

SOLDIERS FIELD PARK BUILDING 4
640 SOLDIERS FIELD ROAD, BOSTON, MA
PROJECT PROFILE

LEED ID+C v3.0
LEED GOLD
JULY 2017

Built in 1974, Soldiers Field Park Building 4 is a three story multi-family building which houses 47 residential units within a total of 43,110 square feet. The primary goal of the Soldiers Field Park Building 4 project was to renovate the existing building and surrounding site. Upgrades include all parts of the interior, including several different layouts of the residential units, and a more practical and aesthetically pleasing exterior site plan. The renovation also included mechanical, lighting, power, landscape, envelope and plumbing upgrades. This is the first phase of a four-phase construction project to upgrade the entire Soldiers Field Park residential complex.



Photo: Jason Atwood, 2017

The project team was committed to sustainability from the onset. By following the Harvard Green Building Standards, the team was able to make more informed decisions and focused on including healthier building materials. These standards led to the inclusion of a number of progressive design strategies to meet aggressive energy targets, reduced water usage, and allowed the team to provide healthier interiors for the occupants. The project achieved LEED-CI v3 Gold certification in May 2017.

LEED® Facts

Harvard University
Soldiers Field Park Building 4



Location.....	Cambridge, MA
Rating System.....	LEED-CI v3
Certification Awarded.....	Gold
Total Points Awarded.....	62/110
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Sustainable Sites.....	20/21
Water Efficiency.....	11/11
Energy and Atmosphere.....	15/37
Materials and Resources.....	1/14
Indoor Environmental Quality.....	8/17
Innovation.....	4/6
Regional Priority.....	3/4

PROJECT METRICS

- 41%** reduction in water use below code maximum.
- 25%** of the residents in the complex have access to secure bicycle racks and storage spaces.
- 53%** reduction in lighting power density.
- 90%** of the average annual rainfall runoff is treated with best management practices
- 100%** of the adhesives, sealants, paints, coatings, and wood products are low-emitting.



ENERGY EFFICIENCY AND INDOOR ENVIRONMENTAL QUALITY

MECHANICAL SYSTEMS

ECM 1: Natural Ventilation

ECM 2: Efficient Window Air Conditioners

ECM 3: Sufficient Thermostat Controls

Soldiers Field Park Building 4 is a great example of an energy efficient building utilizing natural ventilation in addition to energy efficient window air conditioners. The window air conditioners are equipped with money saver settings and do not include any ozone depletion refrigerants. In addition to these ventilation strategies, fin tube radiation and cabinet unit heaters also provide heating as necessary. Each of the spaces is equipped with sufficient thermostat controls to ensure thermal comfort is always optimized for the occupant.



Photo: Elkus Manfredi, 2017



Photo: Elkus Manfredi, 2017

INDOOR ENVIRONMENTAL QUALITY

The high indoor environmental quality of the Soldiers Field Park Building 4 renovation was a significant focus of the project. An indoor Quality Management Plan was enacted to ensure building systems and interior building materials were protected from air pollutants, excessive moisture exposure, and moisture damage during construction.

Further, the project serves as a model for healthy interiors as the flooring was specifically selected to not contain any antimicrobials. These chemicals have limited benefit and have been linked to several health concerns such as developmental, hormonal, and reproductive problems. Harvard University is working diligently to implement healthy materials on all projects and Soldiers Field Park Building 4 is a great example of translating research into practice.

ENERGY EFFICIENCY AND INDOOR ENVIRONMENTAL QUALITY

LIGHTING AND ELECTRICAL SYSTEMS

The Soldiers Field Park Building 4 residential units are expected to be occupied for extended periods of time throughout the calendar year. Therefore, the lighting system was designed to not only reduce energy use, but also to improve in the indoor environmental quality of the space and provide optimal lighting. Some of the strategies employed include:

- Reduce lighting power density by 53% below the ASHRAE 90.1 baseline standard
- High performance LEDs installed throughout the project



Photo: Elkus Manfredi, 2017



Photo: Elkus Manfredi, 2017

PLUMBING SYSTEMS AND POTABLE WATER USE REDUCTION



Photo: Elkus Manfredi, 2017

Decreasing the demand for potable water is the first step towards sustainable water management. Therefore, the plumbing system for Soldiers Field Park Building 4 was designed to reduce resource consumption, specifically potable water use.

