

Dearborn Engineering Lab Building Replacement



Project Description

The project will consist of approximately 57,000 gross square feet of renovation and 66,000 gross square feet of new building construction. The project will include classrooms, research and teaching laboratories, faculty offices, student support spaces, and regional boiler and electrical distribution equipment replacement. The new facility will provide an active learning studio approach to facilitate entrepreneurial problem solving to complement the more product development-oriented laboratories of industry partners, encourage multidisciplinary collaboration in the context of 21st century engineering, and offer academic pathways to exceptional careers for decades to come.

Energy Efficiency Measures

- The building's design and systems include a number of energy efficient features that will target an estimated 35% energy savings compared with an energy code compliant building as defined in ASHRAE 90.1-2007 - Appendix G
- Exterior envelope rain screen wall system to minimize thermal bridging and air leakage, even under the negative pressurization required for laboratories
- Improved air-conditioning system efficiency through the use of chilled beams and dedicated outside air systems
- Return air from offices and classrooms utilized as makeup air to laboratories
- Energy recovery wheels in the dedicated outside systems to reduce energy consumption
- Occupancy sensors to turn off lights when spaces are un-occupied

Other Sustainability Features

- This project is LEED® certified to the Gold level and achieved 62 points under the LEED for New Construction v2009 rating system.
- Project site located near public bus routes to encourage use of public transit
- Close proximity to basic services such as banks, theaters and restaurants to encourage building occupants to walk instead of drive
- Native and drought tolerant plantings will be used on site to reduce irrigation water use by at least 50%
- Storm water management system that limits increased (post-construction) runoff levels of storm water into the existing storm water system
- Designed to reduce water consumption by 36% beyond Michigan Plumbing Code; savings obtained through the use of low flow bathroom fixtures
- Construction waste to be diverted from landfills when possible
- Low-VOC adhesives and sealants, paints and coatings, flooring systems, and composite wood and agrifiber products
- Regional materials specified whenever possible to reduce negative environmental impacts associated with transportation
- Materials with recycled content specified whenever possible to reduce use of virgin materials
- Use low-impact refrigerants minimizing contributions to climate change