

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Description of a Job-Site Construction Waste Management Plan
 - 2. Job-Site Waste Reduction Requirements
- B. Drawings, the provisions of the Agreement, the General Conditions, and Division 1 specification sections apply to work of this Section.
- C. Job Site Waste Reduction Requirements
 - 1. Divert through salvage, reuse and/or recycle at least 50% (or 75% if the Contractor verifies that it is a realistic goal) of all CDL waste generated. Calculations may be based on dry weight or volume, but must be consistent throughout.
 - 2. To achieve these goals the Contractor shall develop for review a Waste Management Plan for this Project.

1.2 REFERENCES

- A. LEED for New Construction (LEED-NC), Credit MR 2, Construction Waste Management, and associated references and resources.
- B. Resources available from the King County Solid Waste Division Construction Recycling and Green Building Program (http://dnr.metrokc.gov/swd/bizprog/sus_build/susbuild.htm) and the Seattle Business Industry and Resource Venture (www.resourceventure.org) include:
 - 1. King County Solid Waste Division Report of Co-mingled Recycling Facilities. This report lists the monthly co-mingled CDL recycling rate of local MRFs (material recovery facilities) and the materials each facility accepts. The report is available at <http://www.metrokc.gov/dnrp/swd/construction-recycling/comingled.asp>
 - 2. "2001-2002 Construction Recycling Directory" published by the King County Solid Waste Division -- A comprehensive listing of construction material recyclers in and around King County, organized by location and material. <http://www.metrokc.gov/dnrp/swd/construction-recycling/documents/CDLguide.pdf>.
 - 3. "Contractors' Guide to Preventing Waste and Recycling." A step-by-step guide to help you set up and operate a job site recycling program. Includes spreadsheets to calculate your savings. <http://www.metrokc.gov/dnrp/swd/greenbuilding/documents/ContractorsGuide-R5-insides.pdf>
 - 4. A sample Waste Management Plan to use as a guide. http://www.metrokc.gov/dnrp/swd/construction-recycling/documents/const_waste_management_2003.pdf
 - 5. "Construction Waste Management for LEED®." Information and resources to assist Seattle area contractors in achieving LEED® waste management goals. Published by the Business Industry and Resource Venture (BIRV). <http://www.resourceventure.org/PDF/LEEDIntro.pdf>
 - 6. Case studies that exemplify how job site recycling has been successful on other projects. <http://www.metrokc.gov/dnrp/swd/greenbuilding/documents.asp#casestudies>

1.3 SUBMITTALS

- A. Within fourteen (14) days after receipt of Notice of Award and prior to any waste removal by the Contractor from the Project, the Contractor shall develop and submit to the Owner for review a draft Construction Waste Management Plan.
 - 1. The waste management plan shall include:
 - a. Types and estimated quantities (where reasonably available) of salvageable materials that are expected to be generated during demolition. Calculations may be based on dry weight or volume, but must be consistent throughout.
 - b. The method to be used to recycle these materials. Methods shall include one or more of the following options: contracting with a demolition specialist to salvage all or most of materials generated, selective salvage as part of demolition contractor's work, or reuse of materials

- on-site or in new construction. Use the recycling rates and list of material accepted provided *King County Solid Waste Division Report of Co-mingled Recycling Facilities* to determine which waste materials on this project will be source-separated or co-mingled in each construction phase. See Section 1.2.B.1 for where to view the report online.
- c. Types and estimated quantities (where reasonably available) of recyclable materials expected to be generated during construction in significant amounts including but not limited to wood, concrete, metals, cardboard, and drywall. Calculations may be based on weight or volume, but must be consistent throughout.
 - d. The method to be used to recycle these materials. Methods shall include one or more of the following options: requiring subcontractors to take materials back for recycling at a permitted facility, contracting with a full service recycling service to recycle all or most materials at a permitted facility, or processing or reusing materials on-site. Use the recycling rates and list of material accepted provided *King County Solid Waste Division Report of Co-mingled Recycling Facilities* to determine which waste materials on this project will be source-separated or co-mingled in each construction phase. See Section 1.2.B.1 for where to view the report online.
2. At a minimum, the waste management plan shall be designed to divert the following waste categories from the landfill
- a. Acoustical ceiling tiles
 - b. Cardboard (from supplies and packaging)
 - c. Carpet and carpet pad
 - d. Concrete and concrete masonry units (CMU's)
 - e. Excavated soils
 - f. Fluorescent tubes and ballasts (if not recycled designate as hazardous waste)
 - g. Gypsum drywall (clean, unpainted)
 - h. Metals
 - i. Paint
 - j. Plastic film (sheeting, shrink wrap, packaging)
 - k. Window glass
 - l. Wood (clean, unpainted, untreated wood scrap including pallets and engineered wood)
 - m. Job-shack wastes, including office paper, blueprints, pop cans and bottles, and office cardboard.
- B. Final Construction Waste Management Plan. Within 14 days after Owner has determined that the recycling options addressed in the draft Construction Waste Management Plan are acceptable and prior to waste removal, submit the final Construction Waste Management Plan. Use the recycling rates and list of material accepted provided King County Solid Waste Division Report of Co-mingled Recycling Facilities to determine which waste materials on this project will be source-separated or co-mingled in each construction phase. See Section 1.2.B.1 for where to view the report online.
- C. Progress Reports. Submit with each Application for Payment a summary of construction waste generated. Include the following
1. For each material recycled, reused, or salvaged from the Project, the amount (in tons or cubic yards), the receiving party, and the net total cost or savings of salvage or recycling the material. Attached manifests, weight tickets receipts or invoices. For co-mingled materials, the Contractor shall include the co-mingled CDL recycling rate of the receiving facility.
 2. The amount (in tons or cubic yards) of material disposed of as garbage from the Project, the location of the Receiving Facility, and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.
 3. The Contractor shall be responsible for providing such information whether directly involved in recycling the materials or not (whether the Contractor performs recycling tasks or hires or requires others to do so, such as subcontractors to haul their own drywall or metal).
- D. Final Report: The Contractor shall submit within (14) calendar days of completing the project a final waste management report of waste generated at the Project. The final report shall be submitted on a form acceptable to the Owner's Project Manager and shall contain the following information:
1. For each material recycled, reused, or salvaged from the Project, the total amount (in tons or cubic yards), the receiving party, and the net total cost or savings of salvage or recycling the