Throughout the project, water closets with a 1.0 GPF have been installed in addition to private lavatories with a GPM of 1.0, kitchen faucets with a GPM of 1.5, and showerheads with a GPM of 1.5. These fixtures reduce water use in the building by over 41% when compared to the baseline plumbing fixtures required by code.



PRODUCTS AND MATERIALS

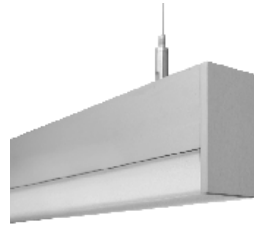
LIGHTING AND CONTROLS

- 53% reduction in lighting power density (watts/square foot)



Undercabinet LED Fixture
Light Bar
MaxLite

- ✓ Only 6 watts per foot
- ✓ Efficacy (lumens per watt) = 51



Rectilinear LED Fixture
BSS205
Bartco

- ✓ Only 34 watts per fixture
- ✓ Efficacy (lumens per watt) = 114



LED Ceiling Fixture
Boxie Ceiling
Tech Lighting

- ✓ Only 20 watts per fixture
- ✓ Efficacy (lumens per watt) = 80

ENERGY EFFICIENT APPLIANCES & WATER EFFICIENCY

- 41% reduction in annual water use when compared to EPA 1992 baseline standard.



Tub/Shower System
Duro 3601
Symmons

- ✓ 1.5 GPM
- ✓ ADA compliant



High Efficiency Toilet
Vespin II 1G
TOTO

- ✓ 1.0 GPF
- ✓ Meets California water savings regulations



Kitchen Faucet
Vella S-2610
Symmons

- ✓ 1.5 GPM
- ✓ ADA Compliant

LOW-EMITTING MATERIALS

- 100% of the project's adhesives, sealants, paints, coatings, and wood products are low-emitting.



Semi Gloss Paint
6-4510XI Series
SPEEDHIDE zero

- ✓ Zero VOCs
- ✓ Meets SCAQMD #1113 limits



Millwork Lumber
Tabebuia Solid Wood
N/FD Sterritt Lumber Company

- ✓ 100% FSC Mix
- ✓ Contains no added urea-formaldehyde



Carpet Pad Adhesive
NuBroadlok
Mohawk

- ✓ Zero VOCs
- ✓ Meets SCAQMD #1168 limits

Please note that while many products are described in this project profile, these are provided for informational purposes only, to show a representative sample of what was included in this project. Harvard University and its affiliates do not specifically endorse nor recommend any of the products listed in this project profile and this profile may not be used in commercial or political materials, advertisements, emails, products, promotions that in any way suggests approval or endorsement of Harvard University.



PROJECT SCORECARD

Soldiers Field Park Bldg 4 Renovation

Project ID 1000071273
 Rating system & version LEED-CI v2009
 Project registration date 04/07/2016



Certified (Gold)

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79, PLATINUM: 80+

LEED 2009 COMMERCIAL INTERIORS

ATTEMPTED: 62, DENIED: 0, PENDING: 0, AWARDED: 62 OF 109 POINTS

SUSTAINABLE SITES 20 OF 21	
SSc1 Site Selection	4 / 5
SSc2 Development Density and Community Connectivity	6 / 6
SSc3.1Alternative Transportation-Public Transportation Access	6 / 6
SSc3.2Alternative Transportation-Bicycle Storage and Changing Room	2 / 2
SSc3.3Alternative Transportation-Parking Availability	2 / 2

WATER EFFICIENCY 11 OF 11	
WEp1 Water Use Reduction-20% Reduction	Y
WEc1 Water Use Reduction	11 / 11

