SCIENCE EDUCATION AND RESEARCH CENTER:
GREEN BY DESIGN

SUSTAINABLE SITES

Green Space & Plantings

The project maximized vegetated open space by creating landscaped and courtyard areas along the west, east and south sides of the SERC.

Public Transportation

Located within ½ mile of bus, subway and regional rail services, SERC is well connected to the regional transit system.

Cool Roof

SERC has a highly reflective roof to reduce cooling costs and the heat island effect. This “cool roof” reflects and emits the sun’s heat back to the sky instead of transferring it to the building below.

Showers & Bike Amenities

This project provided ample bike parking and shower facilities for bicycle commuters, thereby making it easier for the Temple community to bicycle to work or school.

WATER EFFICIENCY

Innovative Wastewater Technologies

SERC has high efficiency plumbing fixtures to reduce water volumes and uses stormwater harvesting in cisterns for non-potable water for 1st and 2nd floor toilets. Potable water for sewage conveyance is reduced by 59%.

Water Efficient Landscaping

The project planting plan specifically designed to minimize the amount of water required to maintain the plant material. Installed previous pavers also help mitigate stormwater runoff.

MATERIALS AND RESOURCES

Recycled & Regional Materials

SERC was designed with the intent to reduce the amount of virgin materials used in construction by using materials with a high level of recycled content, such as the steel structure. The use of materials from local and regional manufacturers helps decrease the environmental impacts associated with material transportation.

Water Bottle Refilling Stations

Water bottle refilling stations provide students with the convenience of chilled and filtered water without the waste associated with bottled water.

ENERGY & ATMOSPHERE

Optimize Energy Performance

The SERC's building systems are efficient resulting in energy cost savings and mitigating environmental impacts associated with excessive energy use.

Daylighting and Lighting System Controls

The energy efficient low-e coated glazing, in conjunction with exterior louvers and automated window shades, protect building spaces from direct sunlight and provide ambient illumination for building occupants. The use of efficient light fixtures, occupant sensors and timeclocks ensure a reduction in energy consumption.

Enhanced Refrigerant Management

The SERC's building systems minimize the emissions of compounds that contribute to ozone depletion.

INDOOR ENVIRONMENTAL QUALITY

Low-Emitting Materials

This project used low-emitting materials in construction, including adhesives, sealants, paints, coatings, floor systems, composite wood and agrifiber products. These materials reduce the concentration of volatile organic compounds inside the building to provide a healthier working and learning environment.

Superior Indoor Air Quality

SERC has permanent CO2 monitoring sensors that provide feedback on system performance to ensure that ventilation systems maintain superior air quality and that building systems run more efficiently.

INNOVATION & DESIGN

Waste Management

The project implemented a construction waste management plan that identified materials to be diverted from the landfill and recycled 95% of the construction waste generated. The project reduces the amount of mercury in landfills by establishing an Induction Lamp Recycling Program which provides for the safe recovery of the mercury in the lamps.

Temple University

LEED Certification Review Report

This report contains the results of the technical review of an application for LEED® certification submitted for the specified project. LEED certification is an official recognition that a project complies with the requirements prescribed within the LEED rating systems as created and maintained by the U.S. Green Building Council® (USGBC®). The LEED certifcation program is administered by the Green Building Certification Institute (GBCI®).

Science Education and Research Center

Project ID 1000011758
Rating system & version LEED-NC v2009
Project registration date 12/22/2010

Certified (Gold)

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

LEED FOR NEW CONSTRUCTION & MAJOR RENOVATIONS (V2009)

ATTEMPTED: 68, DENIED: 2, PENDING: 0, AWARDED: 66 OF 110 POINTS

leed-nc

SUSTAINABLE SITES		22 OF 26
SSp1	Construction Activity Pollution Prevention	Y
SSc1	Site Selection	1 / 1
SSc2	Development Density and Community Connectivity	5 / 5
SSc3	Brownfield Redevelopment	0 / 1
SSc4.1	Alternative Transportation-Public Transportation Access	6 / 6
SSc4.2	Alternative Transportation-Bicycle Storage and Changing Room	1 / 1
SSc4.3	Alternative Transportation-Low-Emitting and Fuel-Efficient V	3 / 3
SSc4.4	Alternative Transportation-Parking Capacity	2 / 2
SSc5.1	Site Development-Protect or Restore Habitat	0 / 1
SSc5.2	Site Development-Maximize Open Space	1 / 1
SSc6.1	Stormwater Design-Quantity Control	1 / 1
SSc6.2	Stormwater Design-Quality Control	1 / 1
SSc7.1	Heat Island Effect, Non-Roof	0 / 1
SSc7.2	Heat Island Effect, Roof	1 / 1
SSc8	Light Pollution Reduction	0 / 1

