

LEED-H suggested credits for Cascadia EGB 2007 Natural Talent Design Competition focus

Sustainable Sites

SSc1: Design and construct building with minimal impact on building lot.

1.1 Minimize disturbed area of site, if site is greater than 1/3 acre, including:

- Develop a tree / plant preservation plan with no-disturbance zone clearly delineated on drawings AND on the building lot; and
- Leave undisturbed at least 40% of previously undeveloped lot area

1.2 Design and install erosion controls during construction

- Stockpile and protect existing topsoil from erosion (for reuse)
- Stabilize soils that have been disturbed
- Control the path and velocity of runoff with silt fencing or comparable measures
- Provide swales to divert surface water from hillsides
- Protect on site storm sewers inlets with straw bales, silt fencing, silt sacks, or rock filters

SSc2: Design and install landscape features that minimize demand for water and synthetic chemicals.

2.1 Basic landscape design:

- Install drought-tolerant turf in sunny areas only, no turf in densely shaded areas.
- Areas planted with turf should not exceed a slope of 25 percent (i.e., a 4 to 1 slope).
- Use no invasive or exotic plant species, as identified by local Agriculture Cooperative Extension Service. Lots less than (1/10 acre?) are exempt.

SSc3: Shading of Hardscapes

Design and install trees and shrubs to that will shade at least 50% of sidewalks, patios, and driveways within 50 feet of house (at 5 years' growth) **OR** install light colored, highalbedo materials (reflectance of at least 0.3) for at least 50% of site's non-roof impervious surfaces.

SSc4: Minimize erosion and run-off from site.

4.1 Install permeable material for at least 65% of the undeveloped portion of the site

4.2 Install permeable paving material (e.g., pervious pavement or grid pavers) for exposed walkways, patios, playgrounds, recreation courts, aprons, and driveways, as specified in Exhibit SS4-A.

Water Efficiency

WEc1: Minimize demand for potable water.

1.1 Design and install rainwater harvesting system (including surface run-off and/or roof run-off) for irrigation use. Size system based on ¼ inch rainfall event and able to collect minimum of 50% of rain from the roof (based on total roof surface area).

1.2 Design and install grey water re-use system, with minimum of dedicated clothes washer with 2 inch drain directed to subterranean drain field for landscape irrigation (i.e., not a septic system). Grey water system must include a storage tank that can be used as part of the irrigation system. Also, grey water systems are subject to local codes and may require special permits.

WEc3: Indoor Water Use

3.1 Install high efficiency (low flow) fixtures:

- All lavatory faucets must be high efficiency ≤ 2.0 GPM
- All shower heads must be high efficiency ≤ 2.0 GPM
- All toilets must be high efficiency ≤ 1.3 GPF

OR

3.2 Install very high efficiency fixtures:

- All lavatory faucets must be very high efficiency ≤ 1.5 GPM
- All shower heads must be very high efficiency ≤ 1.5 GPM
- All toilets must be very high efficiency toilets ≤ 1.1 GPF on average, includes dual flush toilets

Indoor Environmental Quality

IEQc4: Outdoor Air Ventilation

4.1 Design and install a whole building ventilation system that complies with ASHRAE Standard 62.2.4 Note that Standard 62.2 provides for the design of alternative (e.g., passive) ventilation designs in Section 4.1.2.

Material and Resources

MRc2: Material-Efficient Framing

2.1 No extra lumber may be used for purely aesthetic purposes, such as double-thick walls to create deep window reveals, etc.

MRc3: Local Sources

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the home. Eligible components are listed in Exhibit MR3-A. Ninety percent of component must meet the source requirements in order to earn 0.5 point.

MRc4: Durability Plan

Promote increased service life of the building enclosure (envelope) and its components and systems through appropriate design, materials, and installation

In high performance homes, durability, energy efficiency, and indoor air quality are inextricably linked. Moisture management becomes more critical as energy management reduces the building's overall drying potential. Thus, homes with increasing levels of energy efficiency increase the importance of a durability evaluation and plan accordingly. Moisture can be a major cause of indoor environmental problems (e.g., mold). The point value of this credit therefore reflects the related indoor environmental benefits of improved water management at the foundation, exterior walls, and roof.

