

Joint Base Lewis-McChord Guide to Sustainable Acquisition for Construction

Chapter 1 Introduction

1-1. Purpose

This guide serves as a broad overview of sustainable acquisition requirements relevant to Joint Base Lewis-McChord (JBLM) and is intended to aid construction designers, specification writers, and contractors. For specific requirements, refer to your organizational procedures and the applicable design standards/specifications or other language of the contract.

1-2. Background

Various laws and Executive Orders direct federal agencies to purchase environmentally preferable products to the maximum extent practicable. Collectively, these legal requirements are referred to as “sustainable acquisition” or “green procurement.” Department of Defense (DoD) and military Service policies require JBLM to maintain a sustainable acquisition program in accordance with these laws.

1-3. Applicability

This guide is informational in nature and intended for projects on JBLM, WA. Construction must comply with Unified Facilities Criteria (UFC) 1-200-02 and the Assistant Secretary of the Army for Installations, Energy, and Environment (ASA IE&E)’s Sustainable Design and Development Policy, which incorporate sustainable acquisition requirements. In addition, JBLM has incorporated sustainable acquisition requirements into its own construction, renovation, and repair contracts and design standards. Construction designers and contract writers working on JBLM projects shall ensure all applicable sustainable acquisition requirements are incorporated into their project designs and contracts in accordance with federal law and Service policies. Contractors and subcontractors shall meet all sustainable acquisition requirements stated in their contract documents or required by law, including the submission of sustainable acquisition records and information (generally included as ‘S’ submittals under Section 01 33 29 in contract specifications).

1-4. References

A complete listing of referenced publications can be found in Appendix A.

1-5. Acronyms and Terms

Acronyms and special terms used in this document are explained in Appendix B.

1-6. Questions/Points of Contact

Questions regarding this document or sustainable acquisition in general may be directed to the following:

JBLM Sustainable Acquisition Program Coordinator

Phone: (253) 966-6466

Email: usarmy.jblm.id-readiness.list.dpw-green-procurement1@mail.mil

PUBLIC WORKS

ATTN: IMWE-LEW-PWE (Sustainable Acquisition Program Coordinator)

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The JBLM Sustainable Acquisition Program Manager can also be reached at (253) 966-1772.

Chapter 2

Sustainable Acquisition Requirements

2-1. Recycled/Recovered Materials

The Resource Conservation and Recovery Act (RCRA), Section 6002, requires federal construction, renovation, and repair contracts to incorporate recycled/recovered materials to the maximum extent practicable. Under this regulation, the Environmental Protection Agency (EPA) establishes Comprehensive Procurement Guidelines (CPG) that designate product categories included in this requirement and Recovered Materials Advisory Notices (RMAN) that provide the acceptable level of recovered material and postconsumer content for each product category. When using designated CPG items, construction, renovation, and repair projects are required to incorporate the highest recovered material content level practicable and should, at a minimum, meet the total recovered material and postconsumer content levels stated in the RMAN. When using items not designated by the EPA, construction, renovation, and repair projects should incorporate recycled content products to the maximum extent practicable in accordance with Executive Order 13834 as well as the Federal Acquisition Regulation (Part 23.4). Such items should have the highest recovered material content level practicable in accordance with the requirements of the design standards or contract.

More information can be found at: <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

The following list includes the CPG categories most likely to be associated with construction, renovation, and repair:

- Building insulation products
- Carpet (polyester)
- Carpet cushion
- Cement and concrete containing:
 - Coal fly ash
 - Ground granulated blast furnace slag
 - Cenospheres
 - Silica fume
- Consolidated and reprocessed latex paint
- Floor tiles
- Laminated paperboard
- Modular threshold ramps
- Nonpressure pipe
- Patio blocks
- Roofing materials
- Shower and restroom dividers/partitions
- Structural fiberboard
- Park benches and picnic tables
- Plastic fencing
- Playground equipment
- Playground surfaces
- Running tracks
- Bike racks
- Blasting grit
- Signage
- Compost and fertilizer made from recovered organic materials
- Garden and soaker hoses
- Hydraulic mulch
- Lawn and garden edging
- Plastic lumber landscaping timbers and posts

2-1-1. Exceptions

Specific exceptions to the EPA requirements are allowed if NO CPG compliant item:

- Is available within a reasonable period of time;
- Is available at a reasonable price; or
- Can meet the applicable performance standards

Contracts for work associated with or located on JBLM will utilize HJB Form 225 to document written justification for exception and submit the document per the form instructions (<http://www.lewis-mcchord.army.mil/designstandards/pdf/HJB%20225.pdf>).

