusive economic growth by stimulating economic development in the city of Detroit. The program will offer a mixed-model approach that includes both masters' degrees and workforce development programs that will focus on technology and innovation. The new building will have a basement and 6 stories above grade. The lower floors will contain public-facing programs while the upper floors will be dedicated mostly to graduate programs.

### Energy Efficiency Measures

- The building's design and systems will meet a minimum stretch goal for energy cost savings of 20% compared with an energy code compliant building as defined in ASHRAE 90.1-2013
- A hybrid water-to-water heat pump and air-to-water heat pump system with ice thermal storage tanks. The ice storage process will generate ice during off-peak hours when electricity is less expensive or whenever heating is required, then melt ice during the peak hours or whenever there is a cooling demand. The system will allow continuous but asynchronous heat recovery and storage of heat from cooling loads for later heating use, as well as the use of low demand storage to supplement recovered cooling energy when required.
- Central station air handling units with total energy recovery heat exchangers that reclaim the energy from the building general exhaust air to preheat and precondition the ventilation air
- Hot water radiant floor heating system that serves the lobby area to heat the large, open space more efficiently than a forced air heating system
- Demand control ventilation for densely populated spaces including classrooms and conference rooms

### Other Sustainability Measures

- In keeping with the University's carbon neutrality goals, by embracing high-performance systems, energy conservation measures and electrifications, the project aims to better the project-specific emissions target of 10 KgCO<sub>2</sub>/GSF (derived from a percent reduction from ASHRAE). When the University implements its planned 100% renewable power-purchase agreement the project will be carbon neutral.
- This project is registered under the LEED® green building certification program with the certification goal of LEED Platinum. This project will use the LEED for New Construction v4 rating system.
- Designed to reduce water consumption by a minimum of 40% beyond Michigan Plumbing Code; savings obtained through the use of low-flow plumbing fixtures
- Stormwater runoff volume reduction through use of on-site measures including hydrodynamic separators for water quality and a modular precast concrete underground detention system with an outlet control structure to regulate the site discharge rate.
- Native and drought tolerant plantings do not require permanent irrigation.
- Project site located near public bus routes & bike networks to encourage use of public & bike transit instead of driving

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- Views to the outdoors and access to natural light from the interior influence emotional and cognitive health of building occupants
- Specification of materials with Environmental Product Declarations
- Specification of materials with Health Product Declarations
- Specification of materials with recycled content
- Specification of regional materials
- Specification of Low-emitting paints and coatings, adhesives and sealants, flooring, ceilings, and composite wood
- More than half the waste generated during construction will be diverted from landfills and either salvaged for reuse or recycled