



GAIA *profitability through sustainability*

LEED + ENERGY MODELING + COMMISSIONING



2,280 sq ft

Construction : Public Assembly | Type : Recreation

PROJECT TEAM

Owner : US Forest Service , Inyo National Forest

Architect : Shah Kawasaki Architects

General Contractor : AMG & Associates

Mechanical & Plumbing : Fard Engineers, Inc.

LEED and Energy Modeling : Gaia

98%

reduction in indoor water consumption

60%

reduction in building HVAC energy use

44%

of on-site renewable energy provided to building energy use

BRISTLECONE VISITOR CENTER

BISHOP, CA



LEED-NC v2009 FACTS

LEED GOLD

66 of 110

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LEED ACCOMPLISHMENTS

Sustainable Sites

- Building provides low-emitting and fuel-efficient vehicles with preferred parking
- Provides a high ratio of open space to development footprint to promote biodiversity.
- Comprehensive site lighting criteria maintains safe light levels while avoiding off-site lighting and night sky pollution.

Water Efficiency

- High efficiency water closets, lavatory facilities, and urinals were used to reduce annual water use for the building by over 98%
- Landscape does not require a permanent irrigation system and thus eliminates the use of potable water for landscape irrigation

Energy and Atmosphere

- Efficient building envelope, HVAC, lighting, and [other systems] design reduce energy use by 60%
- Generating renewable energy on-site through use of photovoltaic panels provides 44% of the buildings energy
- Zero use of refrigerants helps to reduce ozone depletion

Materials and Resources

- Over 75% of construction waste diverted from landfill

Indoor Environmental Quality

- Carbon dioxide and airflow measuring equipment work in correlation with HVAC and/or Building Automation System to trigger corrective action.
- All adhesives, sealants, paints, coatings, carpet systems, composite wood and agrifiber products selected contain low or no levels of Volatile Organic Compounds (VOCs) to reduce indoor air contamination
- Design includes high level of individual occupant control for lighting system to promote the productivity, comfort and well-being of building occupants
- Building envelope and thermal comfort system design supports the productivity and well-being of occupants
- Designed to provide occupants in 94% of regularly occupied spaces a connection between indoor spaces and outdoors through enhanced views.

LEED FOR NEW CONSTRUCTION & MAJOR RENOVATION PROJECT SCORECARD

Project Name : Bristlecone Visitor Center

Project Address : Bishop, CA

Date : 5/15/2013

Certification : GOLD



Sustainable Sites

POSSIBLE POINTS 26

Y ? N	Points	Activity	Required
Y	1	Construction Activity Pollution Prevention	Required
Y	1	Site Selection	Required
1	1	Credit 1	1
1	5	Credit 2	5
1	1	Development Density & Community Connectivity (EB)	1
1	1	Brownfield Redevelopment	1
1	6	Credit 3	6
1	1	Alternative Transportation, Public Transportation Access (ID) (EB)	1
1	6	Credit 4.1	6
1	1	Alternative Transportation, Bicycle Storage & Changing Rooms (ID)	1
1	1	Credit 4.2	1
1	3	Credit 4.3	3
1	1	Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles (ID)	1
1	2	Credit 4.4	2
1	1	Alternative Transportation, Parking Capacity (ID)	1
1	1	Credit 5.1	1
1	1	Site Development, Protect & Restore Habitat 50% (75%) (EB)	1
1	1	Credit 5.2	1
1	1	Site Development, Maximize Open Space 25% (50%)	1
1	1	Credit 6.1	1
1	1	Stormwater Design, Quantity Control (EB)	1
1	1	Credit 6.2	1
1	1	Stormwater Design, Quality Control	1
1	1	Credit 7.1	1
1	1	Heat Island Effect, Non-Roof 50% (100%) (EB)	1
1	1	Credit 7.2	1
1	1	Heat Island Effect, Green Roof 50% (100%) Cool Roof 75% (EB)	1
1	1	Credit 8	1
1	1	Light Pollution Reduction (EB)	1

Water Efficiency

POSSIBLE POINTS 10

Y ? N	Points	Activity	Required
Y	4	Water Use Reduction, 20% (EB)	Required
4	4	Credit 1	4
2	2	Credit 2	2
4	4	Credit 3	4
4	4	Innovative Wastewater Technologies, 50%, 100%	4
4	4	Water Use Reduction, 30%, 35%, 40% Reduction (45%) (EB)	4

