

SECTION 01 81 13.01**SUSTAINABILITY CERTIFICATION REQUIREMENTS - LEED NC V3****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. This section describes requirements and procedures which are additive to and compatible with 01 81 13 SUSTAINABLE CONSTRUCTION REQUIREMENTS, and necessary to contribute to sustainability certification under the LEED 2009 for New Construction and Major Renovations rating system (LEED NC v3).
- B. Refer to the 'Guiding Principles Checklist LEED 2009 for New Construction and Major Renovations' for mandatory credits.

SPEC WRITER NOTE:

- 1. Ensure that the project specific checklist is provided as attachment to this section.
- C. A copy of the LEED NC v3 Project Checklist is attached at the end of this section.

1.2 RELATED WORK

- A. Section 01 81 13 SUSTAINABLE CONSTRUCTION REQUIREMENTS.

1.3 DEFINITIONS

- A. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates must include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.
- B. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of project site. If only a fraction of a product or material is extracted or harvested or recovered and manufactured locally, then only that percentage (by weight) must contribute to regional value.
- C. Rapidly Renewable Material: Building materials and products which are made from plants that are typically harvested within a 10-year or shorter cycle.
- D. Salvaged or reused materials: Construction materials recovered from existing buildings or construction sites and reused. Common salvaged materials include structural beams and post, flooring, doors, cabinetry, brick, and decorative items.

- E. Refurbished materials: Products that could have been disposed of as solid waste. These products have completed their life cycle as consumer items and are then refurbished for reuse without substantial alteration of their form. Refurbishing includes renovating, repairing, restoring or generally improving appearance, performance, quality, functionality, or value of a product.

1.4 SUBMITTALS

- A. Erosion and Sedimentation Control Plan which conforms to erosion and sedimentation requirements of the 2003 EPA Construction General Permit or local standards and codes, whichever is more stringent. The plan must describe the measures implemented to accomplish the following objectives:
1. To prevent loss of soil during construction by stormwater runoff and wind erosion, including protecting topsoil by stockpiling for reuse.
 2. To prevent sedimentation of storm sewers or receiving streams.
 3. To prevent pollution of air with dust and particulate matter.
- B. Additional Product Submittals to be provided with manufacturer documentation, and data to be included on the Project Materials Cost Data Spreadsheet:
1. // Regional Materials: Indicate location and distance from project site of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and fraction by weight that is considered regional. //
 2. Rapidly Renewable Materials: Indicate percent of rapidly renewable content. Include statement indicating cost of each relevant product and fraction by weight that is considered rapidly renewable material.
 3. Provide chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each product with certified wood and fraction by weight that is certified wood.
 4. // Receipts for salvaged and refurbished materials used for Project, indicating sources and costs for salvaged and refurbished materials. //
- C. Additional Closeout Submittals:
1. Inspection report or date-stamped photos confirming compliance with the Erosion and Sedimentation Control Plan

SPEC WRITER NOTE:

1. When SSc7.1 Heat Island Effect - Non-Roof is being pursued and the SRI of existing hardscape is included in the compliant calculation for compliance, include the following requirement. Otherwise, omit.
 2. // Compliance with SSc7.1 Heat Island Effect - Non-Roof is being partially supported by existing hardscape. Provide a letter confirming that these hardscapes have been power washed to restore reflectivity close to original value. //
- D. LEED Online: Final completed LEED Online forms and associated required documentation uploaded to LEED Online for the following prerequisites and credits:
1. SSp1 Construction Activity Pollution Prevention.
 2. MRc2 Construction Waste Management.
 3. // MRc3 Materials Reuse. //
 4. MRc4 Recycled Content.
 5. // MRc5 Regional Materials. //
 6. MRc6 Rapidly Renewable Materials.
 7. MRc7 Certified Wood.
 8. EQc3.1 Construction IAQ Management Plan - During Construction.
 9. EQc3.2 Construction IAQ Management Plan - Before Occupancy.
 10. EQc4.1 Low-Emitting Materials - Adhesives and Sealants.
 11. EQc4.2 Low-Emitting Materials - Paints and Coatings.
 12. EQc4.3 Low-Emitting Materials - Flooring Systems.
 13. EQc4.4 Low-Emitting Materials - Composite Wood and Agrifiber Products.
- E. // Additional submittals to confirm implementation of the Construction Indoor Air Quality Management Plan:
1. Report from testing and inspecting agency indicating results of indoor-air-quality testing and documentation showing compliance with indoor-air-quality testing procedures and requirements. //

1.5 APPLICABLE PUBLICATIONS

- A. LEED 2009 for New Construction and Major Renovations Rating System.
- B. USGBC LEED 2009 for New Construction and Major Renovations Green Building Design and Construction Reference Guide.
- C. Forest Stewardship Council Principles and Criteria for Forest Stewardship (FSC STD-01-001).
- D. 2003 EPA Construction General Permit.

- E. EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air".

PART 2 - PRODUCTS

2.1 PERFORMANCE CRITERIA

SPEC WRITER NOTE:

- 1. When MRc3 Materials Reuse is not being pursued omit // //.

- A. // Not less than [5] [10] percent of building materials (by cost) must be salvaged, refurbished, or reused materials. The following materials may be salvaged, refurbished, or reused materials:

- 1. [Insert list of materials.] //

SPEC WRITER NOTE:

- 1. When MRc5 Regional Materials is not being pursued omit // //

- B. // Not less than [10] [20] percent of building materials (by cost) must be regional materials. //

- C. Not less than [2.5] [5] percent of building materials (by cost) must be rapidly renewable materials.

- D. Not less than [50] [95] percent (by cost) of wood-based materials must be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

PART 3 - EXECUTION

3.1 SPECIAL REQUIREMENTS

SPEC WRITER NOTE:

- 1. For the LEED credit IEQc3.2, Option 1 Flush-Out is satisfied by the requirements included in 01 81 13. Retain below only when air testing is also to be included in the project.

- A. Construction Indoor Air Quality Management additional requirement:

- 1. Perform air quality testing.

- a. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "Green Building Design and Construction Reference Guide."

- b. Demonstrate that contaminant maximum concentrations listed below are not exceeded:

- 1) Formaldehyde: 27 ppb.

- 2) Particulates (PM10): 50 micrograms/cu. m.

- 3) Total Volatile Organic Compounds (TVOC): 500 micrograms/cu. m.
 - 4) 4-Phenylcyclohexene (4-PH): 6.5 micrograms/cu. m.
 - 5) Carbon Monoxide: 9 ppm and no greater than 2 ppm above outdoor levels.
- c. For each sampling point where maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until requirements have been met. When retesting non-complying building areas, take samples from same locations as in the first test.
- d. Air-sample testing must be conducted as follows:
- 1) Measurements must be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at minimum outside air flow rate for occupied mode throughout duration of air testing.
 - 2) Building must have interior finishes installed including millwork, doors, paint, carpet, and acoustic tiles. Nonfixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for testing.
 - 3) Number of sampling locations varies depending on size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, number of sampling points must not be less than one per 25,000 sq. ft. (2300 sq. m) or for each contiguous floor area, whichever is larger, and must include areas with the least ventilation and greatest presumed source strength.
 - 4) Air samples must be collected between 3 and 6 feet (0.9 and 1.8 m) from the floor to represent the breathing zone of occupants, and over a minimum four-hour period.

3.2 ATTACHMENTS

- A. LEED NC v3 Project Checklist

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