



# GREEN BUILDING TOURS

October 26, 2012



## Fire Station 37

Houston, Texas

### LEED for New Construction

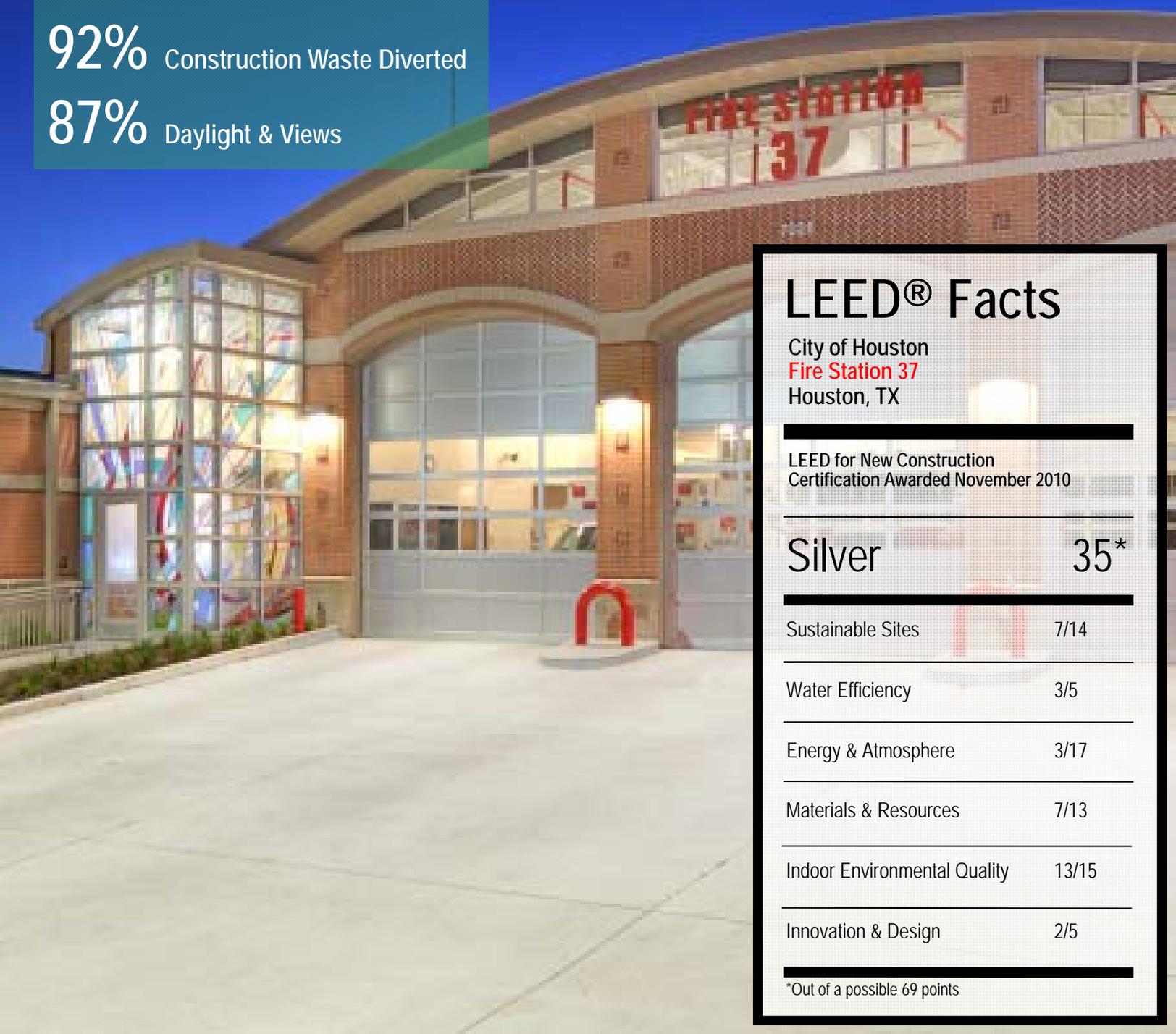
22% Recycled Content

29% Regional Materials

60% Certified Wood

92% Construction Waste Diverted

87% Daylight & Views



## LEED® Facts

City of Houston  
Fire Station 37  
Houston, TX

LEED for New Construction  
Certification Awarded November 2010

**Silver** 35\*

Sustainable Sites 7/14

Water Efficiency 3/5

Energy & Atmosphere 3/17

Materials & Resources 7/13

Indoor Environmental Quality 13/15

Innovation & Design 2/5

\*Out of a possible 69 points

## Firing Up for Green in Houston

### PROJECT DESCRIPTION

More than just a place of work, **Fire Station 37** is a home away from home to our City of Houston Firefighters, and a cultural, environmental and safety beacon for its community. In the heart of Bellaire, this new Station replaced the 1950's two-bay obsolete station blocks away. Poised with site challenges such as a tight site, polluted structures and recent change in flood plain (requiring FFE 12" above the 500 year elevation), the Architect and Team worked early in the process to maximize site usage while creating sustainable features outside and in. A unique aspect of the station is also its public art commission which dedicated 1.75% of construction costs to Art. Jeff Smith designed two beautiful abstract pieces- the front or "public" one and the back "private" piece. The front entry design abstracts a collage of a fire hose, fire helmet, water droplets and other iconic Fire elements into a beautiful colorful piece, while the back tree with a squirrel gives the fire fighters the nostalgic remembrance of the old fire station trees and the squirrel they personally cared for throughout their years there. This project exemplifies a true collaboration of Art, Architecture, Sustainability, Functionality and Aesthetics.

### SUSTAINABLE SITES (7/14)

Storm water filtration and collection thru the use of rain tanks underneath the parking were provided to allow for on-site detention while providing maximum Fire truck access and operations. In addition this system allowed for the removal of 80% of total suspended soils all underground. Other Site features were the redevelopment of this blighted and polluted site which contained contaminated structures that were abated

### WATER EFFICIENCY (3/5)

Landscape materials and irrigation reduced consumption of water by 64.4% from calculated baseline. In addition, though the use of low flow toilets and fixtures the project achieved a 30% reduction of water use over baseline design.

### ENERGY & ATMOSPHERE (8/14)

A commissioning agent was engaged during design through construction to complete fundamental building systems design. ■ The project follows ASHRAE 90.1 requirements. ■ There is zero use of CFC-based and non-HCFC refrigerants in the mechanical systems that were installed. ■ The HVAC system installed was optimized for high performance with an energy cost savings of 14.4% however due to the complexity of serving a 24-hour facility further reductions were not able to be achieved

