AWARDS

nbi new buildings institute

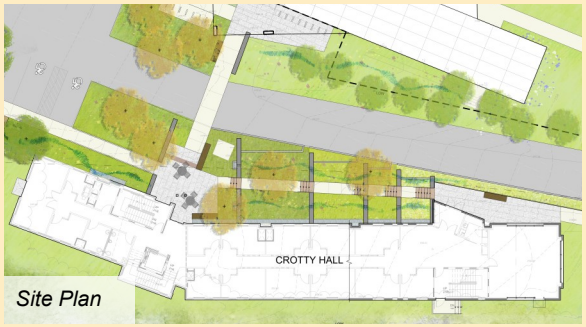
- The New Buildings Institute acknowledged Crotty Hall as "Zero Energy Emerging"
- WMAIA Citation Award for Excellence in Architecture and Landscape Architecture (2018)
- Boston Society of Landscape Architects Merit Award for Landscape Architecture (2018)

INDOOR ENV. AIR QUALITY

- Monitored operable vent windows provide opportunity for natural ventilation
- Dedicated Outdoor Air System (DOAS) uses 100% fresh outdoor air for ventilation
- Zone level radiant waves provide space heating and cooling
- Heated and chilled water is provided to the radiant waves with a ground source heat pump (geothermal) system

ENERGY & ATMOSPHERE

- 175 solar photovoltaic panels produce 72,000 kWh covering the bulk of electricity consumed
- 8 geothermal wells located on site provide heated and chilled water to the radiant systems
- High performance, triple glazed windows
- Tinted windows on the west and south reduce heat and glare
- Super insulated envelope with R40 walls and R60 roof



Site Plan

TAKE ACTION TODAY!

LEARN LIVE LEAD Sustainable UMASS

Facilities & Campus Services

CROTTY HALL

GREEN BUILDING BROCHURE


Southwest Exterior Perspective

NET ZERO ENERGY

The first building on campus designed to be Net-Zero Energy

UMass Amherst
The Commonwealth's Flagship Campus

PROJECT OVERVIEW

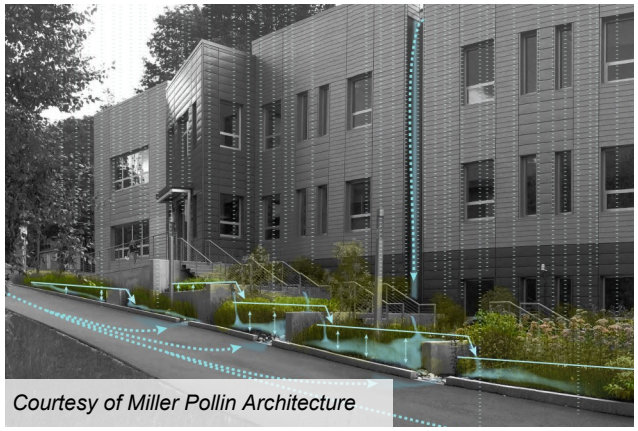
Southeast Exterior Perspective

Crotty Hall is the first net-zero energy building on the UMass Amherst campus, and houses the **Department of Economics** from the **College of Social and Behavioral Sciences**. Designed by **Sigrid Miller Pollin** FAIA of the **Architecture Department** and principal of Miller Pollin Architecture, this 16,800 S.F. academic building contains four conference rooms, 35 graduate faculty offices, common areas, and other amenities. The primary goal of the project was to create an economics campus, and provide new opportunities to strengthen teaching and research across the department.

The building is designed to produce as much energy as it consumes. Energy to heat, cool, and power Crotty Hall comes entirely from renewable energy sources, including a geothermal heat pump system and rooftop photovoltaic array. The building's predicted energy use intensity (EUI) is 15 kBTU/square foot annually. At the time of its completion, Crotty Hall was one of just twenty net-zero office buildings in the United States.

WATER EFFICIENCY

- Water collected from the site and roof system passes through rain gardens that naturally cleanse and infiltrate on site
- Reduction in potable water use via high-efficiency toilets and urinals, and low-flow faucets



Courtesy of Miller Pollin Architecture

SUSTAINABLE SITES

- Maximizes both interior space and exterior landscaping on a narrow, infill site
- Community connectivity to core campus services, with easy access to PVTA bus routes
- Bike storage with shower and changing facilities provided onsite
- Electric car charging station
- 8 geothermal, ground source wells

MATERIALS & RESOURCES

- Exterior zinc siding reduces risk of moss or mold forming
- FSC certified Alaskan Yellow Cedar interior paneling
- Ground face block plinth contains recycled granite chips
- FSC certified deep laminated timber spans and supports the 27-foot width of the building
- Low VOC adhesives, sealants, paints, coatings and floorings

Southeast Exterior

INNOVATION IN DESIGN

- Green Housekeeping Program
- Active green building public education programs
- 27' wide by 186' long building optimizes narrow site