

SECTION 017419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for recycling and disposing of construction waste.
- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 013543 - ENVIRONMENTAL PROTECTION PROCEDURES:
 - a. Environmental-protection measures during construction.
 - 2. Section 017418 - DEMOLITION WASTE MANAGEMENT AND DISPOSAL
 - a. Additional requirements for addressing existing materials in renovation and/or remodeling projects; not applicable to new construction.
 - 3. Section 024100 – DEMOLITION for selective building demolition.

1.3 DEFINITIONS

- A. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waste or debris.
- B. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, and/or installation of new materials as part of remodeling, renovation, or repair operations. Construction waste includes packaging.
 - 1. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations prior to renovations or remodeling.
- C. Disposal: Removal off-site of construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Develop a Waste Management Plan that states as its objective to attain at project completion a recycling rate of 75 percent or more by weight of the total waste generated by the Work.
- B. Recycling Requirements:
 - 1. Maximize recycling of non-hazardous construction waste including the following materials:
 - a. Site-clearing waste.
 - b. Masonry and CMU.
 - c. Lumber, wood sheet materials, and wood trim.
 - d. Metals.
 - e. Roofing.
 - f. Insulation.
 - g. Glass.
 - h. Plastics.
 - i. Gypsum board, refer to paragraph below.
 - j. Acoustical ceiling panels.
 - k. Carpet and pad.
 - l. Piping.
 - m. Wire and cable.
 - n. Electrical conduit.
 - o. Packaging: 100 percent of the following uncontaminated packaging materials: Paper, cardboard, boxes, plastic sheet and film, polystyrene packaging, wood crates, plastic pails.
 - 2. Clean Gypsum Board Waste: For new construction and renovation projects involving 20,000 square feet or greater, divert clean (virgin material) gypsum board waste from disposal to recycling and/or reuse outlets.
 - a. For new construction and renovation projects involving less than 20,000 square feet, contractors are encouraged to divert clean gypsum board waste from disposal to recycling and/or reuse outlets.
 - b. Clean (virgin material) gypsum board is defined as material without any existing attached material, including but not limited to adhesives, mastics, and paints.

1.5 SUBMITTALS

- A. Waste Management Plan (WMP): Submit 3 copies of Plan within 30 days of date established for the Notice to Proceed, in a format acceptable to the Project Manager.
- B. Waste Management Progress Reports: Concurrent with each Application for Payment, submit three copies of report. The following information shall be included:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste recycled, both estimated and actual in tons.

5. Total quantity, of waste recovered (recycled) as a percentage of total waste.
 - C. Waste Management Calculations: Before submitting a request for Substantial Completion, submit three copies of calculated final rates for recycling and disposal as a percentage of total waste generated by the Work.
 - D. Facility Permitting Information: For landfill and/or incinerator facilities, provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
 - E. Record Keeping for Recycling and Landfill and/or Incinerator Disposal: Documentation to be submitted by the General Contractor shall include the following:
 1. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.
 2. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.
 - F. Facility Permitting Information: For ABC rubble crushing and/or recycling facilities, provide a statement from the facility that references its specific exemption from the solid waste regulations (per 310 CMR 16.05 (3) (e)) or provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
 - G. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
 - H. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
 - I. LEED Submittals: The Designer shall prepare a Letter in accordance with LEED guidelines, which shall be signed by the General Contractor. The General Contractor shall provide all information required which includes a tabulation of total waste material, quantities diverted, and means by which it is diverted.
- 1.6 QUALITY ASSURANCE
- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction, including but not limited to, Massachusetts solid waste regulations contained in 310 CMR 16.00 and 310 CMR 19.000.
- 1.7 WASTE MANAGEMENT PLAN
- A. General: Develop plan consisting of waste identification, and waste reduction, handling, transportation, and recycling/disposal procedures. Include separate sections in plan for recycling and disposal of construction waste. Indicate quantities by weight throughout waste management plan.
 - B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

