



## Commercial Facilities

**Client**  
Emory University

**Location**  
Atlanta, GA, USA

### Whitehead Research Building

#### Project Description

CH2M HILL is the commissioning authority for the design and construction phase for several facilities at Emory University, including the Joseph B. Whitehead Medical Research Building. The 325,000 square-foot, high-technology facility includes offices, tissue culture and nuclear magnetic resonance imaging laboratories, animal housing, and environmental health and safety support. The facility, which was constructed over an 18-month period and completed at the end of 2001, represents a groundbreaking project in energy efficiency and environmental design, as well as a state-of-the-art center for medical research.

CH2M HILL staff identified design deficiencies, established quality assurance procedures, identified value engineering opportunities, and monitored test results required to consistently deliver quality assurance. CH2M HILL also assisted Emory University with LEED™ Certification of this building.



The Whitehead facility is an eight-story building that includes 150 laboratory modules and 150 faculty offices that house three basic science departments within the University's School of Medicine: Cell Biology, Genetics, and Physiology. The building's "open lab" concept — large, flexible laboratory spaces and fewer walls — is designed for greater interaction and better flow among the investigators and is intended to greatly increase the efficiency of departments. It has two levels of vivarium (an enclosure for keeping and raising live animals for research or observation) that houses approximately 80,000 mice and rats. The facility is also the home for a neurocenter and interdisciplinary research programs from the Department of Medicine and the Department of Pathology and Laboratory Medicine.

CH2M HILL performed the design phase commissioning process, including conducting peer and constructibility reviews, change order analysis, and value engineering suggestions as a single process that identified potential problems and institutional knowledge gaps before they were constructed into the building.

CH2M HILL also assisted Emory in applying for LEED™ certification. Sponsored by the U.S. Green Building Council, LEED™ is a system for designing and constructing environmentally friendly buildings and focuses on five areas: building site selection; water efficiency; energy and atmosphere; materials and resources; and indoor environmental quality.

As part of the LEED™ process, CH2M HILL developed a plan that defined target sustainable development goals, the roles and responsibilities of the project team, and a decision science process for lowering Emory's total cost of ownership while helping Emory identify opportunities and strategies for implementing green building practices, including:

- Landscape irrigation systems, saving 1.8 million gallons of potable water per year

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- Recovering HVAC system condensate, saving 2 million gallons of potable water per year
  - Using concrete that contain post-industrial waste, reducing landfill waste
  - Installing carpet and laboratory counter tops that contain recycled material
  - Recovering energy from building exhaust, lowering the costs of conditioning the space by 22 percent

In addition, CH2M HILL developed a measurement and verification plan to help Emory maintain and maximize the facility's performance over the life of the project.