HARVARD UNIVERSITY
HARVARD LAW SCHOOL

# 125 Mount Auburn Second Floor Office Renovation

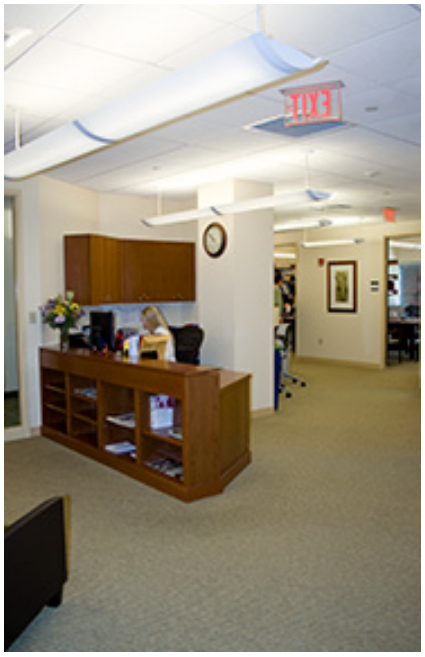
## LEED-CI Silver, September 2008

The Harvard Law School's 125 Mount Auburn office renovation project team was committed to sustainable design and construction, as well as applying the Harvard Green Building Guidelines, from the onset of design and throughout construction. 125 Mount Auburn is located in the heart of Harvard Square in Cambridge, Massachusetts. The project, a 5620 square foot fit-out and renovation of leased office space on the second floor of the existing building, provides office space for twenty-two staff. The primary objective of the 125 Mount Auburn project was to renovate the second floor to accommodate the Harvard Law School Financial Office and Human Resources, as well as create a remote office for Information Technology Services and a mail-room for the Alumni Relations group.

In the Financial Office and Human Resource suites, there is a combination of private offices and workstations. Support areas include a small conference room for Human Resources, a guest waiting area in each suite, copier and storage facilities and centralized files. LEED-CI certification, as well as adherence to the Harvard University Green Building Guidelines, helped the project form and develop sustainability goals. Construction was undertaken in the summer of 2008. The project earned LEED-CI Silver certification in March 2009.

### PROJECT HIGHLIGHTS

- **98.9%** of the construction waste was diverted from landfills.
- **46.4%** of the furniture budget included salvaged furniture
- **33.12%** of the total value of materials were manufactured regionally—within 500 miles
- **50%** of the wood, by cost, is Forest Stewardship Council certified
- **40,040** gallons of water annually estimated to be saved over code-minimum fixtures
- Low-VOC materials and comprehensive green cleaning program

### LEED® Facts

*Harvard Law School*
*125 Mount Auburn Second Floor*
*Cambridge, Massachusetts*

*LEED for Commercial Interiors v2.0*

| | |
|---|---|
| *Silver* | *29** |
| *Sustainable Sites* | *5/7* |
| *Water Efficiency* | *2/2* |
| *Energy and Atmosphere* | *3/12* |
| *Materials and Resources* | *6/14* |
| *Indoor Environmental Quality* | *8/17* |
| *Innovation and Design* | *5/5* |

**57 points available (27+ = Silver)*

# Location


The project is located in Harvard Square, at the corner of Mount Auburn Street and Story Street, in Cambridge, Massachusetts.