Energy & Atmosphere

POSSIBLE POINTS 35

Y ? N	Points	Activity	Required
Y	19	Fundamental Commissioning of the Building Energy Systems (EB)	Required
Y	19	Prereq 1	19
Y	19	Minimum Energy Performance (EB)	Required
Y	19	Prereq 2	19
Y	19	Fundamental Refrigerant Management (EB)	Required
Y	19	Prereq 3	19
19	19	Credit 1	19
19	19	Optimize Energy Performance, 12% - 48% (50%) (EB)	19
7	7	Credit 2	7
7	7	On-site Renewable Energy, 1%-13%, (15%) (EB)	7
2	2	Credit 3	2
2	2	Enhanced Commissioning (EB)	2
2	2	Credit 4	2
2	2	Enhanced Refrigerant Management (EB)	2
3	3	Credit 5	3
3	3	Measurement & Verification (EB)	3
2	2	Credit 6	2
2	2	Green Power, 35% (70%)	2

Materials & Resources

POSSIBLE POINTS 14

Y ? N	Points	Activity	Required
Y	3	Storage & Collection of Recyclables (EB)	Required
3	3	Prereq 1	3
1	1	Credit 1.1	1
1	1	Building Reuse, Maintain Existing Walls, Floors & Roof 55%, 75%, 95%	1
2	2	Credit 1.2	2
2	2	Building Reuse, Maintain Interior Nonstructural Elements, 50%	2
2	2	Credit 2	2
2	2	Construction Waste Management, 50%, 75% (95%)	2
2	2	Credit 3	2
2	2	Materials Reuse, 5%, 10%, (15%)	2
2	2	Credit 4	2
2	2	Recycled Content, 10%, 20%, (30%)	2
2	2	Credit 5	2
2	2	Regional Materials, 10%, 20%, (30%)	2
1	1	Credit 6	1
1	1	Rapidly Renewable Materials, 2.5% (5%)	1
1	1	Credit 7	1
1	1	Certified Wood, FSC 50% of All Wood Used (95%)	1

Indoor Environmental Quality

POSSIBLE POINTS 15

Y ? N	Points	Activity	Required
Y	1	Minimum IAQ Performance (EB)	Required
Y	1	Prereq 1	Required
Y	1	Environmental Tobacco Smoke (ETS) Control (EB)	Required
1	1	Prereq 2	1
1	1	Outdoor Air Delivery Monitoring (EB)	1
1	1	Credit 1	1
1	1	Increased Ventilation (EB)	1
1	1	Credit 2	1
1	1	Construction IAQ Management Plan, During Construction	1
1	1	Credit 3.1	1
1	1	Construction IAQ Management Plan, Before Occupancy	1
1	1	Credit 3.2	1
1	1	Credit 4.1	1
1	1	Low-Emitting Materials, Adhesives & Sealants	1
1	1	Credit 4.2	1
1	1	Low-Emitting Materials, Paints & Coatings	1
1	1	Credit 4.3	1
1	1	Low-Emitting Materials, Flooring Systems	1
1	1	Credit 4.4	1
1	1	Low-Emitting Materials, Composite Wood & Agrifiber Products	1
1	1	Credit 5	1
1	1	Indoor Chemical & Pollutant Source Control (EB)	1
1	1	Credit 6.1	1
1	1	Controllability of Systems, Lighting (EB)	1
1	1	Credit 6.2	1
1	1	Controllability of Systems, Thermal Comfort (EB)	1
1	1	Credit 7.1	1
1	1	Thermal Comfort, Design (EB)	1
1	1	Credit 7.2	1
1	1	Thermal Comfort, Verification (EB)	1
1	1	Credit 8.1	1
1	1	Daylight & Views, Daylight 75% of Spaces (95%) (EB)	1
1	1	Credit 8.2	1
1	1	Daylight & Views, Views 90% of Spaces (ID) (EB)	1

Innovation & Design

POSSIBLE POINTS 6

Y ? N	Points	Activity	Required
4	4	Exemplary Performance, EA c 1	1
0	0	Credit 1.1	1
2	2	Exemplary Performance, EA c 2	1
2	2	Credit 1.2	1
1	1	Exemplary Performance, WE c 3	1
1	1	Credit 1.3	1
1	1	Innovation: Education & Awareness Program	1
1	1	Credit 1.4	1
1	1	Innovation	1
1	1	Credit 1.5	1
1	1	LEED Accredited Professional	1
1	1	Credit 2	1

Regional Priority (based on zip Code)

POSSIBLE POINTS 4

Y ? N	Points	Activity	Required
4	4	Regionally Defined SS c1	1
0	0	Credit 1	1
0	0	Regionally Defined SS c4.3	1
0	0	Credit 2	1
4	4	Regionally Defined WEC1	1
4	4	Credit 3	1
4	4	Regionally Defined WEC2	1
4	4	Credit 4	1

Project Totals

POSSIBLE POINTS 110

66 0 44