Water management of the property (i.e., both lot and structure) is a combination of surface and ground water management, with the dual goals of protecting the structure from water as well as keeping as much water as possible on the site in order to limit the burden on municipal infrastructure, recharge the aquifer, etc. To the greatest extent possible, the site and landscape should be designed with these goals in mind. The durability plan is intended to prevent damage to the home by water – both surface and ground – that can not be effectively managed at the site level, as well as to protect the structure from other damage functions.

MRc5: Environmentally Preferable Products

5.2. Many new products are available which are less harmful to the environment than their conventional counterparts, including those that have lower emissions, are sustainably produced, are made from recycled content, etc. The use of these materials in place of conventional products, while difficult to evaluate objectively, can nevertheless significantly improve the overall environmental performance of the home. Qualifying materials have one or more of the following attributes:

- FSC-certified (wood products)
- Recycled content (post-consumer unless noted otherwise in Exhibit MR5-A)
- Bio-based
- Agricultural residue
- Low- or no-VOC

Energy & Atmosphere

EAc7: Water Heating

- 7.1 Design and install energy-efficient water distribution system; select one measure:
- Structured plumbing system, including a circulation loop that is within 10 feet of every fixture, and has a demand controlled circulation pump. Branch lines run from the loop to each fixture and are no longer than 10 feet, and a maximum of ½" in diameter. All hot water piping shall have R4 insulation.
 - Central manifold distribution system, including a trunk line from the heater to the central manifold. Branch lines run from the manifold to each fixture and are no longer than 10 feet, and a maximum of ½" in diameter. All hot water piping shall have R4 insulation
 - Water heater is located within 20 feet of plumbing to all fixtures. Branch lines run from a central header to each fixture and are a maximum of ½" in diameter. All hot water piping shall have R4 insulation.

EAc8-9: Energy Efficiency

- 8.1 Select and install any one of the following measures:
- Install motion sensor controls on all outdoor light fixtures **AND** at least four wireless photovoltaic exterior light fixtures, if exterior fixtures are installed.
 - Install at least four **ENERGY STAR** labeled light fixtures.
 - Install compact fluorescent lamps (CFLs) in least 80% of light fixtures.
- 9.1 Select from the following measures
- **ENERGY STAR** labeled refrigerator
 - **ENERGY STAR** labeled ceiling fans
(at least one in living or family room **AND** one per bedroom)
 - **ENERGY STAR** labeled dishwasher
 - **ENERGY STAR** labeled clothes washer

EAc10: Renewable Energy

Design and install a renewable electricity generation system.

Homeowner Awareness

HAc1: Homeowner Education

Educate homeowner about operations and maintenance of key features and equipment related to home performance to optimize ongoing performance of those features and equipment over time.

1.1 The builder shall provide the home buyer(s) with:

a. A homeowner's manual / binder that includes all of the following items:

- The LEED FOR HOMES Rating Certificate;
- The completed checklist of LEED FOR HOMES features;
- The product manufacturer's manuals for all installed equipment, fixtures, and appliances
- General information on efficient use of energy, water, and natural resources
- Guidance on occupant activities and choices, including:
 - Water-Efficient Landscaping (SS c2)
 - Impacts of chemical fertilizers, insecticide and pesticides
 - Irrigation (WE c2 & c3)
 - Lighting Selection (EA c8); and
 - Appliance Selection (EA c9).
- Educational info on Green Power

b. A minimum 60-minute walkthrough of the home before closing to include:

- Identification of all installed equipment,
- How to appropriately use measures and operate equipment in the home
- How to properly maintain the measures and equipment in the home.

1.2 In addition to **HAc1.1**, the builder shall provide home buyer(s) with at least three additional one hour in-home trainings during the construction process.