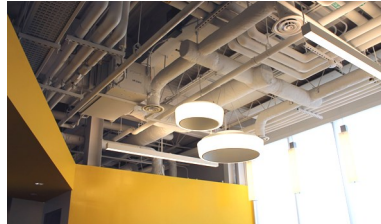


SOUTHERN TIER HIGH TECHNOLOGY CENTER

HIGH-PERFORMANCE NEW FACILITY



ROLE

Mechanical, electrical, plumbing and fire protection design

PROJECT ACHIEVEMENTS

- Estimated Budget: \$14.8 million
- Actual Cost: \$15.9 million due to owner change orders
- Schedule:
 - ◇ Design: March 2015
 - ◇ Construction: April 2107

CONTACT

Architect: Jesenko Muftic, RA,
Binghamton University, 607-777-2969

Pathfinder provided high performance mechanical, electrical, plumbing and fire protection engineering. The new three-story, 35,000 sq. ft. facility provides labs and shared facilities for start-up companies, in Downtown Binghamton. This project features flexibility for tenant requirements and received federal, state and local funding.

Pathfinder supported the requirements for a NYSEDC Grant for the project. A \$6 million grant was provided and \$3.7 million of that was allocated to the building construction for a total construction budget of \$14.8 million.

The HVAC system includes a high-efficiency geosource heat pump (GSHP) / boiler hybrid system with induction chilled beam units. The induction system comprises induction coil units in the occupied spaces integrated into the ceiling that heat and cool ventilation air introduced in the unit. A GSHP system comprises distributed water-to-air and water-to-water heat pumps connected by to a piping system that rejects and absorbs heat from a 40 geo-source well field adjacent to the building. Wet labs are provided with low flow fume hoods with VAV exhaust and pressurization control.

The building has a wet pipe sprinkler system, RPZ, alarm valve, fire department connection, inspector's test station. The building sanitary, domestic water and natural gas mains is connected to the city municipal system. Storm mains will discharge to retention ponds.

The laboratory chemical drain system is a polyethylene chemical drain system and drain to a 400 gallon acid neutralization tank located in the basement mechanical space.

All plumbing fixtures are low flow flush valves and automatic faucets. Eyewash and safety showers are provided. The laboratory spaces are served by an RO/DI water system.

Energy efficient lighting design following IESNA guidelines. Electrical panels are located throughout the facility and installed recessed in walls near areas in which they are supplying power.

Two 250KW natural gas generators provide emergency and standby power. A laboratory standby power distribution system includes a UPS to ensure consistent power supply for critical laboratory experiments that cannot withstand the 10 second power outage between the utility power black-out and the generator power switch over.



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