2-1-2. Associated UFGS Specifications

The main recycled-content reporting specification is Unified Facilities Guide Specification (UFGS) 01 33 29 “Sustainability Reporting.” Many individual specifications, however, contain explicit CPG guidance. Furthermore, several specifications contain additional recycled product requirements if the project is seeking the applicable LEED credit. The following are some of the specifications that pertain to recycled materials:

- **03 30 00** Cast-in-Place Concrete
- **03 30 53** Miscellaneous Cast-in-Place Concrete
- **03 33 00** Cast-in-Place Architectural Concrete
- **03 37 23** Roller-Compacted Concrete for Mass Concrete Construction
- **03 45 00** Precast Architectural Concrete
- **03 47 13** Tilt-Up Concrete
- **03 70 00** Mass Concrete
- **04 20 00** Unit Masonry
- **06 10 00** Rough Carpentry
- **07 21 13** Board and Block Insulation
- **07 21 16** Mineral Fiber Blanket Insulation
- **07 21 23** Loose Fill Thermal Insulation
- **07 22 00** Roof and Deck Insulation
- **07 24 00** Exterior Insulation and Finish System
- **07 31 13** Asphalt Shingles
- **07 32 13** Roof Tiles
- **07 41 13** Metal Roof Panels
- **07 41 63** Fabricated Roof Panel Assemblies
- **07 51 13** Built-Up Asphalt Roofing
- **07 52 00** Modified Bituminous Membrane Roofing
- **07 53 23** Ethylene-Propylene-Diene-Monomer Roofing
- **07 54 19** PVC Roofing
- **07 55 00** Protected Membrane Roofing
- **07 61 14.00 20** Steel Standing Seam Roofing
- **07 61 15.00 20** Aluminum Standing Seam Roofing
- **08 11 13** Steel Doors and Frames
- **08 11 16** Aluminum Doors and Frames
- **08 36 13** Sectional Overhead Doors
- **09 64 29** Wood Strip and Plank Flooring
- **09 65 00** Resilient Flooring
- **09 68 00** Carpeting
- **09 69 13** Rigid Grid Access Flooring
- **09 69 19** Stringerless Access Flooring
- **09 84 20** Acoustical Wall Panels
- **09 90 00** Paints and Coating
- **10 11 00** Visual Display Units
- **10 14 00.10** Exterior Signage
- **10 14.00 20** Interior Signage
- **10 21 13** Toilet Compartments
- **10 22 19** Demountable Moveable Partitions
- **10 22 39** Folding Panel Partitions
- **10 22 43** Sliding Partitions
- **12 32 00** Manufactured Wood Casework
- **12 36 00** Countertops
- **12 48 13** Entrance Floor Mats and Frames
- **12 59 00** Systems Furniture
- **12 61 13** Upholstered Audience Seating
- **12 93 00** Site Furnishings
- **13 34 19** Metal Building Systems
- **22 00 00** Plumbing, General Purpose
- **22 07 19.00 40** Plumbing Piping Insulation
- **23 07 00** Thermal Insulation for Mechanical Systems
- **UFGS 23 35 16.17 10** Mechanical Engine [and Welding Fume] Exhaust Systems
- **23 52 00** Heating Boilers
- **23 57 10.00 10** Forced Hot Water Heating Systems Using Water and Steam Heat Exchangers
- **26 20 00** Interior Distribution System
- **32 18 16.13** Playground Protective Surfacing
- **32 84 24** Irrigation Sprinkler Systems
- **32 92 19** Seeding
- **32 92 23** Sodding
- **32 92 26** Sprigging
- **32 93 00** Exterior Plants
- **32 96 00** Transplanting Exterior Plants
- **33 71 02** Underground Electrical Distribution

2-1-3. Associated Federal Acquisition Regulation (FAR) Clauses

52.223-17 “Affirmative Procurement of EPA-designated Items in Service and Construction Contracts”; 52.223-9 “Estimate of Percentage of Recovered Material Content for EPA-Designated Item”; 52.223-4, “Recovered Material Certification,” 52.236-7 “Permits and Responsibilities.”

2-1-4. Associated Legal Requirements and Policy

RCRA, Section 6002; Executive Order 13834; Federal Acquisition Regulation, Parts 23.4 and 36.601-3; and DoD/Service policies.

