SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes:

1. Administrative and procedural requirements for the following:
   a. Salvaging nonhazardous demolition and construction waste.
   b. Recycling nonhazardous demolition and construction waste.
   c. Disposing of nonhazardous demolition and construction waste
   d. Requirements for the development of a project specific Construction Waste Management Plan

B. Owner's Project Requirements:

1. Divert the maximum possible construction and demolition debris from landfills and incineration facilities.
2. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.
3. Performance Requirement: Achieve a recycling rate of 75% or greater.

1.2 DEFINITIONS

A. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes.

B. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial and industrial waste, including construction, remodeling, repair and demolition operations.

C. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

D. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging. Excavation materials (soils, rock), land clearing debris (trees, shrubs, other plant materials), and hazardous wastes are not Construction Waste and are not included in the Recycling Rate calculation.

E. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

F. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

G. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humanity; or degrade the utility of the environment for aesthetic, cultural or historical purposes.

H. Garbage: Refuse and scraps resulting from preparation, cooking, distribution or consumption of food.

I. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

J. Inert Fill: A permitted facility that accepts inert waste such as asphalt and concrete exclusively.

K. Inert Solids / Inert Waste: Non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board pursuant to local regulations and does not contain significant quantities of decomposable solid waste.

L. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

M. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

N. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

O. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

P. Recycling Rate: The percentage of material by weight that is diverted from landfill or incineration by Recycling, Salvage or Reuse. The total weight of Recycled, Salvaged and Reused material is the numerator; the total weight of Construction Waste is the denominator.

Q. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

R. Return: To give back reusable items or unused products to vendors for credit.

S. Reuse: To reuse a construction waste material in some manner on the project site.

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

U. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

V. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

W. Sediment: Soil and other debris that has been eroded and transported by storm or well production runoff water.

X. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

Y. Toxic: Poisonous to humans either immediately or after a long period of exposure.

Z. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

AA. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.3 SUBMITTALS

A. Waste Management Plan: Submit three copies of the CWM Plan within thirty (30) working days of date established for commencement of the Work. See Detailed Requirements in this Section.

B. Waste Reduction Progress Reports:

1. On a monthly submit a copy of the Waste Reduction Progress Report
2. Include separate reports for demolition and construction waste.
3. Include the following information for the time period covered:
    a. Material category.
    b. Generation point of waste.
    c. Total quantity of waste in tons.
    d. Quantity of waste salvaged, both estimated and actual in tons.
    e. Quantity of waste recycled, both estimated and actual in tons.
    f. Total tonnage of waste recovered (salvaged plus recycled) in tons.
    g. Total tonnage of waste recovered (salvaged plus recycled) as a percentage of total waste.
4. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt
5. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether the organization is tax exempt.

C. Closeout Submittals:

1. Final copy of the Construction Waste Management Plan.
2. Final Waste Reduction Calculations: Before request for Substantial Completion submit a final Waste Reduction Report.
    a. Provide the same information in the Final Report as in the Progress Reports.
    b. Provide the following totals from the start of work through the end of work:
        1). Final total tonnage of waste in tons
        2). Final total tonnage of waste salvaged.
        3). Final total tonnage of waste recycled.
        4). Final total tonnage recovered (salvage plus recycled)
        5). Final total tonnage recovered as a percentage of the total waste.

1.4 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Section 01 3100 - PROJECT MANAGEMENT AND COORDINATION. Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.5 CONSTRUCTION WASTE MANAGEMENT PLAN DETAILED REQUIREMENTS

A. General: Develop plan consisting of Waste Identification, Waste Reduction Work Plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

1. Construction Waste Management Plan for construction and demolition waste debris to be implemented with a goal of recycling minimum 75% of materials.

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 Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Targeted Material Types:
    a. Concrete
    b. Asphalt
    c. Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, brass, bronze)
    d. Construction debris processed into a recycled content commodity that has an open-market value (e.g., alternative daily cover material)
    e. Cardboard, paper, packaging
    f. Beverage containers
    g. Reuse items indicated on the Drawings and/or elsewhere in the Specification
    h. Clean dimensional wood
    i. Asphalt roofing
    j. Drywall
    k. Carpet and pad
    l. Ceiling tiles
    m. Glass
    n. Plastics
    o. Paint
    p. Fluorescent lamps
7. Sorting and Handling Procedures:
    a. Identify the method that will be used for separating and handling recyclable waste.
    b. If waste sorting and recycling is to be performed on-site, describe staging area(s), quantity and type of containers, frequency of pick-up, signage, etc.
    c. If waste sorting and recycling is to be performed off-site, describe the process by which mixed Construction and Demolition Waste will be delivered off-site, as well as the off-site process for sorting material, quantifying, and documenting the waste to be recycled.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 PLAN IMPLEMENTATION

A. General:

1. Implement the CWM Plan as approved by the Owner.
2. Provide handling, containers, storage, signage, transportation, and other items as required to implement the CWM Plan during the entire duration of the Project.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of the CWM Plan. Coordinator shall be present at Project site full time for duration of Project.

C. Communication: Distribute copies of the Waste Management Plan to job site foreman, each Subcontractor, Owner, and Architect.

D. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

1. Train workers, Subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
2. Distribute the CWM Plan to everyone concerned within three (3) working days of receiving the Owner's approval.
3. Distribute the CWM Plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

E. Site Access and Temporary Controls: Conduct CWM operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

F. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.

1. As a minimum, provide:
   a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
   b. Separate dumpsters for each category of recyclable materials.
   c. Recycling bins at worker lunch area.
2. Provide containers as required.
3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
5. Locate enclosures out of the way of construction traffic.
6. Provide adequate space for pick-up and delivery and convenience to Subcontractors.
7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

G. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable

regulations.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged items for sale and donation: Not permitted on Project site.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE

A. Recycle paper and beverage containers used by on-site workers.

B. Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

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.
2. Inspect containers and bins for contamination and remove contaminated materials if found.
3. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
4. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
5. Store components off the ground and protect from the weather.
6. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

C. Recycle packaging as indicated below:

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: As much as possible, require delivery entities 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.

D. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

E. Wood Materials:

1. Clean cut-offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

3.4 DISPOSAL OF WASTE

A. Except for items or materials to be salvaged, 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.

B. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.

C. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

D. Burning: Do not burn waste materials.

E. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION

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