ENERGY AND ATMOSPHERE 15 OF 37	
EAp1 Fundamental Commissioning of the Building Energy Systems	Y
EAp2 Minimum Energy Performance	Y
EAp3 Fundamental Refrigerant Mgmt	Y
EAc1.1Optimize Energy Performance-Lighting Power	5 / 5
EAc1.2Optimize Energy Performance-Lighting Controls	0 / 3
EAc1.3Optimize Energy Performance-HVAC	0 / 10
EAc1.4Optimize Energy Performance-Equipment and Appliances	0 / 4
EAc2 Enhanced Commissioning	5 / 5
EAc3 Measurement and Verification	0 / 5
EAc4 Green Power	5 / 5

MATERIALS AND RESOURCES 1 OF 14	
MRp1 Storage and Collection of Recyclables	Y
MRC1.1Tenant Space-Long-Term Commitment	1 / 1
MRC1.2Building Reuse	0 / 2
MRC2 Construction Waste Mgmt	0 / 2
MRC3.1Materials Reuse	0 / 2
MRC3.2Materials Reuse-Furniture and Furnishings	0 / 1
MRC4 Recycled Content	0 / 2
MRC5 Regional Materials	0 / 2
MRC6 Rapidly Renewable Materials	0 / 1
MRC7 Certified Wood	0 / 1

INDOOR ENVIRONMENTAL QUALITY 8 OF 17	
IEQp1 Minimum IAQ Performance	Y
IEQp2 Environmental Tobacco Smoke (ETS) Control	Y
IEQc1 Outdoor Air Delivery Monitoring	0 / 1
IEQc2 Increased Ventilation	0 / 1
IEQc3.1Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2Construction IAQ Mgmt Plan-Before Occupancy	1 / 1
IEQc4.1Low-Emitting Materials-Adhesives and Sealants	1 / 1
IEQc4.2Low-Emitting Materials-Paints and Coatings	1 / 1
IEQc4.3Low-Emitting Materials-Flooring Systems	0 / 1
IEQc4.4Low-Emitting Materials-Composite Wood and Agrifiber Products	1 / 1
IEQc4.5Low-Emitting Materials-Systems Furniture and Seating	0 / 1
IEQc5 Indoor Chemical and Pollutant Source Control	0 / 1
IEQc6.1Controllability of Systems-Lighting	1 / 1
IEQc6.2Controllability of Systems-Thermal Comfort	1 / 1
IEQc7.1Thermal Comfort-Design	1 / 1
IEQc7.2Thermal Comfort-Verification	0 / 1
IEQc8.1Daylight and Views-Daylight	0 / 2
IEQc8.2Daylight and Views-Views for Seated Spaces	0 / 1

INNOVATION IN DESIGN 4 OF 6	
IDc1.1 Innovation in Design	0 / 1
IDc1.1 Innovation in Design	0 / 1
IDc1.2 Low Mercury Lighting	1 / 1
IDc1.2 Innovation in Design	0 / 1
IDc1.3 Innovation in Design	1 / 1
IDc1.3 Innovation in Design	0 / 1
IDc1.4 Innovation in Design	1 / 1
IDc1.4 Innovation in Design	0 / 1
IDc1.5 Innovation in Design	0 / 1
IDc1.5 Innovation in Design	0 / 1
IDc2 LEED® Accredited Professional	1 / 1

REGIONAL PRIORITY CREDITS 3 OF 3	
SSc3.2Alternative Transportation-Bicycle Storage and Changing Room	1 / 1
WEc1 Water Use Reduction	1 / 1
EAc1.1Optimize Energy Performance-Lighting Power	1 / 1

TOTAL 62 OF 109

MORE INFORMATION

- >Harvard University Housing: <http://huhousing.harvard.edu/>
- >Sustainability at Harvard: <http://green.harvard.edu/>
- >Harvard—Green Building Resource: <http://www.energyandfacilities.harvard.edu/green-building-resource>
- >Harvard—Green Building Services: <http://www.energyandfacilities.harvard.edu/project-technical-support/capital-projects/sustainable-design-support-services>