2-2. Biobased Materials

The Farm Security and Rural Investment Act of 2002, Section 9002, requires federal construction, renovation, and repair contracts to incorporate designated biobased products. When using items designated under the BioPreferred Program established by the U.S. Department of Agriculture (USDA), construction, renovation, and repair projects should use products meeting the minimum biobased content percentage established by USDA. When using items not designated by the USDA, construction, renovation, and repair projects should incorporate rapidly renewable and certified sustainable wood products to the maximum extent practicable per Executive Order 13834 and the Federal Acquisition Regulation (Parts 23.4 and 23.7) and in accordance with the requirements of the design standards or contract.

More information at: <https://www.biopREFERRED.gov/BioPreferred/faces/pages/ProductCategories.xhtml>

The following list includes the designated biobased categories most likely to be associated with construction, renovation, and repair:

- Acoustical Composite Panels
- Interior Composite Panels
- Composite Panels – Countertops and Solid Surface Products
- Plastic Lumber Composite Panels
- Structural Interior Composite Panels
- Structural Wall Composite Panels
- Floor Coverings (non-carpet)
- Carpet
- Surface Guards, Molding, and Trim
- Wall Coverings
- Paints
- Paint Removers
- Roof Coatings
- Dust Suppressants
- Wood and Concrete Sealers
- Wood and Concrete Stains
- Concrete and Asphalt Release Fluids
- Concrete Curing Agents
- Concrete Repair Materials
- Asphalt and Tar Removers
- Asphalt Restorers
- Powder Coatings (field applied)
- 2-Component Epoxy Systems
- Adhesives
- Adhesive and Mastic Removers
- Graffiti and Grease Removers
- Spray-In-Place Plastic Insulating Foam
- Blast Media
- Fertilizer
- Soil amendments
- Foliar Sprays
- Gardening Supplies and Accessories
- Transformer Dielectric Fluid
- Water Tank Coating
- Corrosion Preventatives
- Metal Cleaners and Corrosion Removers
- Cable and Chain Lubricants
- Pneumatic Equipment Lubricants
- Other Lubricants
- Transmission Fluids
- De-icers
- Traffic and Zone Marking Paints
- Phase Change Materials
- Playground and Athletic Surface Materials
- Cleaning Tools

2-2-1. Exceptions

Specific exceptions to USDA requirements are allowed if NO compliant biobased item:

- Is available within a reasonable period of time;
- Is available at a reasonable price; or
- Can meet the applicable performance standards

Contracts for work associated with or located on JBLM will utilize HJB Form 225 to document written justification for exception and submit the document per the form instructions (<http://www.lewis-mcchord.army.mil/designstandards/pdf/HJB%20225.pdf>).

2-2-2. Overlap with CPG Requirements

Per federal guidance, whenever an item falls under both the EPA recovered materials requirements and USDA biobased requirements, the product should, at a minimum, meet the EPA recovered materials requirement. If no such items are feasible, then a product meeting the USDA requirement should be selected.

2-2-3. Associated UFGS Specifications

The main biobased reporting specification is UFGS 01 33 29 “Sustainability Reporting.” Many individual specifications, however, contain explicit biobased guidance. The following are some of the specifications that may relate to biobased requirements:

- | | |
|--|---|
| • 02 82 00 Asbestos Remediation | • 09 29 00 Gypsum Board |
| • 03 01 00 Rehabilitation of Concrete | • 09 30 10 Ceramic, Quarry, and Glass Tiling |
| • 03 11 13.00 10 Structural Cast-in-Place Concrete Forming | • 09 35 16 Chemical-Resistant Quarry Tiling |
| • 03 30 00 Cast-in-Place Concrete | • 09 51 00 Acoustical Ceilings |
| • 03 30 53 Miscellaneous Cast-in-Place Concrete | • 09 62 38 Static-Control Flooring |
| • 03 33 00 Cast-in-Place Architectural Concrete | • 09 64 23 Wood Parquet Flooring |
| • 03 47 13 Tilt-Up Concrete | • 09 64 66 Wood Athletic Flooring |
| • 03 70 00 Mass Concrete | • 09 65 00 Resilient Flooring |
| • 06 10 00 Rough Carpentry | • 09 65 66 Resilient Athletic Flooring |
| • 06 20 00 Finish Carpentry | • 09 66 16 Terrazzo Floor Tile |
| • 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets | • 09 67 23.13 Standard Resinous Flooring |
| • 06 61 16 Solid Surfacing Fabrications | • 09 68 00 Carpet |
| • 07 21 13 Board and Block Insulation | • 09 69 13 Rigid Grid Access Flooring |
| • 07 21 16 Mineral Fiber Blanket Insulation | • 09 69 19 Stringerless Access Flooring |
| • 07 22 00 Roof and Deck Insulation | • 09 72 00 Wallcoverings |
| • 07 24 00 Exterior Insulation and Finish System | • 09 90 00 Paints and Coating |
| • 07 27 26 Fluid-Applied Membrane Barriers | • 10 11 00 Visual Display Units |
| • 07 52 00 Modified Bituminous Membrane Roofing | • 10 14 00.10 Exterior Signage |
| • 07 53 23 Ethylene-Propylene-Diene-Monomer Roofing | • 10 21 13 Toilet Compartments |
| • 08 14 00 Wood Doors | • 10 22 19 Demountable Moveable Partitions |
| • 08 33 23 Overhead Coiling Doors | • 10 22 39 Folding Panel Partitions |
| | • 10 22 43 Sliding Partitions |
| | • 10 26 00 Wall and Door Protection |
| | • 12 32 00 Manufactured Wood Casework |
| | • 12 34 00 Manufactured Plastic Casework |
| | • 12 36 00 Countertops |
| | • 12 48 13 Entrance Floor Mats and Frames |
| | • 12 59 00 Systems Furniture |

