

SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS FOR NON-LEED™ PROJECTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes general requirements and procedures for compliance with Federal Sustainability requirements. This Project is not seeking Leadership in Energy & Environmental Design (LEED™) certification but shall comply with applicable Federal Sustainability requirements. Requirements include laws (Executive Orders (EO) and regulations), management policies, building codes and standards, federal directives, and National Park Service (NPS) guidelines.
- B. Many federal requirements can be achieved only through intelligent and integrated design of the Project and are beyond control of the Contractor. Certain requirements relate to the products and procedures used for construction, therefore, full cooperation of the Contractor and Subcontractors is essential to successful compliance with federal requirements.
- C. Contractors shall familiarize themselves with relevant requirements and provide necessary information and instruction to subcontractors and installers.
 - 1. Some requirements involve quantifying percentages by weight; these require careful recordkeeping and reporting by Contractor.
 - 2. See Denver Service Center (DSC) Workflows [Sustainability Standards](#) for a list of Federal Sustainability requirements. Applicable Federal Sustainability requirements are also summarized on the Project's NPS Project Sustainability Checklist. Contractor is responsible for ensuring the elements in the NPS Project Sustainability Checklist, identified by the Architect/Engineer (A/E) team, are incorporated into the construction of the Project.
- D. Related Sections: See Division 01 through Division 49 sections for sustainability requirements specific to work of each of these sections.

1.2 DEFINITIONS

- A. BiopREFERRED Products: Commercial or industrial products (other than food or feed) composed in whole, or in significant part, of biological products, renewable agricultural materials (including plant, animal, and marine materials), or forestry materials and includes biobased intermediate ingredients or feedstocks.
- B. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying wood used to make products was obtained from forests certified by a Forest Stewardship Council (FSC)-accredited certification body to comply with FSC Standard

STD-01-001, “FSC Principles and Criteria for Forest Stewardship.” Certificates shall include evidence manufacturer is certified for chain of custody by an FSC-accredited certification body.

- C. LEED™: Leadership in Energy & Environmental Design. Sustainability rating system developed by United States Green Building Council (USGBC).
- D. Rapidly Renewable Materials: Materials made from plants typically harvested within 10-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
- E. Recycled Content: Recycled content value of a material assembly shall be determined by weight.
 - 1. “Post-consumer” Material: Waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of product, which can no longer be used for intended purpose.
 - 2. “Pre-consumer” Material: Material diverted from waste stream during manufacturing process. Reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it is excluded.

1.3 FEDERAL SUSTAINABILITY DOCUMENTATION SUBMITTALS

- A. Most of federal sustainability documentation submittals are aggregations of submittals already required in relevant technical specifications. They are mentioned here to ensure they are collected and organized together to efficiently document compliance with sustainability requirements.
- B. Provide preliminary submittals to NPS indicating how the following federal requirements will be met:
 - 1. Recycled Content: List of specified/proposed materials with recycled content. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
 - 2. Certified Wood: Product data and/or chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.
 - 3. Construction Indoor Air Quality (IAQ) Management Plan – During Construction:
 - a. Construction indoor-air-quality management plan.
 - b. Product data for temporary filtration media.
 - c. Product data for filtration media used during occupancy.
 - d. Construction Documentation: Six photographs at three different times during construction period, along with brief description of the Sheet

Metal and Air Conditioning Contractors' National Association (SMACNA) approach employed, documenting implementation of indoor-air-quality management measures, such as protection of ducts and onsite stored or installed absorptive materials.

4. Construction IAQ Management Plan – Before Occupancy:
 - a. Signed statement describing building air flush-out procedures including dates when flush-out was started and completed and statement filtration media was replaced after flush-out.
 - b. Product data for filtration media used during flush-out and during occupancy.
5. Low Emitting Materials - Adhesives and Sealants: Product data for adhesives and sealants used inside weatherproofing system indicating Volatile Organic Compound (VOC) content of each product used. Indicate VOC content in g/L (grams per liter) calculated according to 40 CFR 59 Subpart D (Code of Federal Regulations).
6. Low Emitting Materials - Paints and Coatings: Product data for paints and coatings used inside weatherproofing system indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59 Subpart D.
7. Low Emitting Materials – Flooring: Product data for products containing composite wood or agrifiber products or wood glues indicating they do not contain urea-formaldehyde resin.
8. Biopreferred Products: Provide list of bio-based products used on Project.

PART 2 PRODUCTS

2.1 RECYCLED CONTENT OF MATERIALS

- A. Recycled Content: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10 percent of cost of materials used for Project.
 1. Determine cost of post-consumer recycled content by dividing weight of post-consumer recycled content in item by total weight of item and multiplying by cost of item.
 2. Determine cost of pre-consumer recycled content of an item by dividing weight of pre-consumer recycled content in item by total weight of item and multiplying by cost of item.
 3. Do not include mechanical and electrical components, and specialty items such as elevators and equipment in calculation.

2.2 BIOPREFERRED PRODUCTS

- A. Use bio-based products found on United States Department of Agriculture (USDA) [BiopREFERRED](#) Products list where applicable on Project.

2.3 LOW-EMITTING MATERIALS

- A. For applications inside the weatherproofing system, use adhesives and sealants that comply with VOC content limits in Division 02 through Division 49.
- B. For field applications inside the weatherproofing system, use paints and coatings that comply with VOC content limits in Specification Division 02 through Division 49.
- C. Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

PART 3 EXECUTION

3.1 REFRIGERANT REMOVAL

- A. Remove Chlorofluorocarbons (CFC)-based refrigerants from existing Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R) equipment indicated to remain and replace with refrigerants that are not CFC based. Replace or adjust existing equipment to accommodate new refrigerant as described in Division 23 Heating, Ventilating, and Air Conditioning (HVAC) sections.

3.2 MEASUREMENT AND VERIFICATION

- A. Coordinate with Division 02 through Division 49 for Project requirements regarding installation of building level metering equipment to measure energy, water, and electric usage.

3.3 INDOOR-AIR-QUALITY MANAGEMENT

- A. Coordinate with Section 01 57 19.11, Indoor Air Quality Management, for managing indoor air quality during construction and prior to occupancy.

END OF SECTION