The Library! at Bown Crossing: LEED Certification

The Library! at Bown Crossing is a 16,000 square foot new construction project in Boise, Idaho. The project team made every effort to have an integrated design and construction process. The decision to pursue LEED v4 BD-C New Construction Certification is one way the City of Boise as a whole is showing its commitment to sustainable building design and construction, as well as ongoing management.

Initial project goals included creating a healthy indoor environment; reduced energy usage through lighting, daylighting, and efficient energy systems; the use of environmentally friendly building materials; and connecting to the local bicycle network (including Boise GreenBike bicycle rentals) and the site by managing rainwater on-site via bioswales. With a focus on energy efficiency, the lighting design utilizes efficient fixtures and lamps to perform beyond the required standards of energy efficiency. Additionally, the installation of submeters helps the library monitor energy usage and establish a baseline of the energy consumption in order to make adjustments as needed.

In addition to ongoing green education for staff and customers, the library has implemented a green cleaning policy which reduces the exposure of occupants to potentially hazardous chemical, biological, and particulate contaminants, as well as an integrated pest management policy to mitigate pests through holistic measures in order to reduce the use of hazardous chemicals.

LEED FAQs

Location and Transportation:

- Six Low-Emitting Vehicle preferred parking spaces, and four electric recharging stations
- A walkable and bikable location due to proximity to the Greenbelt and nearby neighborhoods. Secure bicycle parking available for up to 68 bicycles with an additional six covered spaces for staff. Scooter racks for up to 18 scooters available soon.

Sustainable Sites:

- The building is oriented to obtain optimal views for the library, the roof is oriented to collect solar energy, and the site is oriented to filter rainwater through bioswales due to the completion of a detailed site assessment before design.
- 44 percent of the site is open space, with 60 percent of that open space vegetated.
- The 98th percentile of rainwater runoff is managed through site low-impact design and green infrastructure that mimics the local hydrology of the site.

Water Efficiency:

- 43 percent water use reduction savings through the use of low-flush toilets and low-flow fixtures
- Water-wise landscaping such as drought-tolerant plants

Energy and Atmosphere:

- 22 percent energy cost reduction, using ASHRAE 90.1-2010
- Built 22 percent more efficient than code
- Solar PV panels on site with 1 percent energy generation
- HVAC & R systems do not use CFC-based refrigerants

- 100 percent of the total electricity usage is offset by Renewable Energy Certificates (Green Power and Carbon)
- Monitoring of energy systems, including advanced energy monitoring through whole-building commissioning

Materials and Resources:

- 50 percent landfill diversion rate for construction and demolition
- 14 percent of building materials are produced from recycled content (e.g. denim insulation)
- 14 percent of building materials were manufactured and harvested within 100 miles of the building
- Over 40 materials with Environmental Product Declarations (EPDs)
- Over 20 materials with Health Product Declarations (HPDs)

Indoor Environmental Quality:

- No smoking allowed in the building or within 25 feet of openings (no smoking during construction)
- Enhanced fresh air circulation in the building provided by Air Handler Units which meet ASHRAE 62.1-2010
- Low-emitting materials, containing low or no VOCs were used throughout construction and meeting stringent emissions evaluations standards

Innovation and Design:

- Green education initiatives have been implemented featuring the value of the green building and specific project features. A building automated system (BAS) screen monitor is located at the building entry illustrating the library's total energy usage. Recycled denim insulation is featured through a glass viewing window into the wall cavity.
- An integrated pest management policy has been implemented to mititgate pests through holistic measures in order to reduce the use of hazardous chemicals for eliminating pests.
- A Green Cleaning Policy has been implemented which reduces the exposure of occupants to potentially hazardous chemical, biological, and particulate contaminants.
- A Lamp Purchasing Policy has been adopted by the library ensuring no mercury-containing lamps will be used in the building, and protecting building occupants and the surrounding environment from the hazards of mercury.
- A drinking fountain for bottle filling is available for customers to encourage a reduction in plastic.

Better Learning Opportunities:

- Quality views which include daylight enhance learning ability! Studies in classrooms in California by Heschong Mahone Group showed a 21-percent improvement in student learning rates from those in classrooms with the least of amount of daylight compared to those with the most. Poor ventilation and indoor air quality also appear to negatively affect student performance. The Library! at Bown Crossing provides an environment with access to quality views, enhanced ventilation, and healthy indoor air quality, all of which improve the ability to learn.