

Sustainable Features List

North Lakeland Discovery Center

Project Design Goals:

Goal: Provide leadership in sustainable design and performance to further the Discovery Center mission and as a model to the community.

- ***Inspire an ethic of care for Wisconsin's Northwoods***

Through the way we treat and use water, our planting of native species, the materials we use in the building, our careful use of energy and our harvesting of renewable energy, we will demonstrate our care for the Northwoods and inspire others to follow.

- ***Facilitate connections among nature and people***

Through the natural materials we use and the way the building opens up to the surrounding environment, we will facilitate connections among nature and people.

- ***Provide a diverse and welcoming experience for all visitors***

Through the creation of a healthy and comfortable indoor environment with access to natural ventilation, daylight and views, we will create a diverse and welcoming experience for visitors and staff and make connections between the indoors and the natural world outside.

Site Design:

Goal: Natural stormwater management of all rain water on site with no flow into Statehouse Lake.

- The existing rain garden will be restored, and three rain gardens, including a residential demonstration garden, will be added to keep rain water in the hydrologic cycle.
- A green roof will be provided above the entry canopy. Green roofs insulate, absorb rainfall, and reduce greenhouse gases.
- Stormwater management features will be planted with locally native species for stewardship and to provide habitat for birds and pollinators.
- Parking layout design to preserve larger trees.
- Removal and recycling of asphalt paving (impervious & petrochemicals).
- New road and sidewalk surfaces to be locally sourced natural material, which has a higher reflectivity than asphalt and reduces the heat island affect.

Energy Performance (goals and strategies developed with the help of an Energy Performance Consultant):

Goal: To have zero carbon footprint for the Discovery Hall, and to minimize the carbon footprint of the existing Lodge.

- Insulation R-factors of the Addition and historic YCC Lodge exceed Building Code requirements.
- Locally manufactured, operable, triple pane, Low-E glass windows are used throughout.
- High efficiency OnDemand hot water heaters in the Discovery Hall.

- Energy saving lighting to be high efficiency and long life LED.
- Geothermal (Ground Source) heating and air conditioning provided throughout.
- Energy Recovery Ventilators (ERV) precondition outside air to save energy.
- Designed for future photovoltaic installation for onsite renewable energy.
- Daylighting to reduce need for electric light in all spaces.

Materials:

Goal: To maximize the reuse of existing facilities; to use local and/or renewable materials to the extent possible; to maximize recycled content, and to protect the health of occupants through reduced use of VOC emitting materials.

- The historic YCC Lodge has been renovated and winterized reusing the entire structure, thereby saving materials.
- Materials removed during the renovation of the YCC Lodge have been recycled to the greatest extent possible.
- Use of local materials prioritized to minimize transportation energy.
- Cork flooring is a renewable material.
- Stained concrete finish is used to minimize finish materials, reduce maintenance and repurpose the slab in the Lodge.
- Locally sourced and milled pine is used for interior trim and exterior siding.
- Structural composite lumber (SCL) and laminated veneer lumber (LVL) for larger structural members to preserve mature forests.
- Locally sourced exterior stone veneer and paving.
- Rustic wood paneling, log entry structure, interior cabinet elements and trees are locally sourced.
- Gypsum drywall, homasote fiberboard panels, ceramic tile and metal roofing have recycled content.
- Low-emitting materials, including all paints, stains and other finishes.

Water-Related Systems

Goal: To minimize water usage, and thereby minimize sewage flow, because approximately 80% of residential water use flows to the septic field.

- Indoor water use reduction
 - Low flow faucets and toilets throughout.
 - Waterless urinals
 - Touchless electronic sensors in Discovery Hall.
- No irrigation required after first two years for new plantings.

Additional Features:

- Electric vehicle charging station.
- Light pollution reduction with new 'night sky' style site lighting, compliant with International Dark-Sky Association recommendations.
- Bird deterrent and UV protection film on Discovery Center windows.

- Natural ventilation and views are provided for all staff with operable windows in each work area.
- Durability of materials and detailing has been a fundamental consideration in all construction choices.
- Bottle fill station for reusable water bottles