



## OUR GREEN-BUILT FOOD BANK



Our new building, which opened in 2006, was designed and built using the LEED certification process. LEED, an acronym for Leadership in Energy and Environmental Design, is an internationally-recognized program that regulates “green” building. A LEED-certified building offers many benefits

to its occupants and the environment. Increased indoor air quality, water-efficient fixtures, solar lighting, and proximity to public transportation are just a few examples of LEED elements incorporated at Bellingham Food Bank.

### LEED Prerequisites and Credits for Bellingham Food Bank

#### SUSTAINABLE SITES

- **Prerequisite 1: Construction Activity Pollution Prevention**
  - Goal: During the construction phase, the general contractor was responsible for overseeing construction of the building and minimizing pollution generated through construction activity. This prerequisite focuses on controlling soil erosion, water sedimentation and airborne dust particles. This is typically accomplished through the use of a variety of best management practices such as straw bales, catch basin inserts, temporary sediment ponds, etc.
- **Credit 1: Site Selection**
  - Goal: This credit is designed to lessen the impact of development on the environment. This can be accomplished by building on previously developed sites, avoiding development of farmlands, wetlands or habitats of protected species. Our new building was constructed on the site of our old facility.
- **Credit 4.1: Alternative Transportation: Public Transportation Access**
  - Goal: Our close proximity (1/4 mile or less) to several public bus lines, as well as the main downtown bus terminal, helps encourage employees and clients to ride the bus to cut down on emissions.
- **Credit 4.3: Alternative Transportation: Low-Emitting & Fuel-Efficient Vehicles**
  - Goal: To further encourage the reduction of emissions, the food bank offers an electric vehicle charging station to the public.
- **Credit 4.4: Alternative Transportation: Parking Capacity**
  - Goal: This credit also helps to reduce emissions and land development impacts from single occupancy vehicles. The number of parking stalls at the food bank is the minimum allowed by local zoning codes. Minimal parking and close proximity to the bus helps to promote use of public transit and reduce emissions.
- **Credit 7.1: Heat Island Effect: Non-Roof**
  - Goal: The natural environment is sensitive to even slight changes in temperature. Certain materials such as concrete, asphalt and metal store thermal energy from the sun during the day. That energy (heat) is released after the sun has set, slightly raising the temperature in the immediate area. While there is only a small amount of exterior concrete at the food bank, special light-colored concrete was used to reduce the heat island effect.
- **Credit 7.2: Heat Island Effect: Roof**
  - Goal: The natural environment is sensitive to even slight changes in temperature. Many roofing materials are dark in color and attract the sun’s energy. In order to reduce the heat island effect of our roofing, a light colored membrane roof was installed.

- **Credit 8: Light Pollution Reduction**

- Goal: Our environment is also quite sensitive to light. This credit is mainly concerned with the nighttime environment of nocturnal creatures. Light pollution reduction was accomplished by minimizing the amount and intensity of exterior lights, along with adjusting the angle, thereby greatly reducing the effects on the nighttime environment.

## **WATER EFFICIENCY**

- **Credit 1.1: Water-Efficient Landscaping**

- Goal: Potable drinking water is a vital part of our daily lives. With a limited supply of this precious element, it is important to minimize its use for landscaping. The food bank has no watered landscaping.

- **Credit 3.1: Water Use Reduction**

- Goal: With a limited supply of water, it is important to minimize its use for flushing toilets and washing hands. Highly-efficient water fixtures were installed in our building to reduce the amount of potable water use by over 20% compared to similar buildings.

## **ENERGY & ATMOSPHERE**

- **Prerequisite 1: Fundamental Commissioning of the Building Energy Systems**

- Goal: As a prerequisite to earning any energy and atmosphere credits, the mechanical system in our building had to be commissioned by a certified professional. During the commissioning process, the mechanical system was checked for proper installation and calibrated to verify that it was meeting the design requirements.

- **Prerequisite 2: Minimum Energy Performance**

- Goal: As a prerequisite to earning any energy and atmosphere credits, the building's mechanical system had to be designed to meet the requirements of ASHRAE, the American Society of Heating, Refrigerating and Air-Conditioning Engineers and IESNA, the Illuminating Engineering Society of North America. Both ASHRAE and IESNA are more stringent than local and state energy codes.