## Project Team

**Project Manager**
Gene O'Connor -
HLS Facilities Management

**Architect**
Janovsky/Hurley Architects

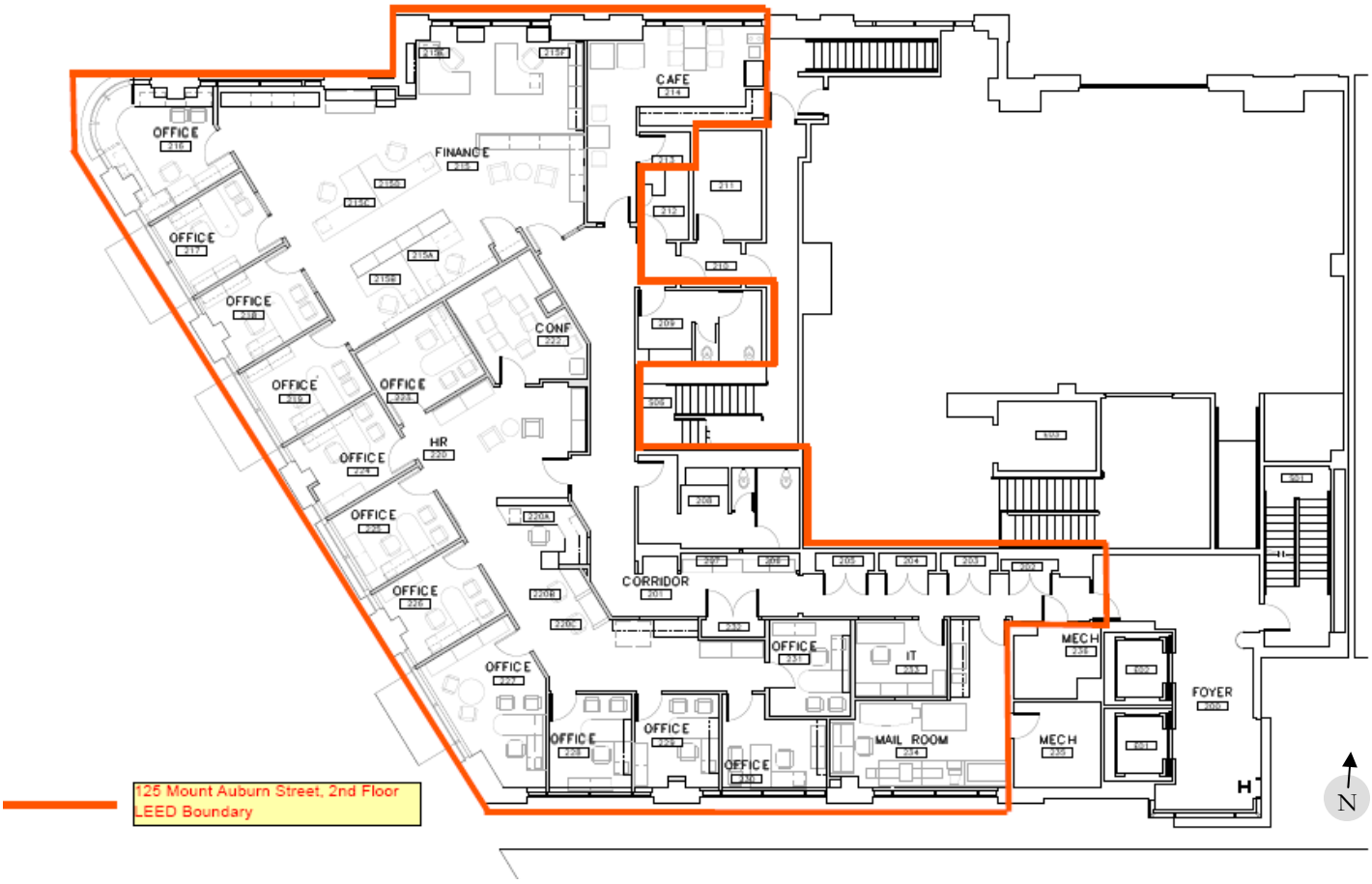
**Contractor**
Kirkland Construction Co.

**Engineer**
RDK Engineers

**Commissioning Authority**
MAW Consulting, Inc.

**Waste Management Consultant**
Institution Recycling Network

**Sustainability Consultant**
Harvard Office for
Sustainability—Green Building Services



# Sustainable Strategies

## Site

- 125 Mount Auburn Street is in a densely developed urban area within walking distance to public transportation, campus shuttles, restaurants, banks, churches, retail stores, and other services.
- To encourage alternatives to driving, occupants benefit from Harvard's comprehensive Commuter Choice program, which provides carpooling incentives and discounts on public transportation.
- Bicycle racks adjacent to the building and close proximity and showers located throughout the building allow the option for commuting via bicycle.
- The roof is high-albedo Sarnafil G410 white membrane, which has 82% reflectance and 92% emittance to reduce the heat island effect.

## Water Efficiency

- Second floor restrooms and showers were retrofitted to reduce the use of potable water by an estimated 36.51% over Energy Policy Act of 1992 (EPAct) compliant fixtures. EPAct requires that water closets use no more than 1.6 gallons per flush (gpf), lavatories no more than 2.5 gallons per minute (gpm), and showers no more than 2.5 gpm.
- The existing 1.6 gpf water closet flushometers were replaced with Sloan dual-flush flushometers, with provide a 1.1 gpf option in addition to the 1.6 gpf option. The 2.5 gpm showerhead was replaced with a 1.6 gpm showerhead. Existing faucet aerators were already 0.5 gpm models.
- These measures are estimated to save over 38,600 gallons of water per year compared to EPAct-compliant fixtures.

Please print this project profile only if necessary.
If printing is required, please print double sided and recycle when finished. Thank you!

## Energy Efficiency

- The existing HVAC VAV air distribution system was modified with a combination of existing and new variable air volume (VAV) terminal boxes and wall-mounted thermostats to provide temperature set point control for the individual zones within the space. The existing base building VAV air handling units and medium pressure duct distribution system provides the heating, ventilating and air conditioning to second floor. All of the VAV terminal units are tied back into the existing house Johnson Controls Building Automation System (BAS).

