

University of Miami Interdisciplinary Laboratory

Miami, Florida
Ben Burgoyne
Mechanical Option
<http://www.arche.psu.edu/thesis/eportfolio/2007/portfolios/bjb319/>

Project Information:

- Laboratory Building
- 178,000 s.f.
- 10 Floors above grade, including penthouse mechanical space
- Delivery Method: Negotiated- Guaranteed Maximum Price
- Building Cost: \$57 million
- Construction Dates: October 2006-May 2008

Architecture:

- Exterior is in keeping with the standard University of Miami style, including a white precast concrete panel facade, with blue-green windows and glass curtain walls throughout, and palm trees in the landscaping.
- Interior design includes seven floors of laboratory space and two floors of vivarium space, along with office space throughout.

Electrical/Lighting System:

- Service double ended main-tie-main switchboard
- 1250 KW powers all lights and receptacles, as well as the HVAC equipment and emergency power.
- Vertical bus risers serve lights and receptacles at each floor.
- Predominantly fluorescent lights used, a third of which are dimmable with day-lighting/ambient light sensors.

Structure:

- The first floor is slab on grade, with an auger cast pile foundation.
- Predominantly reinforced concrete: cast-in-place concrete slab separates the floors, supported by precast concrete joists and beams, and cast-in-place concrete columns.
- Penthouse level is steel supported.

Project Team:

- Architect: Karlsberger Architecture Inc.,
www.karlsberger.com
- General Contractor: Moss,
www.mosscm.com
- Structural Engineer: Walter P. Moore,
www.walterpmoore.com
- Mechanical Engineer: Newcomb & Boyd
www.newcomb-boyd.com
- Electrical Engineer: Newcomb & Boyd
www.newcomb-boyd.com

Mechanical System:

- 100% outdoor air system distributed by five 50,000 cfm AHUs to constant-air-volume terminal units in the laboratory and animal spaces.
- Variable-air-volume system distributed by one 23,000 cfm AHU to the office spaces.
- Heating supplied by two 10,043 MBH boilers.
- Cooling supplied by campus chilled water plant.