- **Prerequisite 3: Fundamental Refrigerant Management**

- Goal: As a prerequisite to earning any energy and atmosphere credits, we were required to eliminate the use of CFC-based refrigerants from the project. Our food bank uses no CFC-based refrigerants.

- **Credit 1: Optimize Energy Performance**

- Goal: One of the main objectives of a LEED-certified building is to increase overall energy efficiency. Through the use of energy-efficient equipment, superior insulation and strategic building orientation Bellingham Food Bank utilizes 10% less energy than similar buildings.

- **Credit 5: Green Power**

- Goal: Advances in modern technology have made it possible for building owners to choose from a variety of energy systems to power their buildings. In an effort to relieve the environment from the disruptive effect of some power-generation techniques, we have signed a contract to purchase green power for over 35% of our needs. Green power programs help to sponsor research and development of wind turbine generators, photovoltaic panels and other environmentally-sensitive green power sources.

## **MATERIALS & RESOURCES**

- **Prerequisite 1: Storage & Collection of Recyclables**

- Goal: In order to receive credits under the materials and resources section, we installed a permanent recycling area in our building. The recycling area is easily accessible to building occupants.

- **Credit 2: Construction Waste Management**
  - Goal: During the construction phase of a project, there is generally a substantial amount of debris that accumulates. To reduce the amount of debris that would be deposited in a landfill, Pearson Construction diverted over 90% of the construction debris to recycling and reuse programs.
- **Credit 4: Recycled Content**
  - Goal: In order to obtain this credit, Pearson Construction and other subcontractors and suppliers installed materials that had higher than average recycled content. Over 10% of the materials used to build the new food bank came from pre-consumer and post-consumer recycled products.
- **Credit 5: Regional Materials**
  - Goal: Reducing the distance that a product is harvested, manufactured and shipped to the jobsite cuts down on emissions from shipping and other effects of transportation on the environment. Pearson Construction and its subcontractors and suppliers procured over 22% of the material for this project from within 500 miles of the building site.
- **Credit 7: Certified Wood**
  - Goal: Traditional logging techniques can have negative effects on the environment. The Forest Stewardship Council (FSC), which was created in 1992, promotes responsible forest management techniques. Pearson Construction utilized FSC-certified lumber for nearly 65% of the wood material used in constructing our building.

## **INDOOR ENVIRONMENTAL QUALITY**

- **Prerequisite 1: Minimum IAQ Performance**
  - Goal: During the design phase, our building's mechanical system was designed to meet ASHRAE requirements. ASHRAE has a higher level of requirements for indoor air quality than state and local codes.
- **Prerequisite 2: Environmental Tobacco Smoke (ETS) Control**
  - Goal: Bellingham Food Bank qualifies for this credit by prohibiting smoking within our building and 25' from any entrance, exit or window.
- **Credit 1: Outdoor Air Delivery Monitoring**
  - Goal: This credit was implemented to maintain a consistent level of indoor air quality by adjusting the flow of outdoor air delivered into the building. In order to keep the indoor air quality within design tolerances, our building is equipped with carbon dioxide monitors and automatic dampers on the heating and air conditioning units. This allows the units to automatically adjust the amount of outdoor air that is delivered into our building.
- **Credit 2: Increased Ventilation**
  - Goal: The objective of this credit is to increase the level of indoor air quality by circulating additional outdoor air into the building. We circulate 30% more outdoor air through our building than minimum ASHRAE standards.
- **Credit 3.1: Construction IAQ Management Plan: During Construction**
  - Goal: During the construction process there are many variables that can have lasting effects on the air quality of the finished building. Absorptive materials can become wet and begin to mold inside the walls after construction. Dust, which collects in air ducts while they are being stored on the site, can get blown out into the finished building upon initial occupation of the building. To prevent these kinds of air pollution after our building was finished, absorptive materials were stored off the ground in a dry location, all supply and return air registers and ducts were sealed until they were ready for initial startup and numerous other actions were taken.