### MATERIALS & RESOURCES (7/13)

92% of construction waste was diverted from the landfill ■ 22% of materials used by value were manufactured using recycled content . ■ 28% of building materials and products are manufactured regionally within a 500-mile radius. ■ 60% of the total wood based building materials were harvested from FSC certified forests.

### INDOOR ENVIRONMENTAL QUALITY (13/15)

The HVAC system is designed to comply with the latest ASHRAE 62 Standards and exceeds outside air ventilation by 33% above minimum requirements. ■ Smoking is prohibited in the building. ■ A construction air quality management plan was developed and used throughout construction. ■ Low-emitting materials wood & agrifiber products, adhesives, and sealants were installed to meet requirements. ■ Interior latex paints with zero VOC emissions were installed. ■ Low emitting carpets were installed. ■ Indoor pollutant source control measures include an entry grate system and MERV 13 air filters. ■ The project space complies with ASHRAE 55 requirements, and a permanent monitoring system is in place. ■ 95% of the regularly occupied spaces have direct views to outside with 77% with daylighting requirements.

### INNOVATION IN DESIGN (2/5)

The Houston Fire Department will allow the community to learn about the sustainable features of the station. Educational programs and activities are held by HFD for the community with activities for children to tour and read about its features through its signage and coloring book program. ■ M Carolina Weitzman, LEED AP, led the entire LEED certification process along with coordination and direction for the Owner's team.

*"The design of the structure blends and enhances the architecture of the school, library and YMCA across the street. With the civic art added and the lighting in the facility at night, it is truly the show place of the community. The fire station is an attention getter for area children and adults. The community visits the station for fire prevention information, etc. The staff is served by a facility that is comfortable and yet energy efficient and meets LEED certification. The technology is state of the art for the Fire Department."*

**Chief Jack Williams**  
District Chief, Houston Fire Department



**Owner:** City of Houston Fire Department  
**Architect:** NATEX Architects  
**Structural Engineer:** Henderson Rogers  
**MEP Engineer:** DBR Inc.  
**Commissioning Authority:** DBR Inc.  
**Contractor:** Gilbane  
**Artist:** Jeff Smith  
**Project Size:** 11,000 SF  
**Project Cost:** \$5,300,000  
**Completion:** November 2009  
**Photography:** Jonathan Jackson

### ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S.Green Building Council's Web site at [www.usgbc.org](http://www.usgbc.org) and the Greater Houston Area Chapter of USGBC at [www.usgbcchouston](http://www.usgbcchouston) to learn more about how you can make LEED work for you.