



Science Building - Phase 1 Addition

Owner: Buffalo State College

General Contractor: Savarino Companies

Construction Manager: Bovis Lend Lease

Architect: Cannon Design

Engineers: Cannon Design

Wind/Snow Consultant: Gradient Microclimate Engineering

Commissioning Agent: Horizon Engineering

Size: 96,000 ft²

Stories: 3 above ground

Cost: \$34,807,000

Architecture + Construction

- Phase 1 is an addition to the existing science building and joins via an atrium.
- Phase 2 includes the demolition and renovation of the existing building. The final complex will be upwards of 224,000 ft².
- Phase 1 construction period is October 2009 - March 2012, with completion of both phases set for 2015.

Structural

- One-way reinforced concrete slab supported by cast-in-place concrete beams and columns, two-way reinforced concrete systems for the slab-on-grade
- Steel framed systems for mechanical penthouse, atrium, and link to the existing structure
- Foundations for the building are primarily composed of an H pile system, while the atrium is supported by spread footings

Mechanical

- Laboratory spaces supplied 100% outside air via heat recovery AHUs
- One dedicated VAV supply terminal unit minimum per lab; connected back to its associated fume hoods and exhaust valves
- One central, mixed air VAV AHU serves atrium
- Heating by a 10" 40 PSI metered steam line connected to the campus system
- Cooling by electric centrifugal chiller in penthouse

Electrical

- 5kV service from campus substation routed to unit substation within the building.
- Double-ended 480Y/277 V 3 ϕ 4W substation located in the basement and 208Y/120 V 3 ϕ 4W switchboard in the penthouse
- Dedicated normal, emergency, standby, and optional branches
- Emergency branch served by a 750 kW diesel-driven generator in basement;
- Lighting primarily 277V



Buffalo, NY

Marie Ostrowski — Lighting/Electrical

<http://www.engr.psu.edu/ae/thesis/portfolios/2010/mso139/>