- The project's energy-related systems were commissioned by a third-party Commissioning Authority. Commissioning is the process of ensuring that the building's energy related systems are designed, installed, calibrated, and perform according to the owner's project requirements (OPR), basis of design (BOD), and construction documents. The Commissioning scope included: Inspections were conducted during the installation phase to verify the commissioned equipment and systems were installed in accordance with the Contract Documents and are serviceable and maintainable. It also included the observing manufacturer's start-up/check-out sheets, which are executed and submitted by the respective manufacturer or authorized representative. Verification tests were developed and executed to determine the commissioned equipment and systems are installed and operate in accordance with the OPR, BOD, and Contract Documents. Calibration verification was conducted to confirm all measured and recorded data was within specified tolerances. Functional Performance Tests were developed and executed to determine the commissioned equipment and systems, and all related subsystems, are performing in accordance with the OPR and BOD. Each individual piece of equipment and the system, as a whole, was tested. The commissioned equipment and systems were retested until they successfully passed all tests with no deficiencies.

- The lighting power density was reduced by 28.97% over an ASHRAE 90.1-2004-compliant lighting design. The interior lighting power allowance for this space was 5,723 watts. 4065 watts were installed, resulting in a reduction of 1658 watts.

- This reduction was achieved by installing T5 linear fluorescent and compact fluorescent fixtures to replace the less efficient existing fixtures.

- Renewable Energy Certificates (RECs) were purchased from Sterling Planet (wind power) equivalent to 100% of the anticipated electricity use of a typical 5260 square foot office over a two year period. The project purchased RECs for 89,920 kWh. These RECs offset approximately 121,842 pounds of carbon dioxide, a key greenhouse gas. The environmental benefit is equivalent to not driving 12 passenger cars for one year, 7 household's annual electricity use, or 20 tons of waste recycled instead of land filled.


For more information, contact:

Gene O'Connor
HLS Facilities Management
goconnor@law.harvard.edu

Harvard Office for Sustainability, Green Building Services :
andrea_trimble@harvard.edu

# Materials and Resources

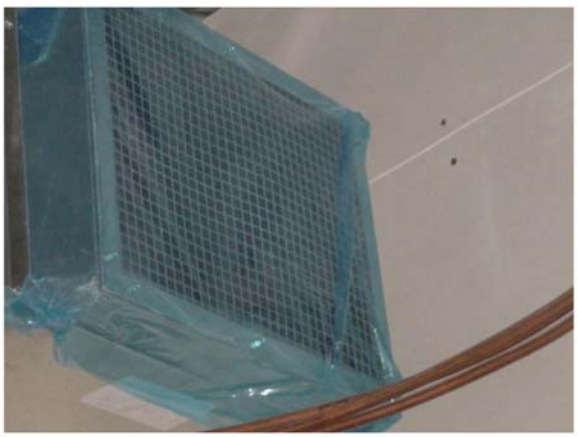
- The construction team recycled 98.95% of the construction waste (31.23 tons) with the assistance of a construction waste recycling consultant to carefully separate each material on-site and identify recycling locations for recyclable material.
- The Harvard Law School (HLS) provides collection sites for paper, cardboard, and bottles and cans (glass, metal and plastic) in accordance with Harvard policy and LEED Materials and Resources Prerequisite 1. Recycling containers are located in each private office, as well as at each workstation. They are also located in the kitchen areas, mail rooms, and copy and conference rooms.
- The project received a LEED Innovation point for using a Sustainable Carpet Assessment Standard Gold level Environmental Preferable Product for carpet.
- 46..47% of the furniture budget included salvaged/used furniture, which reduced the need for virgin materials.
- Materials with recycled content and manufactured regionally were used whenever possible.
- 33.12% of the materials (by cost) was manufactured locally or regionally—within 500 miles of the project site.
- Half of all wood in the project (by cost) is Forest Stewardship Council certified.


# Indoor Environmental Quality

- The interior layout was designed so that most occupants have access to daylight and views out of the perimeter windows.
- A comprehensive indoor air quality plan was implemented during construction to ensure healthy indoor air for both the construction staff and other occupants of the building. This included covering HVAC ductwork during installation, high velocity fans to circulate fresh air into the space, local exhaust, and daily housekeeping.
- Only low-VOC (volatile organic compound) adhesives, sealants, paints, and coatings were used on-site, including Mapei Ultrabond Eco 575 wall adhesive, Heatlthbond 3000 carpet seam sealer, and Benjamin Moore EcoSpec paint.
- Bentley Prince Street carpet was used, which is Green Label Plus certified by the Carpet and Rug Institute.
- To ensure healthy indoor air quality, HLS prohibits smoking within 25 feet of the building.
- Over half of all occupants have access to individual control of an adjustable wall-mounted thermostat.
- Occupants will be surveyed once per season about their thermal comfort. Facilities will adjust temperature set points or ventilation if more than 20% of occupants are dissatisfied.
- The Harvard Law School uses Harvard's Facilities Maintenance Operations for custodial services, which employs a comprehensive green cleaning program.

4/17/08 Local Exhaust

*All photos by Harvard Office for Sustainability*



5/2/08 Covered Ductwork