

W.E.B. DuBois INSTITUTE HIPHOP ARCHIVE

FALL 2008, LEED-CI SILVER



Photos: Harvard Office for Sustainability

LEED® Facts



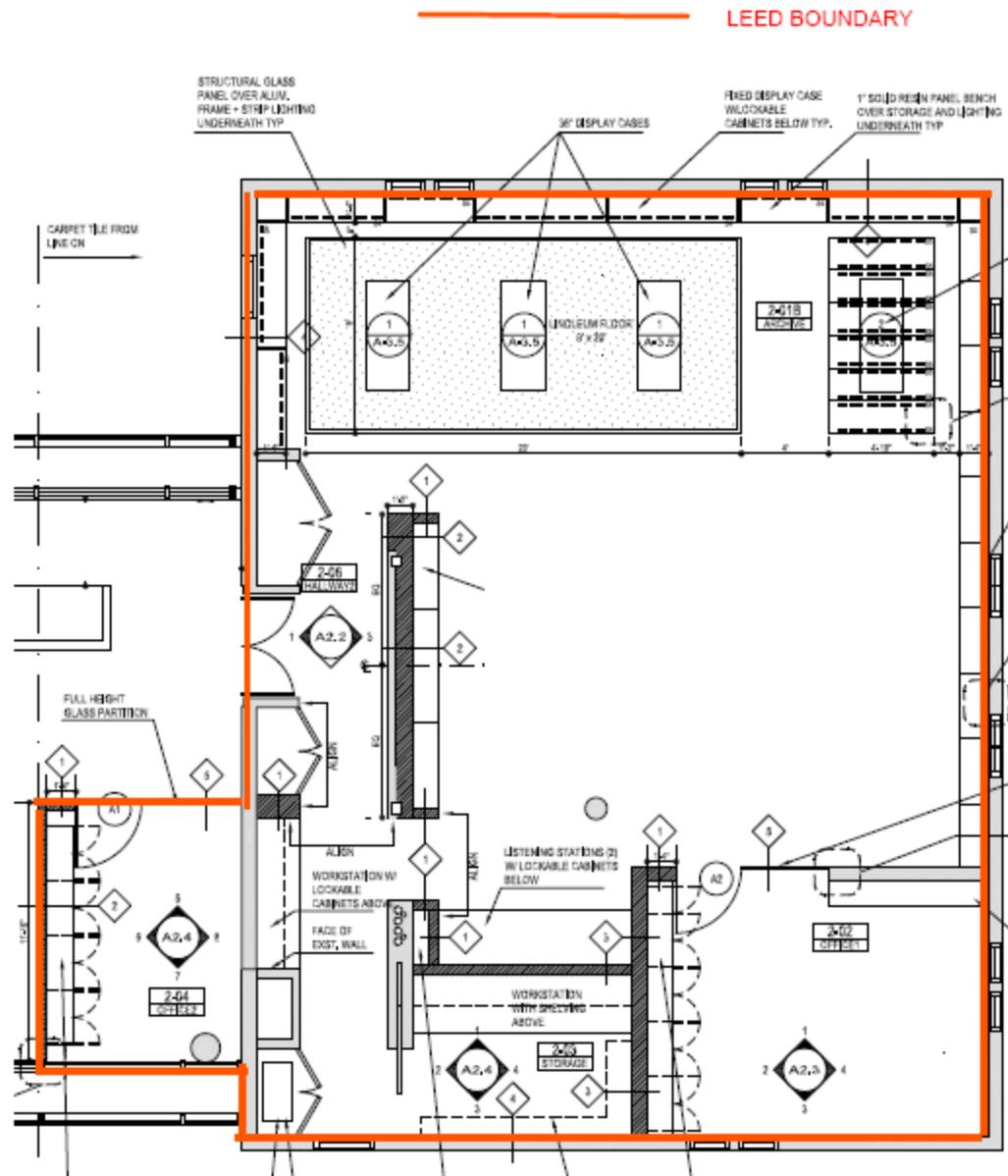
Harvard FAS
Hiphop Archive
2008 Renovation

Location.....Cambridge, Massachusetts
Rating System.....Commercial Interiors v2.0
CertificationSilver
Total Points Achieved.....31 / 57

Sustainable Sites.....4/7
Water Efficiency.....0/2
Energy and Atmosphere.....6/12
Materials and Resources.....5/14
Indoor Environmental Quality.....11/16
Innovation and Design.....5/5