WATER EFFICIENCY		6 OF 10
WEp1	Water Use Reduction, 20% Reduction	Y
WEc1	Water Efficient Landscaping	4 / 4
WEc2	Innovative Wastewater Technologies	2 / 2
WEc3	Water Use Reduction	0 / 4

ENERGY AND ATMOSPHERE		16 OF 35
EAp1	Fundamental Commissioning of the Building Energy Systems	Y
EAp2	Minimum Energy Performance	Y
EAp3	Fundamental Refrigerant Mgmt	Y
EAc1	Optimize Energy Performance	7 / 19
EAc2	On-Site Renewable Energy	0 / 7
EAc3	Enhanced Commissioning	2 / 2
EAc4	Enhanced Refrigerant Mgmt	2 / 2
EAc5	Measurement and Verification	3 / 3
EAc6	Green Power	2 / 2

MATERIALS AND RESOURCES		5 OF 14
MRp1	Storage and Collection of Recyclables	Y
MRc1.1	Building Reuse-Maintain Existing Walls, Floors and Roof	0 / 3
MRc1.2	Building Reuse, Maintain 50% of Interior	0 / 1
MRc2	Construction Waste Mgmt	2 / 2
MRc3	Materials Reuse	0 / 2
MRc4	Recycled Content	2 / 2

MATERIALS AND RESOURCES		CONTINUED
MRc5	Regional Materials	1 / 2
MRc6	Rapidly Renewable Materials	0 / 1
MRc7	Certified Wood	0 / 1

INDOOR ENVIRONMENTAL QUALITY		10 OF 15
IEQp1	Minimum IAQ Performance	Y
IEQp2	Environmental Tobacco Smoke (ETS) Control	Y
IEQc1	Outdoor Air Delivery Monitoring	1 / 1
IEQc2	Increased Ventilation	0 / 1
IEQc3.1	Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2	Construction IAQ Mgmt Plan-Before Occupancy	0 / 1
IEQc4.1	Low-Emitting Materials-Adhesives and Sealants	1 / 1
IEQc4.2	Low-Emitting Materials-Paints and Coatings	1 / 1
IEQc4.3	Low-Emitting Materials-Flooring Systems	1 / 1
IEQc4.4	Low-Emitting Materials-Composite Wood and Agrifiber Products	1 / 1
IEQc5	Indoor Chemical and Pollutant Source Control	1 / 1
IEQc6.1	Controllability of Systems-Lighting	1 / 1
IEQc6.2	Controllability of Systems-Thermal Comfort	0 / 1
IEQc7.1	Thermal Comfort-Design	1 / 1
IEQc7.2	Thermal Comfort-Verification	1 / 1
IEQc8.1	Daylight and Views-Daylight	0 / 1
IEQc8.2	Daylight and Views-Views	0 / 1

INNOVATION IN DESIGN		6 OF 6
IDc1.1	Innovation in Design	0 / 1
IDc1.1	Innovation in Design - Commissioning the Building Envelope	1 / 1
IDc1.2	Innovation in Design	0 / 1
IDc1.2	Innovation in Design-Construction Waste Mgmt by 95%	1 / 1
IDc1.3	Innovation in Design	0 / 1
IDc1.3	Innovation in Design-Public Education on Sustainability	1 / 1
IDc1.4	Innovation in Design-Low Mercury Lighting Lamp Recycling	1 / 1
IDc1.4	Innovation in Design	0 / 1
IDc1.5	Innovation in Design	0 / 1
IDc1.5	Innovation in Design-Fume Hood Testing	1 / 1
IDc2	LEED® Accredited Professional	1 / 1

REGIONAL PRIORITY CREDITS		1 OF 4
SSc4.2	Alternative Transportation-Bicycle Storage and Changing Room	1 / 1
SSc5.1	Site Development-Protect or Restore Habitat	0 / 1
WEc3	Water Use Reduction	0 / 1
EAc2	On-Site Renewable Energy	0 / 1
MRc1.1	Building Reuse-Maintain Existing Walls, Floors and Roof	0 / 1
IEQc8.1	Daylight and Views-Daylight	0 / 1

TOTAL	66 OF 110