

Dormitory

Northeast USA



General

Function: Dormitory
Size: 92,389 sq. ft. Building A
Height: 57.75 feet
Stories: 4 above grade, 5 total
Construction: October 2010-January 2012
Cost: \$26 Million for Buildings A & B and sitework
Delivery: Public/private partnership using a development team to deliver the project by guaranteed maximum price

Architecture

- Two traditional brick wings with an asphalt hip roof flank a central glass core with a flat roof
- Wings house suite style dormitory units with the core housing public and study spaces
- Strategic placement of interior windows on the ground floor allows for sunlight in interior rooms

MEP

- 34.5 kV 208Y/120V 3 Φ 4 Wire feed for both buildings and a 2500 amp switchboard for Building A
- 250 kw Emergency Generator
- 54 geothermal wells for Building A using heat pumps
- 3 Energy Recovery Units in attic of Building A
- Fire protection by wet pipe sprinklers
- Uses Fluorescent, LED and Metal Halide Lighting

Project Team

Owner: Not Released
Architect: WTW Architects
Construction Manager: Massaro Corporation
MEP: H. F. Lenz Company
Structural: Taylor Structural Engineers, Inc.
Landscape: LaQuatra Bonci Associates
Developer: Allen & O'Hara Development Co. LLC

Structural

- Spread footings on rammed aggregate piers
- Lightweight wood construction with gypsum wall board and oriented strand board shear walls
- Concrete masonry unit core with Laminated Veneer Lumber joists on steel beams

Construction

- Building A to be completed before Building B
- Snow and bad weather caused up to a 3 week delay
- Retaining wall collapse caused delay

Cadell G. Calkins

Structural Option

Faculty Advisor: Dr. Richard A. Behr

<http://www.engr.psu.edu/ae/thesis/portfolios/2012/CGC5037>