- material. Attached manifests, weight tickets receipts or invoices. For co-mingled materials, the Contractor shall include the co-mingled CDL recycling rate of the receiving facility.
2. The total amount (in tons or cubic yard of material) of material disposed of as garbage from the Project, the location of the Receiving Facility, and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.
 3. The Contractor shall be responsible for providing such information whether directly involved in recycling the materials or not (whether the Contractor performs recycling tasks or hires or requires others to do so, such as subcontractors to haul their own drywall or metal).
- E. LEED® Documentation: Provide letter declaring that the requirements of LEED® Credit MR 2.2 have been met. See Section 013543 for these submittal requirements. (Electronic spreadsheet files for the LEED® Letter Templates will be provided later.)
- #### 1.4 DEFINITIONS
- A. Waste: For the purpose of this section, the term applies to all excess building materials. Waste includes materials that can be salvaged, returned, recycled, or reused.
 - B. Trash (or Garbage): That part of the waste that cannot be returned, reused, recycled, or salvaged.
 - C. Construction, Demolition, and Landclearing Waste (CDL): All non-hazardous solid wastes resulting from construction, demolition, and landclearing activities. CDL waste includes, but is not limited to, building materials, demolition rubble, landscaping materials, soils, packaging materials, debris, and trash.
 - D. Proper Disposal: As defined by the jurisdiction receiving the waste.
 - E. Landfill: Public or private business involved in the practice of trash disposal.
 - F. Hazardous Waste: Any material or byproduct of construction that is regulated by Environmental Protection Agency and that may not be disposed in landfill or other waste end-source without adherence to applicable laws.
 - G. Material Recovery Facility (MRF): A general term used to describe a waste-sorting facility. Mechanical, hand-separation, or a combination of both procedures are used to recover recyclable materials from other waste, which is then disposed of as trash.
 - H. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the material in the manufacture of a new product. Can be conducted on site (as in the grinding of concrete and reuse on site).
 - I. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product. Recycling facilities have their own specifications for accepting materials. Depending on the type of facility, it may accept source-separated waste or co-mingled waste or both.
 - J. Recycling Services. Types of services include:
 1. Source-Separated: Construction waste is sorted on the job-site in separate containers as it is generated. The recycling hauler takes the materials directly to a recycler or a transfer site.
 2. Co-mingled: This service allows contractors to put select recyclables such as wood, cardboard, and metals in one container. The recycling hauler takes the materials to a sorting facility where the materials are separated for recycling.
 - K. Reuse: Making use of a material without altering its form.
 - L. Salvage: Recovery of materials for on-site reuse or donation to a third party.
 - M. Source-separated Materials: Materials that are sorted at the site for the purpose of reuse or recycling.
 - N. Co-mingled Materials: Mixed recyclable CDL material that has not been source-separated. Some facilities will separate co-mingled materials off-site for recycling.

1.5 REVENUES

- A. Revenues or other savings obtained from recycled, reused, or salvaged materials shall accrue to Contractor unless otherwise noted in the Contract Documents.

PART 2 - PRODUCTS

2.1 ENVIRONMENTALLY PREFERABLE MATERIALS

- A. Recycled-content, salvaged, rapidly renewable, or otherwise resource-efficient products are specified in appropriate sections.

PART 3 - EXECUTION

3.1 COMMUNICATION

- A. Designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.
- B. Distribute copies of the Construction Waste Management Plan to each entity performing work at the site.
- C. Use safety meetings, signage, and subcontractor agreements to communicate the goals of the waste reduction plan, including instruction about appropriate separation, handling separation, handling, and recycling, salvage, reuse and return methods to be used by all parties at the appropriate stages of the Project.

3.2 MATERIALS CONSERVATION

- A. Protect products from damage during storage, installation, and in-place. Materials that become wet or damp due to improper storage shall be replaced at contractor's expense.
- B. Include in supply agreements a waste reduction provision specifying a preference for reduced, returnable, and/or recyclable packaging.
- C. Use detailed take-offs and use to identify location and use in structure to reduce risk of unplanned and potentially wasteful cuts.

3.3 MATERIALS HANDLING

- A. Designate specific area(s) to facilitate separation of materials for potential recycling, salvage, reuse and return. Maintain recycling and waste bin areas clean and clearly marked to avoid co-mingling of materials. Bins shall be protected during non-working hours from off-site contamination.
 - 1. Separate recycling waste in accordance with requirements of recycling facility/hauler.
- B. Protect materials to be recycled or reused from contamination. Handle, store, and transport materials in a manner that meets the requirements of the designated acceptance facility.
- C. Separately store and dispose of hazardous wastes according to local regulations.
- D. As part of regular clean-up, schedule and conduct visual inspections of dumpsters and recycling bins to identify potential contamination of materials.

END OF SECTION