



Green building techniques seek to

- **Reduce construction waste**
- **Conserve water**
- **Save energy**
- **Use local, recycled and low impact materials**
- **Create a healthy indoor environment**

The 2007 visitors services wing of the Prairie Building at Pioneers Park Nature Center incorporated these goals in the following ways:

Reduction of construction waste:

- Reused west window
- Recycled windows, light fixtures, doors, ceramic tile and dimensional lumber

Water conservation:

- Low flow toilet and faucet

The low flow Toto toilet is ADA compliant with a siphon jet flushing action and uses only 1.6 gpf compared to the 3.5 gallons of standard toilets.

The Toto battery-powered sensor faucet uses .17 gallons of water per 10 second cycle, which is 32% below the base line of .25 gallons per cycle.

Water conservation (con):

- Rainwater harvesting system
The 3000 gallon storage cistern collects rainwater to be used for watering gardens.
- Landscaping with drought tolerant, native plantings.

Energy efficiency:

- Strawbale construction uses a rapidly renewable resource grown locally, wheat straw. The standard two string bale 36"x18"x14" has an insulation value of R-42.

- Insulation materials

Ultra Touch cotton batt insulation contains 85% post-industrial recycled natural denim fibers.

Cellulose insulation contains 100% recycled content (newspapers) and has superior thermal and air infiltration properties.

Structural Insulated Panels (SIP) are pre-fabricated structural elements that provide superior insulation compared with traditional construction methods and are composed of rigid insulation sandwiched between two layers of oriented strand board (OSB), a pressed engineered lumber.

- Geothermal heat pump system consists of 15 wells.

Energy efficiency (con):

- Low EII insulated wood Energy Star windows
- Natural daylighting with views in all occupied spaces
- T5 fluorescent lighting
- Extensive green roof

An extensive green roof is a shallow roofscape using 3-5 inches of plant media and often planted with sedums.

The green roof membrane system by American HydroTech includes a rootstop sheeting, water retention mat, Floradrain layer, and filter fabric.

The growing medium, Rooflite, is a standardized formulation designed to provide a balance of nutrients, water-holding capacity and drainage characteristics.

The roof is planted with prairie species, a research project being conducted in cooperation with Dr. Richard Sutton of the University of Nebraska, Lincoln.

A green roof reduces stormwater run-off, increases thermal efficiency of the building, and reduces the heat island effect.



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Material choices:

- Local limestone used for retaining wall
- Fiber-cement exterior siding
- Renewable wood cedar shingles
- Concrete mix contains 30% recycled content (15% fly ash and 15% slag).
- The acoustical ceiling tile has 52% post consumer recycled content
- EcoCycle porcelain floor tile by Crossville has 40% recycled content from pre-consumer porcelain ceramic waste products.
- Carpet tile by Shaw has 38% post industrial recycled content with an ecoworx backing. Ecoworx is the industry's first 100% sustainable, non-PVC carpet tile backing system.
- The wheatboard in the casework is a composite material created from a rapidly renewable resource, wheat straw. No out-gassing solvents are added during the manufacturing process, thus the material emits no VOCs into the atmosphere.
- The Richlite countertops are a pressed paper and resin composite derived from renewable and recycled resources.
- The Ecoresin bear grass panels contain 40% post-industrial re-grind content.
- The interior paint is Pro-Green 200, low VOC, low odor latex by Sherwin Williams.
- Recycling center

Visitor services wing funding partners:



Nebraska
Environmental
Trust

Lincoln Parks Foundation
Lincoln Cares
Lower Platte South Natural
Resources District
Lincoln Public Schools
Lincoln Electric System
Friends of Pioneers Park
Nature Center

Architect and Contractor:

The Architectural Partnership
Rogge Construction

LEED Certification - Silver

LEED is a rating given by the U.S. Green Building Council to recognize green, energy efficient, high performing buildings. This is the first building in Lincoln to receive this certification.



The mission of the Pioneers Park Nature Center is to interpret the natural history of Nebraska and the Central Great Plains; to promote the enjoyment, appreciation, and awareness of our natural environment; to practice and foster a conservation ethic; and to provide a sanctuary for wildlife and a peaceful retreat for people.

PIONEERS PARK
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PRAIRIE BUILDING
VISITORS SERVICES WING



GREEN BUILDING COMPONENTS