The Harvard Hiphop Archive is a 1,497 square foot, \$700,000 fit-out located on the second floor of 104 Mount Auburn Street in Cambridge, MA. The Harvard University Faculty of Arts and Sciences' W.E.B. Du Bois Institute of African and African-American Research leases the space from Intercontinental Real Estate Corporation. The building is a 34,526 square foot, five-story office building with retail establishments on the first floor. The renovation of the space provided an opportunity to update the energy-related systems, introduce sophisticated audio visual equipment, install a high-efficiency lighting system, and upgrade furniture and furnishings to meet the requirements of the Du Bois Institute. HVAC systems and controls were also upgraded, with the installation of two heat pumps and their associated piping, new fresh air ducts, and a programmable thermostat for each ventilation zone. The lighting and lighting controls were updated in the spaces as well. The space includes single-occupancy offices for two full-time Hiphop Archive staff, storage space, a library/archive space, and a reading/meeting area. Accessible work stations were also provided for the use of Harvard University students and staff. The Hiphop Archive is principally used by two full-time employees and several visiting groups of students and visitors.

DRAWINGS



Photos: Harvard University Hip Hop Archive

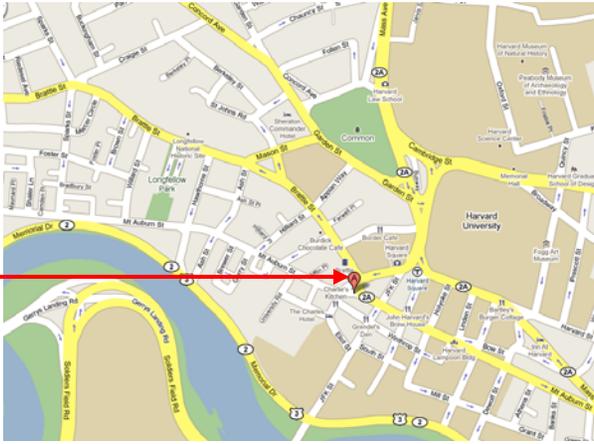


PROJECT TEAM

Owner	Harvard Faculty of Arts and Sciences
Project Manager	Petrina Garbarini, FAS
Architect	Utile Design
Contractor	Wise Construction Corporation
HVAC Engineer	Allied Engineering Group
Commissioning Authority	Harvard Office for Sustainability and Facilities Maintenance Operations
Sustainability Consultant	Harvard University Office for Sustainability

SUSTAINABLE SITES

LOCATION



The Hiphop Archive is located on the second floor of the 104 Mount Auburn building, which is leased from a third-party.



Photo: Intercontinental Real Estate Corporation

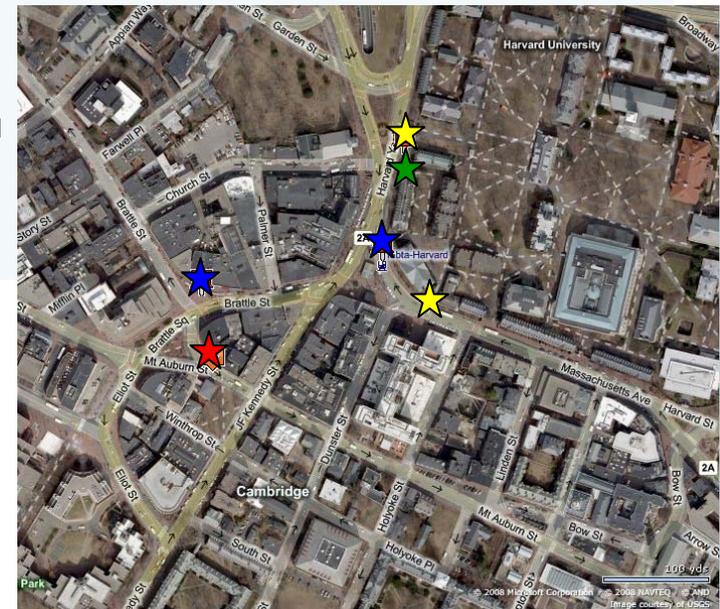
- Located in a densely developed urban area with easy access to amenities such as restaurants, banks, retail stores and a park.
- Within **1/4-mile radius** of the building there is access to:
 - **12** MBTA Bus Lines
 - **4** Harvard Shuttle Bus Lines
 - **1** MBTA Subway Station (0.27 miles)



These transit lines provide connections to the extensive public transportation network throughout the greater Boston area.

- Harvard's **CommuterChoice Program** promotes alternative transportation options and provides incentives to the Harvard community through an extensive website: www.commuterchoice.harvard.edu
- A total of **10 Bike Racks** are located outside of 104 Mount Auburn Street.

