

Sterling Hall of Medicine I1



Yale University renovated the Sterling Hall of Medicine I Wing 1st-floor Laboratory in alignment with the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system at the Gold certification level for Commercial Interiors.

ENERGY EFFICIENCY

To increase efficiency, the heating, ventilation, and air conditioning (HVAC) systems are zoned and controlled separately. All private offices and specialty spaces, including labs and lab support rooms, have active controls that are capable of sensing occupancy and adjusting the HVAC system according to use. To decrease the energy consumed for electrical lighting, daylighting is promoted throughout the building. Ninety percent of occupied seated spaces have direct lines of sight to windows, and there is a minimum daylight factor of 2% in 77% of all the spaces occupied for visual tasks. Daylight factor is a measure of the subjective daylight quality in a room; achieving 2% was accomplished by using strategies such as glass interior partitions and doors to bring daylight into spaces that don't have direct access to windows. In addition, all workspaces have individually controlled lighting. Researchers have carrels equipped with task lights and lab benches equipped with 80 foot-candles of light. This design allows a minimum number of lights to be used in each workspace.

INDOOR ENVIRONMENTAL QUALITY

To ensure high indoor air quality for all occupants, the laboratory contains materials low in volatile organic compound (VOC) content, including all adhesives, sealants, paints, and coatings. Wood products and laminate adhesives contain no added urea-formaldehyde resins. The project

10.14% of the total dollar value of all materials used in construction – including ceiling tiles, VCT flooring, rubber base, and carpet – represents postconsumer or preconsumer recycled content

85% of demolition and construction debris was diverted from landfills

61% of the wood-based materials and products used during renovation were certified by the Forest Stewardship Council

46% of building materials and products were manufactured within 500 miles of the project site

30% reduction in annual potable water use is anticipated

minimizes exposure to environmental tobacco smoke (ETS) by restricting smoking areas to spaces at least 25 feet from building entries.

MATERIALS

Since renovation projects consist of work done on existing buildings, special consideration must be taken to determine where sustainable materials and practices can be incorporated. During the laboratory renovation, 85% of the demolition, construction, and packaging debris was diverted from landfills to other uses. Daily recyclable waste materials, including cans, paper, and newspaper, were also collected at a worksite recycling area. Permanent recycling stations have been designed into the project. Furniture no longer suitable for the renovated lab was donated to local charities.

WATER EFFICIENCY

Old bathroom fixtures in office buildings can use an excessive amount of potable water; laboratories, with an increased number of fixtures, can use even more water. This laboratory renovation includes the installation of ultra-low-flow lavatories and dual-flush toilets, resulting in a 30% annual reduction in potable water use.

SITE AND TRANSPORTATION

The Sterling Hall of Medicine is located in an urban area, close to many amenities and public transportation options, including the Yale Shuttle and CT Transit bus lines. For commuters traveling by train, New Haven's Union Station is within a quarter mile.

INNOVATION IN DESIGN

Design innovations include the use of low-flow laboratory sink faucets to reduce water usage.



Architect

Svigals + Partners

Total floor area

17,038 sq ft

Opening date

September 2006

Yale