- **12 61 13** Upholstered Audience Seating
- **12 93 00** Site Furnishings
- **23 07 00** Thermal Insulation for Mechanical Systems
- **26 12 19.10** Three-Phase, Liquid-Filled Pad-Mounted Transformers
- **26 12 21** Single-Phase Pad-Mounted Transformers
- **32 16 13** Concrete Sidewalks and Curbs and Gutters
- **32 17 23** Pavement Markings
- **32 18 16.13** Playground Protective Surfacing
- **32 92 19** Seeding
- **32 92 23** Sodding
- **32 92 26** Sprigging
- **32 93 00** Exterior Plants
- **33 71 01** Overhead Transmission and Distribution
- **33 71 02** Underground Electrical Distribution

2-2-4. Associated Federal Acquisition Regulation (FAR) Clauses

52.223-1 “Biobased Product Certification”; 52.223-2 “Affirmative Procurement of Biobased Products Under Service and Construction Contracts”; 52.236-7 “Permits and Responsibilities.”

2-2-5. Associated Legal Requirements and Policy

Farm Security and Rural Investment Act of 2002, Section 9002; Energy Policy Act of 2005, Section 943; Executive Order 13834; Federal Acquisition Regulation, Parts 23.4 and 36.601-3; and DoD/Service policies.

2-3. Energy Efficient Materials

The Energy Policy Act of 2005, Section 104, requires federal construction, renovation, and repair contracts to incorporate designated energy efficient materials to the maximum extent practicable. When using energy-consuming items that fall under an Energy Star or Federal Energy Management Program (FEMP) product category, construction, renovation, and repair projects are required to use Energy Star labeled or FEMP-qualified products. In addition, AR 420-1 contains metering requirements for Army construction and renovation.

More information and a listing of qualified products or standards can be found at:

<https://www.energystar.gov/>

<https://www.energy.gov/eere/femp/search-energy-efficient-products>

The following list includes the Energy Star categories most likely to be associated with construction, renovation, and repair:

- Room Air Conditioning
- Central Air Conditioners
- Boilers
- Ceiling Fans
- Furnaces
- Air-source Heat Pumps
- Geothermal Heat Pumps
- Light Commercial Heating and Cooling
- Ductless Heating and Cooling
- Ventilation Fans
- Pool Pumps
- Water Heaters
- Commercial Water Heaters
- Roof Products
- Light Bulbs
- Light Fixtures
- Windows, Doors, and Skylights
- Professional Displays
- A/V Equipment and Televisions
- Displays and Monitors
- Clothes Dryers (consumer-scale)
- Clothes Washers
- Cool Roof Products
- Dishwashers
- Various Kitchen Appliances and Commercial Food Service Equipment
- Network Equipment
- Electric Vehicle Charger

The following list includes the FEMP categories most likely to be associated with construction, renovation, and repair:

- Suspended or Ceiling-Mounted Fluorescent Luminaires
- Fluorescent Ballasts
- Fluorescent Lamps
- General Service Fluorescent Lamps
- Industrial (High/Low Bay) Luminaires
- LED Luminaires (commercial- and industrial-scale)
- Exterior Lighting
- Floodlights
- Air or Water-Cooled Electric Chillers (commercial-scale)
- Boilers (commercial-scale)
- Water-Cooled Ice Machines

2-3-1. Exceptions

Specific exceptions are allowed if NO Energy Star or FEMP qualified item:

- Has a lower or equal life cycle cost compared to a non-compliant option; or
- Can meet the applicable functional requirements

Per Department of Energy guidance, life cycle cost determination shall rely on the life cycle cost analysis method in 10 CFR 436, subpart A or another method determined to be equivalent by the Department of Defense.

Contracts for work associated with or located on JBLM will utilize HJB Form 225 to document written justification for exception and submit the document per the form instructions (<http://www.lewis-mcchord.army.mil/designstandards/pdf/HJB%20225.pdf>).

2-3-2. Roofing

Roofing is not classified as an energy-consuming product by the Department of Energy and is thus not covered under the Energy Policy Act of 2005. However, sustainable design policy directs federal new construction, major renovation, and repair and alteration to incorporate Energy Star or FEMP qualified products to the maximum extent practicable without restricting the applicability to energy-consuming products. Thus, federal projects should utilize Energy Star qualified roofing whenever life cycle cost effective and permissible under the requirements and cost structure of the contract. In addition, see the heat island mitigation requirements in UFC 1-200-02 and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update), available at <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-200-02> and <http://www.asaie.army.mil/Public/ES/doc/SDD%20Policy.pdf>.

2-3-3. Solar Hot Water Heaters

The Energy Independence and Security Act of 2007 and Executive Order 13834 require new construction and major renovation of federal buildings to provide at least 30% of a building's hot water requirements through solar heating methodologies unless the results of a life cycle cost analysis demonstrate that no feasible solar hot water system is life cycle cost effective in comparison with other reasonably available hot water heating technologies.

2-3-4. Additional Lighting Guidance

Army Regulation 420-1, paragraph 22-12(d)(1), states that interior lighting fixtures for new construction, remodeling, and modular office furniture shall use either the T-8 lamp with instant start electronic ballast or the T-5 lamp. Day-lighting and occupancy controls shall be used when determined to be cost-effective. See also UFC 1-200-02 and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update), available at <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-200-02> and <http://www.asaie.army.mil/Public/ES/doc/SDD%20Policy.pdf>.

Consideration should be given to LED lighting when it meets other requirements such as performance and cost. LED lighting can offer additional efficiency and life cycle cost benefits.

2-3-5. Renewable Energy

Per UFC 1-200-02 and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update), renewable energy features shall be used to the extent funds and technology allow. Thus, JBLM projects should give full consideration to such features in coordination with the JBLM Energy Program.

2-3-6. Associated UFGS Specifications

- **07 31 13** Asphalt Shingles
- **07 32 13** Roof Tiles
- **07 41 13** Metal Roof Panels
- **07 51 13** Built-Up Asphalt Roofing
- **07 52 00** Modified Bituminous Membrane Roofing
- **07 53 23** Ethylene-Propylene-Diene-Monomer Roofing
- **07 54 19** PVC Roofing
- **07 55 00** Protected Membrane Roofing
- **11 05 40** Common Work Results for Foodservice Equipment
- **11 06 40.13** Foodservice Equipment Schedule
- **11 31 13** Electric Kitchen Equipment
- **11 44 00** Food Cooking Equipment
- **11 46 00** Food Dispensing Equipment
- **11 47 00** Ice Machines
- **22 00 00** Plumbing, General Purpose
- **22 33 30.00 10** Solar Water Heating Equipment
- **23 00 00** Air Supply, Distribution, Ventilation, and Exhaust Systems
- **23 03 00.00 20** Basic Mechanical Materials and Methods
- **23 52 00** Heating Boilers
- **23 57 10.00 10** Forced Hot Water Heating Systems Using Water and Steam Heat Exchangers
- **23 70 03.00 10** Heating and Utilities Systems, Central Steam
- **23 81 00** Decentralized Unitary HVAC Equipment
- **23 81 47** Water-Loop and Ground-Loop Heat Pump Systems
- **23 82 01.00 10** Warm Air Heating Systems
- **26 20 00** Interior Distribution System
- **26 51 00** Interior Lighting
- **26 56 00** Exterior Lighting
- **33 71 01** Overhead Transmission and Distribution

2-3-7. Associated Federal Acquisition Regulation (FAR) Clauses

52.223-15 “Energy Efficiency in Energy-Consuming Products”; 52.236-7 “Permits and Responsibilities.”

2-3-8. Associated Legal Requirements and Policy

Executive Order 13834; Executive Order 13221; Energy Policy Act of 2005, Section 104; Energy Independence and Security Act of 2007, Sections 523-525; 74 FR 10830 “Federal Procurement of Energy Efficient Products – Final Rule”; Federal Acquisition Regulation, Parts 23.2 and 36.601-3, Army Regulation 420-1; DoD Electronics Stewardship Implementation Plan; and DoD/Service policies.

2-4. EPEAT Electronics

The Federal Acquisition Regulation requires federal purchasers to buy computing equipment that is Electronic Products Environmental Assessment Tool (EPEAT) registered. When including desktop computers, laptops, workstation computers, integrated desktop computers, televisions, or monitors as part of the contract (e.g. as part of a Direct Digital Control System), construction and renovation contracts should specify EPEAT registered products. Per federal guidance, such equipment shall be EPEAT registered at a minimum Bronze level, but preferably at Silver or above.

More information and a listing of qualified products or standards can be found at <https://epeat.net/>.

2-4-1. Associated Federal Acquisition Regulation (FAR) Clauses

52.223-14 “Acquisition of EPEAT-Registered Televisions,” and 52.223-16 “Acquisition of EPEAT-Registered Personal Computer Products”; 52.236-7 “Permits and Responsibilities.”

2-4-2. Associated Legal Requirements and Policy

Executive Order 13834; Federal Acquisition Regulation, Parts 23.2 and 23.7

2-5. Water Efficient Materials and Services

Sustainable design policies direct federal agencies to implement water efficiency measures, including a preference for WaterSense products and services. Thus, when using items or services that fall under a designated EPA WaterSense efficiency standard, construction, renovation, and repair projects should incorporate products and services that, at a minimum, are WaterSense labeled. This includes a preference for irrigation designers and contractors certified by a WaterSense qualified program. See also AR 420-1, UFC 1-200-02, and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update), available at <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-200-02> and <http://www.asaie.army.mil/Public/ES/doc/SDD%20Policy.pdf>.

More information can be found at:

<https://www.epa.gov/watersense>

The following list includes the WaterSense categories most likely to be associated with construction, renovation, and renovation:

- Bathroom Sink Faucets and Accessories
- Urinals, Flush Type
- Showerheads
- Toilets, Flush Tank Type and Flushometer-Valve
- Landscape Irrigation Services
- Landscape Irrigation Controllers
- Spray Sprinkler Bodies
- Pre-Rinse Spray Valves

Note: Medical and other sanitary facilities should utilize appropriate conservation fixtures (e.g., laminar flow faucets rather than aerators) in accordance with medical/sanitary requirements.

2-5-1. Associated Federal Acquisition Regulation (FAR) Clauses

52.236-7 “Permits and Responsibilities.”

2-5-2. Associated Legal Requirements and Policy

Federal Acquisition Regulation, Parts 23.2 and 36.601-3; UFC 1-200-02; and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update)

2-6. Low Emitting Materials

UFC 1-200-02 and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update) instruct incorporation of low emitting interior products to the maximum extent practicable. Thus, such projects should specify interior materials and products with low emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, ceiling and wall systems, and furnishings. Products satisfying the low emission thresholds in ASHRAE 189.1-2014 meet this requirement. Note that JBLM gives first preference to low emitting interior materials when there is a conflict between low emissions and the recycled or biobased requirements.

2-6-1. Associated UFGS Specifications

The following specifications may pertain to low emitting materials:

- **03 30 00** Cast-in-Place Concrete
- **04 20 00** Masonry
- **06 10 00** Rough Carpentry
- **06 18 00** Glue-Laminated Construction
- **06 41 16.00 10** Plastic-Laminate-Clad Architectural Cabinets
- **06 61 16** Solid Surfacing Fabrications
- **07 21 13** Board and Block Insulation
- **07 21 16** Mineral Fiber Blanket Insulation
- **07 21 23** Loose Fill Thermal Insulation
- **07 92 00** Joint Sealants
- **08 11 16** Aluminum Doors and Frames
- **08 14 00** Wood Doors
- **08 51 13** Aluminum Windows
- **08 52 00** Wood Windows
- **08 53 00** Plastic Windows
- **08 60 45** [Skylights] [and] [Translucent Panels]
- **09 29 00** Gypsum Board
- **09 30 10** Ceramic, Quarry, and Glass Tiling
- **09 51 00** Acoustical Ceilings
- **09 62 38** Static-Control Flooring
- **09 64 23** Wood Parquet Flooring
- **09 64 29** Wood Strip and Plank Flooring
- **09 64 66** Wood Athletic Flooring
- **09 65 00** Resilient Flooring
- **09 65 66** Resilient Athletic Flooring
- **09 66 16** Terrazzo Floor Tile
- **09 68 00** Carpeting
- **09 69 13** Rigid Grid Access Flooring
- **09 69 19** Stringerless Access Flooring
- **09 72 00** Wallcoverings
- **09 84 20** Acoustical Wall Panels
- **09 90 00** Paints and Coatings
- **10 14 00.20** Interior Signage
- **10 22 19** Demountable and Movable Partitions
- **10 26 00** Wall and Door Protection
- **12 31 00** Manufactured Metal Casework
- **12 32 00** Manufactured Wood Casework
- **12 34 00** Manufactured Plastic Casework
- **12 36 00** Countertops
- **12 48 13** Entrance Floor Mats and Frames
- **12 59 00** Systems Furniture
- **12 61 13** Upholstered Audience Seating
- **23 07 00** Thermal Insulation for Mechanical Systems
- **23 35 19.00 20** Industrial Ventilation and Exhaust
- **23 36 00.00 40** Air Terminal Units

2-6-2. Associated Legal Requirements and Policy

Federal Acquisition Regulation, Part 36.601-3; UFC 1-200-02; and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update)

2-7. Ozone Depleting Chemical (ODC) Alternatives

All refrigerants must be EPA Significant New Alternatives Policy (SNAP)-approved for the applicable section and end use: <https://www.epa.gov/snap/snap-substitutes-sector>.

Use of ODCs on JBLM is restricted. Any use of ODC or ODC-containing products requires written approval from the installation Pollution Prevention Program (Bldg 1210). ODC operations shall follow the applicable requirements stated in the installation ODC Management Plan, available from the JBLM Air Quality Program (Bldg 2012).

In addition, FAR Part 23.8 requires minimization of hydrofluorocarbons (HFCs) with high global warming potentials. See the SNAP listings for more information.

2-7-1. Associated Federal Acquisition Regulation (FAR) Clauses

52.223-11, "Ozone-Depleting Substances"; 52.223-12, "Refrigeration Equipment and Air Conditioners"; 52.223-20, "Aerosols"; 52.223-21, "Foams"; and 52.223-22, "Public Disclosure of Greenhouse Gas Emissions and Reduction Goals-Representation."

2-7-2. Associated Legal Requirements and Policy

Clean Air Act Amendments of 1990; Executive Order 13834; Federal Acquisition Regulation, Parts 23.8 and 36.601-3; and DoD/Service policies.

2-8. Additional Environmentally Preferable Products

Certain specifications may include additional environmental performance requirements such as the use of less hazardous or non-toxic materials. Consult applicable contracts or design standards for specific requirements. Note that Army Regulation 200-1 requires minimization of hazardous and toxic materials. Additional product requirements can be found in ASHRAE Standard 189.1, per UFC 1-200-02 and the policy memorandum from ASA IE&E (subject: Sustainable Design and Development Policy Update). See also FAR Part 23.7 and EPA guidance at:

<https://www.epa.gov/sites/production/files/2015-09/documents/finalepapguidance.pdf>

<https://www.epa.gov/greenerproducts>

Information regarding third-party red lists is also available at:

<https://living-future.org/declare/declare-about/red-list/>

<https://transparency.perkinswill.com/lists/precautionary-list>

2-9. Guiding Principles for High Performance and Sustainable Buildings

Note that Executive Order 13834 requires federal new construction, major renovation, and repair and alteration to comply with the *Guiding Principles for High Performance and Sustainable Buildings* to the maximum practicable extent. Consult UFC 1-200-02 and the February 2016 Guiding Principles update links at

<https://www.energy.gov/eere/femp/guiding-principles-sustainable-federal-buildings>. See also additional

requirements that apply on Army installations and Army-led joint bases at

<http://www.asaie.army.mil/Public/ES/doc/SDD%20Policy.pdf>.

2-10. Environmental Management System (EMS).

DoD/Service policies and FAR Parts 23.9 and 23.10 require contractor compliance with the facility EMS.

Consequently, all construction contractors must meet with the JBLM EMS Coordinator as soon as possible following the award of a contract involving work on JBLM. This must be prior to submitting the contractor's Environmental Protection Plan. The EMS Coordinator can be contacted at Building 1210 or (253) 966-6470.

Appendix A REFERENCED LAWS AND APPLICABLE POLICY

- **74 FR 10830** “Federal Procurement of Energy Efficient Products – Final Rule) <https://www.energy.gov/eere/femp/downloads/final-rule-federal-register-74-fr-10830-10-cfr-part-436-march-13-2009>
- **Clean Air Act Amendments** of 1990 (Clean Air Act, Title VI) (<https://www.epa.gov/clean-air-act-overview/title-vi-stratospheric-ozone-protection>)
- **Energy Independence and Security Act** of 2007 (<https://www.govinfo.gov/content/pkg/PLAW-110publ140/html/PLAW-110publ140.htm>)
- **Energy Policy Act** of 2005 (<https://www.govinfo.gov/content/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf>)
- **Executive Order 13221**, “Energy Efficient Standby Power Devices,” 2 August 2001 (<http://www.gpo.gov/fdsys/pkg/FR-2001-08-02/pdf/01-19562.pdf>)
- **Executive Order 13834**, “Efficient Federal Operations,” 17 May 2018 (<https://www.federalregister.gov/documents/2018/05/22/2018-11101/efficient-federal-operations>)
- **EO 13834 Implementing Instructions** (https://www.sustainability.gov/pdfs/eo13834_instructions.pdf)
- **Farm Security and Rural Investment Act** of 2002 (<https://www.govinfo.gov/content/pkg/PLAW-107publ171/pdf/PLAW-107publ171.pdf>)
- **Federal Acquisition Regulation** (<https://www.acquisition.gov/?q=browsefar>)
- **Resource Conservation and Recovery Act**, Section 6002 (https://www.fedcenter.gov/Documents/index.cfm?id=30257&pge_prg_id=33492&pge_id=1820)
- **EPA Guidance for Environmentally Preferable Purchasing** (<https://www.epa.gov/sites/production/files/2015-09/documents/finalepbguidance.pdf> and <https://www.epa.gov/greenerproducts>)
- **Army Regulation 200-1**, “Environmental Protection and Enhancement” (13 December 2007)
- **Army Regulation 420-1**, “Army Facilities Management” (24 August 2012)
- **Unified Facilities Criteria (UFC) 1-200-02**, High Performance and Sustainable Buildings, 1 October 2019
- Memorandum, ASA IE&E, 17 January 2017, subject: **Sustainable Design and Development Policy Update**
- Memorandum, OUSD (AT&L), 27 August 2004, subject: **Establishment of the DoD Green Procurement Program**
- **DoD Green Procurement Strategy** , November 2008
- Memorandum, DA, 22 November 2006, subject: **Establishment of the Army Green Procurement Program**
- Memorandum, DAIM-ZA, 12 June 2008, subject: **R-22 Refrigerant Use on Army Installations**
- Memorandum, ACSIM, 7 January 2003, subject: **Change in Army Policy for the Elimination of Ozone Depleting Chemicals**
- Memorandum, ASA (I&E), 22 November 2002, subject: **Elimination of Ozone-Depleting Chemicals (ODCs) in Army Facilities**
- **Fort Lewis Regulation 200-1**, “Environmental Protection and Enhancement”
- **JBLM ODC Management Plan**
- Memorandum, Joint Base Command, 23 June 2020, subject: **Joint Base Lewis-McChord Environmental Policy [JBLM Policy Statement #9]**

Appendix B

ACRONYMS AND TERMS

ACSIM – (U.S. Army) Assistant Chief of Staff for Installation Management
AR – Army Regulation
ASA IE&E – Assistant Secretary of the Army for Installations, Energy and Environment
ASHRAE – American Society of Heating, Refrigeration, and Air-Conditioning Engineers
CFR – Code of Federal Regulations
CPG – Comprehensive Procurement Guidelines
DA – Department of the Army
DoD – Department of Defense
EPA – Environmental Protection Agency
EPEAT – Electronic Product Environmental Assessment Tool
FAR – Federal Acquisition Regulation
FEMP – Federal Energy Management Program
LED – Light Emitting Diode
LEED – (U.S. Green Building Council's) Leadership in Energy and Environmental Design (Rating System)
LEED CI – LEED Commercial Interiors (Rating System)
LEED NC – LEED New Construction (Rating System)
ODC – Ozone Depleting Chemical
PL – Public Law
PW – Directorate of Public Works, JBLM
RCRA – Resource Conservation and Recovery Act
RMAN – Recovered Materials Advisory Notice
RUL – Restricted Use List
SNAP – Significant New Alternatives Policy
UFC – Unified Facilities Criteria
UFGS – Unified Facilities Guide Specifications
USDA – U.S. Department of Agriculture