- C. Waste Reduction Program: List each type of waste and whether it will be recycled or disposed in a landfill or incinerator. Include points of waste generation, total quantity by weight of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 3. Donated Materials: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.
 4. Sold Materials: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.
- D. Handling and Transportation Procedures: Include methods that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location(s) on Project site where separated materials will be stockpiled.
- E. Waste Management Coordinator: Identify General Contractor employee who will be the Waste Management Coordinator for the project. The Waste Management Coordinator will be responsible for implementing, monitoring, and reporting status of waste management activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement Waste Management Plan as approved by the Designer. Provide containers, storage, signage, transportation, and other items as required to implement WMP for the entire duration of the Contract.
- B. The General Contractor shall conduct a Waste Management Meeting at the Site. The General Contractor shall review methods and procedures related to waste management including, but not limited to, the following:
1. Distribute approved WMP to everyone concerned within three days of approved submittal return.
 2. Clearly identify the Waste Management Coordinator and explain the Coordinator's responsibilities.
 3. Review WMP with each subcontractor when they first begin work on-site. Review plan procedures and locations established for recycling and disposal.
 4. Review and finalize procedures for material separation and verify availability of containers and bins needed to maintain production.
 5. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 6. Provide recycling educational literature for all workers, Subcontractors and suppliers engaged in on-site activities.

7. Provide appropriate recycling signage for containers and workspaces.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walkways, and other adjacent occupied facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be recycled, reused, donated, sold, and disposed.
2. Comply with project requirements for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING CONSTRUCTION WASTE, GENERAL

A. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical. For waste, which cannot be separated at Project site, co-mingle only with waste, which is to be separated later at a recycling facility. The General Contractor will address contamination of recycling containers with trash or other contaminants and who will be solely responsible for payment of all fines and penalties.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off User Agency's property and transport to recycling receiver or processor.

B. On-site crushing of asphalt pavement, brick, and concrete (ABC) rubble as described in 310 CMR 16.05, is not allowed. All ABC waste must be transported off-site to an asphalt batching plant or to an ABC crushing or recycling operation facility that is either conditionally exempt from 310 CMR 16.00 or has been sited and permitted in accordance with 310 CMR 16.00 and 310 CMR 19.000, respectively.

3.3 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: To the extent feasible, require shippers using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

- B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.
- C. Concrete: Deposit all debris in designated containers to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for fill or sub-base.
- D. Masonry: Deposit all masonry debris in designated containers to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for general fill or satisfactory soil for fill or sub-base. Clean and stack undamaged whole masonry units on wood pallets.
- E. Wood Materials:
 - 1. Clean Cut-Offs of Lumber: Deposit into designated clean wood container to be transported to designated recycling facility for use as mulch or bio-fuel.
 - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- F. Metals: Separate metals by material type if practical. Stack salvageable structural steel members according to size, type of member, and length.
- G. Asphalt Shingle Roofing: Deposit asphalt shingles in designated containers for off-site reuse. Nails, staples acceptable, flashing trim and accessories shall be recycled as metals.
- H. Glass: Deposit glass debris into designated containers to be transported to approved glass-recycling facility.
- I. Plastics: Deposit plastic containers and debris into designated containers to be transported to approved plastic recycling facility.
- J. Clean Gypsum Board: Deposit scraps of clean gypsum board into designated container protected from weather and transport to an appropriate gypsum board recycling outlet or permitted construction and demolition debris processing facility that will divert clean gypsum board to an appropriate gypsum board recycling outlet.
- K. Acoustic Ceiling Panels: Deposit pulp able mineral fiber panels into designated container protected from weather and prepare for transport, as directed by manufacturer, to appropriate recycling facility to be processed into new acoustic ceiling panels. Separate suspension system, trim, and other metals from panels and sort with other metals.
- L. Carpet: Deposit carpet into designated container protected from weather and prepare for transport, as directed by manufacturer, to appropriate recycling facility to be processed into new products.
- M. General: Recycle paper and beverage containers used by on-site workers.

3.4 DISPOSAL OF WASTE

- A. Except for items or materials to be recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. For solid waste disposal facilities located in the Commonwealth of Massachusetts, dispose of materials only in facilities which currently comply with applicable state regulations, including requirements of 310 CMR 16.00 {Site Assignment for Solid Waste Facilities} and 310 CMR 19.000 {Solid Waste Management}, and local bylaws.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION