

## **Appendix 1.1.b**

### SECTION 018113 SUSTAINABLE DESIGN REQUIREMENTS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes general requirements and procedures for the Project to meet the requirements of the Evergreen Sustainable Development Standard (ESDS).
- B. See Divisions 01 through 49 Sections for ESDS requirements specific to the Work of each of those Sections.

##### 1.2 DEFINITIONS

- A. ESDS: Evergreen Sustainable Development Standard.
- B. CRI: Carpet and Rug Institute
- C. VOC: Volatile Organic Compounds
- D. FSC: Forest Stewardship Council
- E. SCAQMD: South Coast Air Quality Management District
- F. BAAQMD: Bay Area Air Quality Management District

##### 1.3 SUBMITTALS

- A. Project Materials Cost Data: Provide statement indicating total cost of building materials used for Project. Statement of total cost is not to include mechanical and electrical equipment.
- B. Mandatory Criteria Documentation:
  - 1. Criteria 4-1 Water-Conserving Appliances and Fixtures: Submit product data for plumbing fixtures indicating water consumption.
  - 2. Criteria 5-1 Efficient Energy Use - New Construction:
    - a. Submit documentation of Energy Star Builder certification.
    - b. Engage third party Energy Star Participating Verifier and submit certification from verifier site inspections.

3. Criteria 7-1 Low/No VOC Paints and Primers: Submit product data for all paints and primers used on the interior of the building indicating chemical composition and VOC content in g/L. All interior paints and primers must comply with current Green Seal standard GS-11.
4. Criteria 7-2 Low/No VOC Adhesives and Sealants: Submit product data for adhesives and sealants used on the interior of the building indicating VOC content in g/L.
5. Criteria 7-4 Green Label Certified Floor Coverings:
  - a. Submit product data for carpet indicating CRI Green Label Plus certification number.
  - b. Submit product data for carpet pad indicating CRI Green Label certification number.
  - c. Submit product data for carpet adhesive indicating CRI Green Label certification number, and VOC content in g/L.
6. Criteria 7-22 Lead-Safe Work Practices: Submit lead-safe work practices plan prior to start of work. See EPA contractor brochure for more information [http://www.epa.gov/lead/pubs/contractor\\_brochure.pdf](http://www.epa.gov/lead/pubs/contractor_brochure.pdf)
7. Criteria 8-1 Owner's Manual: Submit operation and maintenance manuals which includes the following at a minimum:
  - a. Product Maintenance Data
    - 1) Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
    - 2) Product Information: Include the following, as applicable:
      - a) Product name and model number.
      - b) Manufacturer's name.
      - c) Color, pattern, and texture.
      - d) Material and chemical composition.
      - e) Reordering information for specially manufactured products.
    - 3) Maintenance Procedures: Include manufacturers' written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.
    - 4) Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

- 5) Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

b. Systems and Equipment Maintenance Manual

- 1) Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- 2) Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- 3) Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- 4) Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, which detail essential maintenance procedures.
- 5) Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- 6) Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- 7) Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- 8) Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

C. Optional Criteria Documentation *<edit list below according to project scope>*

1. Criteria 5-14 Efficient Energy Use – Performance Tested Building Air Sealing:

- a. Provide documentation of blower door test results indicating that unit air tightness level is less than [7 ACH 50] [5 ACH 50]. Blower door test to be

performed in accordance with *ENERGY STAR Homes Northwest Specifications and Technical Reference for Site-Built Single Family Housing*, Appendix A, Section 1 Blower Door Air Leakage. Protocol can be found at [http://www.northwestenergystar.com/files/6498Technical\\_Spcs\\_Aug\\_06.pdf](http://www.northwestenergystar.com/files/6498Technical_Spcs_Aug_06.pdf)

2. Criteria 5-15 Efficient Energy Use – Performance Tested Duct Sealing
  - a. Provide documentation of duct leakage test results indicating that duct leakage does not exceed 0.10 CFM 50 X floor area (SF) served by system, or that it has been reduced by 50%. Duct leakage test to be performed by a third party Certified Technician.
3. Criteria 6-1 Construction Waste Management: Submit job site waste management plan that diverts [50%] [75%] of the demolition and construction waste from landfills. Plan shall identify materials to be recycled; destination of material; and recycling rate of destination facility. The following materials shall be recycled at a minimum:
  - a. Cardboard
  - b. Wood
  - c. Drywall
  - d. Concrete brick and asphalt
  - e. Metals
4. Criteria 6-2 Recycled Content Material: Submit product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content and costs for each product having recycled content.
5. Criteria 6-3 Certified, Salvaged and Engineered Wood: Submit product data and material costs for the following wood products:
  - a. FSC Certified wood. Product data must include chain of custody documentation.
  - b. Salvaged wood.
  - c. Engineered wood.
6. Criteria 6-6 Roofing: Submit product data for roofing materials indicating Energy Star compliance.
7. Criteria 7-3 Formaldehyde-Free Composite Wood: Submit product data for composite wood and agri-fiber products indicating that products contain no urea-formaldehyde resin.

## PART 2 - PRODUCTS

### 2.1 RECYCLED CONTENT OF MATERIALS *<optional criteria - edit according to project scope>*

- A. Criteria 6-2 Recycled Content Materials: Provide building materials with recycled content such that post-consumer recycled content constitutes a minimum of [5%] [10%] [15%] [20%] [25%] [30%] [35%] of the cost of materials used for the Project exclusive of mechanical and electrical equipment.
1. The cost of post-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
  2. Recycled content shall be defined according to the Federal Trade Commission's "Guide for the Use of Environmental Marketing Claims," 16 CFR 260.7 (e).

### 2.2 LOW-EMITTING MATERIALS

- A. Criteria 7-1 Low/No VOC Paints and Primers: For interior applications use paints and coatings that comply with Green Seal standard GS-11 and the following limits for VOC content and the chemical restrictions:
1. Flat Paints and Coatings: VOC not more than 50 g/L.
  2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
  3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
  4. Varnishes and Sanding Sealers: VOC not more than 350 g/L.
  5. Stains: VOC not more than 250 g/L.
  6. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds.
  7. Restricted Components: Paints and coatings shall not contain acrolein, acrylonitrile, antimony, benzene, butyl benzyl phthalate, cadmium, di (2-ethylhexyl) phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2-dichlorobenzene, diethyl phthalate, dimethyl phthalate, ethylbenzene, formaldehyde, hexavalent chromium, isophorone, lead, mercury, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene (methylbenzene), 1,1,1-trichloroethane, or vinyl chloride.
- B. Criteria 7-2 Low/No VOC Adhesives and Sealants: For interior applications use adhesives and sealants that comply with the following limits for VOC content: Adhesives must comply with SCAQMD Rule 1168. Sealants must comply with BAAQMD Regulation 8 Rule 51. VOC limits are summarized as follows:
1. Wood Glues: 30 g/L.
  2. Metal to Metal Adhesives: 30 g/L.
  3. Adhesives for Porous Materials (Except Wood): 50 g/L.
  4. Subfloor Adhesives: 50 g/L.
  5. Plastic Foam Adhesives: 50 g/L.

6. Carpet and Carpet Pad Adhesives: 50 g/L.
7. VCT, Asphalt Tile, and Cove Base Adhesives: 50 g/L.
8. Gypsum Board and Panel Adhesives: 50 g/L.
9. Rubber Floor Adhesives: 60 g/L.
10. Ceramic Tile Adhesives: 65 g/L.
11. Multipurpose Construction Adhesives: 70 g/L.
12. Fiberglass Adhesives: 80 g/L.
13. Structural Glazing Adhesives: 100 g/L.
14. Wood Flooring Adhesive: 100 g/L.
15. Contact Adhesive: 250 g/L.
16. Plastic Cement Welding Compounds: 350 g/L.
17. ABS Welding Compounds: 400 g/L.
18. CPVC Welding Compounds: 490 g/L.
19. PVC Welding Compounds: 510 g/L.
20. Adhesive Primer for Plastic: 650 g/L.
21. Sealants: 250 g/L.
22. Sealant Primers for Nonporous Substrates: 250 g/L.
23. Sealant Primers for Porous Substrates: 775 g/L.

- C. Criteria 7-3 Formaldehyde-Free Composite Wood: Do not use composite wood and agrifiber products that contain urea-formaldehyde resin. <Optional- delete if not using>

PART 3 - EXECUTION – Not Used

END OF SECTION 01 8113