

LEED Profile

Frost Elementary School

Achievements

21% reduction in energy consumption

35% reduction in water use

55% recycled content of materials

67% use of local/regional materials



Project Description

Frost Elementary is a new replacement school for 750 students with 85,700 square feet. The new facility is a one-story, steel-framed, brick veneer exterior with metal siding in selected areas. A central north/south entry hall contains the administration suite and the library/media center. A linear east/west secondary hall has grade clusters and labs/specialist classrooms. Activity zoning is related to noise levels. Geometric shapes in utility headers and wisdom word walk at the entrance reinforce the school as a learning tool. The school has numerous energy-efficient mechanical and architectural features that adhere to the USGBC green building design strategies. The school is designed for LEED certification.



Sustainable Overview

- 11 acre site; building footprint minimized; 75% to be restored and protected
- Maximized most of the site for open green space
- Cool roof; roofing surfaces have low reflectance



Water Efficiency

- Low water usage with native and naturalized plants and vegetation
- Water efficiency – no landscape irrigation system or potable water
- Low water use plumbing fixtures and automatic shut-off faucets
- Visible water storage tanks for irrigation use



Energy & Atmosphere

- Building systems designed to achieve 21% efficiency above standard baseline building
- Light sensors in the main corridors and classrooms & High efficient glazing
- All mechanical equipment and kitchen refrigeration units operate with non-CFC based refrigerants



Materials & Resources

- Regional and local materials used: brick, paint, metal roof & siding, aluminum windows
- Materials with recycled content: toilet partitions, carpet, doors, fiberglass insulation
- Recycling program that salvages paper, plastic, aluminum and glass
- Construction waste management



Indoor Environmental Quality

- The mechanical system is designed to meet or exceed ASHRAE Standard 62-1999
- Construction indoor air quality management plan for during and before occupancy
- Building equipped with CO2 monitors
- Low volatile organic compound (VOC) paints and adhesives were used throughout the project, also including Green Label carpet
- Day lighting/ exterior views - 97% of regularly occupied spaces
- Operable windows for natural ventilation



Innovation and Design

- School building used as a Teaching Tool
 - Math formulas and shapes integrated in design
 - Uplifting words of wisdom reinforces Schools core educational mission
- A rainwater collection system – tree and shrub irrigation
- Implemented 'Green Courses' – parts of school building as part of science & social studies curriculum

LEED® Facts

LEED for Schools (v2007)

Silver 37*

Sustainable Sites	7
Water Efficiency	2
Energy & Atmosphere	5
Materials & Resources	6
Indoor Environmental Quality	11
Innovation & Design	6

* Out of a possible 78 points

Project Information

Owner: Houston Independent School District (HISD)

Address: 5002 Almeda Genoa, Houston, TX 77048

Architect: RDC Architects

Civil Engineer: ESPA CORP, Inc.

MEP Engineer: Infrastructure Associates, Incorporated

Commissioning Agent: Rice & Gardner Consultants Inc.

Contractor: Cadence McShane Corporation

Project Size: 85,700 SF

Project Budget: \$15,084,301

Opened: August 2011

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 to learn more about how you can make LEED work for you.