- **Credit 3.2: Construction IAQ Management Plan: Before Occupancy**
  - Goal: Even the cleanest jobsite can have “dirty” air during and after construction. After our building was finished and before occupancy, it underwent a flush-out procedure to clean out the remaining polluted air. A flush-out process is done in a number of ways, but the main goal is to change all the air in the building multiple times with fresh outside air to remove particulates. Once the air was flushed from our building, all filters were replaced with new high efficiency filters.
- **Credit 4.1: Low-Emitting Materials: Adhesives & Sealants**
  - Goal: Off-gassing of chemicals can be irritating and possibly harmful to building occupants. In the past, many building materials were produced or installed with the use of highly toxic chemicals. Presently, there are numerous options for products with low VOC (volatile organic compound) levels. All adhesives and sealants used during construction of our building met low VOC requirements for LEED.
- **Credit 4.2: Low-Emitting Materials: Paints & Coating**
  - Goal: Similar to adhesives and sealants, paints have been notorious for off-gassing of irritating and harmful chemicals. Most modern paints have VOC levels that meet the requirements of LEED. All paints and coatings used on the interior of our building meet the low VOC requirements.
- **Credit 4.3: Low-Emitting Materials: Carpet Systems**
  - Goal: As with other products manufactured with toxic chemicals, carpets and carpet adhesives can off-gas irritating and harmful chemicals. All of our carpets and carpet adhesives meet the low VOC and Green Label requirements for LEED certification.
- **Credit 5: Indoor Chemical and Pollutant Source Control**
  - Goal: LEED-certified buildings are designed to provide a higher level of indoor air quality. After taking the time to design and spending the money to build a LEED-certified building, it is important to maintain high indoor air quality. Among many other factors, indoor air quality can be compromised by dirty air filters, chemical off-gassing and dust and dirt tracked in by building occupants. At the food bank, all air filters are serviced on a regular basis, walk-off mats in front of entry ways are serviced weekly and there are no toxic chemicals stored on site.
- **Credit 6.1: Controllability of Systems: Lighting**
  - Goal: Proper lighting is a key to productivity. Our building was designed to maximize controllability of the lighting system in order for our occupants to tailor the lighting to their needs.
- **Credit 6.2: Controllability of Systems: Thermal Comfort**
  - Goal: Not everyone working in a building has the same comfort range when it comes to heating and cooling. Our building offers our occupants greater control over the heating and cooling.
- **Credit 7.1: Thermal Comfort: Design**
  - Goal: Our building was designed to provide a comfortable thermal environment that helps to promote productivity in the workplace.
- **Credit 7.2: Thermal Comfort: Verification**
  - Goal: Maintaining a comfortable thermal environment over time is necessary to keep productivity constant. Thermal comfort is checked and adjusted as need be on a regular basis.
- **Credit 8.1: Daylighting & Views: Daylight 75% of spaces**
  - Goal: Natural daylight can have positive effects on building occupants. We’ve increased the amount of natural daylight in our building and provided more than 75% of regularly-occupied areas a view outside; this can greatly improve morale and productivity.

## **INNOVATION & DESIGN PROCESS**

### **1. Credit 1.1: Innovation in Design – Food Redistribution Program**

- Goal: The intent is to divert our community's food waste to usable product. Many food products are disposed of long before reaching their shelf life. At Bellingham Food Bank we work with all area grocery stores to have these food products delivered to us or we offer pick up. We sort through these products and dispense as much as possible to our customers.

### **2. Credit 1.2: Innovation in Design – Building Education Program**

- Goal: Environmental responsibility has been gaining strength over the past couple decades due to widespread awareness. By posting signs and other informational documentation throughout our building, we are helping to spread awareness and educate more people about LEED and the benefits of green-building techniques.

### **3. Credit 2: LEED Accredited Professional**

- Goal: To earn this credit, one person from the project team is required to be a LEED accredited professional. Bellingham Food Bank has had support from numerous LEED-accredited professionals, including the project team administrator from Zervas Group Architects.

*For more information about LEED and green building certification, visit the US Green Building Council's website at [www.usgbc.com](http://www.usgbc.com).*