- ★ 104 Mount Auburn
- ★ MBTA Bus Stops
- ★ Harvard University Shuttle Bus Stops
- ★ MBTA Subway Station



ENERGY AND ATMOSPHERE

OPTIMIZING ENERGY PERFORMANCE: LIGHTING

- The lighting power density is reduced by 27% below a baseline code-compliant space. This was achieved by using T5 and T8 linear fluorescent fixtures as well as LED downlights.
- **OCCUPANCY SENSORS** turn the lights in the space off when sensors have not been activated by motion for set periods of time.



OFS and FMO commissioning the space Photo: OFS

OPTIMIZING ENERGY PERFORMANCE: EQUIPMENT AND APPLIANCES

- **97.89%** of the rated power in the space comes from ENERGY STAR® rated equipment and appliances such as LCD displays, monitors, and computers.

GREEN POWER

- Renewable Energy Certificates (RECs) were purchased for **100%** of the estimated electricity consumption for the first two years after construction.
- Purchased **47, 930 kWh** of RECs, which avoids emitting 128,725 pounds of CO₂, and is equivalent to **6** passenger cars NOT driven for one year or **4** households' electricity use for one year.

OPTIMIZING ENERGY PERFORMANCE: HVAC SYSTEM

The Hiphop Archive project included the following upgrades to the HVAC system: installation of two FHP Water to Air Heat Pumps, models ECO12 and EC007; fitting of two Little Giant condensate pumps; and renovation or construction to ductwork in portions of the space. The heat pumps serve the two offices located in the archive. The two condensate pumps were installed with each heat pump and circulate water back to the main condensate line allowing the condensate to be reheated or cooled depending on the time of year.

The two heat pumps temper the air delivered to the two offices throughout the year. Fresh air is delivered to each pump with a 4 inch duct that stems from the main outdoor air delivery. Temperature in each office is regulated with a programmable thermostat under the occupant's control. The occupant can set the thermostat to run on an automatic or fan setting to deliver heat or to cool the space. Under the automatic setting, the heat pump turns on or off depending on the difference between the ambient temperature and the occupant designated thermostat setting for the space. Under the heating or cooling settings, if the temperature falls out of the allotted range set by the occupant, tempered air is delivered to the space.

The Office for Sustainability (OFS) and Harvard Facilities Maintenance Operations (FMO) served as the Commissioning Authority (CxA) for the project, and worked with the Owner, the Faculty of Arts and Sciences, to define the scope of the Commissioning Process. The goals of the commissioning process were to ensure that applicable equipment was installed and operating correctly, to document the proper performance of equipment and systems, and to ensure that the Owner's operating staff and occupants were adequately trained.

OFS and FMO tested 100% of the new HVAC equipment and 20% of the new lighting fixtures and controls. OFS performed prefunctional and functional testing on the heat pumps, lighting, and lighting controls.



OFS and FMO commissioning the space

MATERIALS AND RESOURCES

Materials were carefully specified in order to ensure environmentally responsible materials were chosen for the project.

- **75.4%** of the construction waste was diverted from landfills (**6.91 TONS**).
- **13%** of the total material value came from post-consumer and/or pre-consumer recycled content materials. This includes:

Post-consumer

- > Encore Particleboard (Sierra Pine) - **100%**
- > Aeron Chairs (Herman Miller) - **40%**
- > Flannel Carpet Tile (Interface) - **17%**

Pre-consumer

- > Arreis MDF (Sierra Pine) - **100%**
- > Unibord NuGreen (Sierra Pine)- **100%**
- > Cork Underlayment (WE Cork)- **100%**
- > Gypsum Wallboard (National) - **95%**



Photo: Hiphop Archive

INDOOR ENVIRONMENTAL QUALITY

GENERAL: The Hiphop Archive included many measures in the design and implementation process to create a space with healthy indoor environmental quality (IEQ), to promote occupant health and productivity.

PRODUCT SELECTION - Only products with **low VOC content** were used in the Hiphop Archive. Volatile Organic Compounds (VOCs) are potential carcinogens and a major contributor to poor indoor air quality.

- **COMPOSITE WOOD AND LAMINATE ADHESIVES:** No added urea formaldehyde in any of the products—i.e. Sierra pine Arreis, Encore, and Unibord NuGreen.
- **CARPET:** Interface Flannel Carpet Tile, a CIR Green Label Plus Certified product.
- **SYSTEMS FURNITURE:** Herman Miller products are GREENGUARD® certified and Steelcase is SCS Indoor Advantage™ Gold.
- **PAINTS AND COATINGS | ADHESIVES AND SEALANTS:** Neither the Mapei carpet or wall base adhesives, nor the Benjamin Moore Eco Spec paint, contain any VOCs.



Photo: Hiphop Archive

