SECTION 01505

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RERLATED DOCUMENTS

A. All Contract Documents shall be reviewed for applicable provisions related to the provisions in this document, and provisions in the General Conditions and other Division 1 Specification Sections shall apply to this Section without limitation.

1.2 RELATED REQUIREMENTS SPECIFIED IN OTHER SECTIONS

A. Section 01010 – "Summary of Work"

B. Section 01015 – "Project Phasing"

C. Section 01412 - "Regulatory Requirements – Hazardous Material"

D. Section 02225 - "Demolition"

E. Section 02300 - "Earthwork"

F. Section 02315 - "Excavation, Backfill and Compaction"

G. Section 02520 - "Site Concrete"

H. Divisions 2 through 16 Sections for Construction and Demolition Waste Management requirements for the work in those Sections.

1.3 SUMMARY

A. The District has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

B. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

1.4 WASTE MANAGEMENT GOALS FOR THE PROJECT

A. The District has established that this Project shall minimize the creation of construction and demolition waste, and shall divert a minimum of 50% of Project generated waste from landfills. Factors that contribute to waste such as over packaging, improper storage, ordering error, poor planning, breakage, mishandling, and contamination, shall be minimized. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized. Both recycled and waste need to be logged and documented by volume and weight.

B. Diversion Goals: A minimum 50% of total Project waste shall be diverted from landfill. The following waste categories, at a minimum, shall be diverted from landfill. The Waste Management Plan shall establish a program for reusing or recycling material which are recyclable. These materials include, but not limited to:

1. Landscape and land clearing debris (green wood materials)
2. Asphalt pavement
3. Gravel and aggregate products
4. Concrete
5. Masonry scrap and rubble (brick, concrete, masonry, stone)
6. Metals (ferrous and nonferrous)
7. Clean wood (dimensional lumber, sheet goods, millwork, scrap, pallets)
8. Plastics (films, containers, PVC products, polyethylene products)
9. Asphalt/Bituminous roofing
10. Insulation Materials
11. Glass (un-tempered)
12. Door and window assemblies
13. Carpet and carpet pad
14. Fibrous acoustic materials
15. Ceiling Tiles
16. Plumbing fixtures and equipment
17. Mechanical equipment
18. Lighting fixtures and electrical components
19. Cardboard packing and packaging
20. Furniture
21. Sheet Rock
22. Electronic Waste
23. Universal Waste
24. Paper

1.5 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, grease solvents, caulk, no Freon with air-conditioning units or similar products.

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. Commingled or Off-site Separation: Collecting all material types into a single bin or mixed collection system and separating the waste materials into recyclable material types in an off-site facility.

D. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash debris and rubble resulting from construction, remodeling repair and demolition operations. Hazardous materials are not included.

E. Debris: Including both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.

F. E. Deconstruction: The process of removing existing building materials from renovation and demolition projects for the purposes of reuse, and recycling, in a efficient and safe manner possible.

G. Divert or Diversion from Landfill: To remove, or have removed, from the site for recycling, reuse or salvage material that might otherwise be sent to a landfill. Diversion from Landfill does not include using the material as alternative daily cover at a landfill site, nor does it include burning, incinerating, transformation processing or thermally destroying waste.

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

I. Recovery: Any process that reclaims materials, substances, energy, or other products contained within or derived from waste on-site. It includes waste-to-energy, composting, and other processes.

J. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.

K. Recycle (recycling): To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. The process of collecting and preparing recyclable materials in their original form or in manufacturing processes that do not cause the destruction/contamination of recyclable materials in a manner that precludes further use. Recycling does not include burning, incinerating, transforming or thermally destroying waste.

L. Return: To give back reusable items or unused products to vendors.

M. Reuse: Using a material or product that is recovered from construction, renovation, or demolition activities.

N. Reuse on Site: To reuse excess of discarded construction material in some manner on the Project site.

O. Rubbish: Including both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, tin cans, and bones.

P. Salvage: to remove a waste material from the Project site for resale or reuse.

Q. Sources Separation: Sorting the recovered materials into specific material types with no or a minimum amount of contamination on site.

R. Time-Based Separation: Collecting waste during each phase of construction or deconstruction which results in primarily one major type of recovered material. The material is removed before it becomes mixed with the material from the next phase of construction.

S. Waste Materials: Large and small pieces of listed materials which are excess to contract requirements and generally include materials to be recycled and/or recovered from existing construction and items of trimmings, cuttings, and damaged goods resulting from new installations, which can be effectively used in the Work. Extra material or material that has reached the end of its useful life in its intended use.

1.6 REFERENCES AND RESOURCES

A. This information is provided for Contractor's convenience only, and the District does not warrant its accuracy. County specific information is available on the Contra Costa County Waste Reduction and Recycling web page at http://www.co.contra-costa.ca.us/depart/cd/recycle/index.html. Additional information may also be found at the county conservation web page at http://www.cccounty.us/index.aspx?NID=285. Refer to the Contra Costa County Builder's Guide to Reuse & Recycling and the Contra Costa County Recycling Guide. Both are available from Contra Costa County. Contact Lorna Thomson at 925-674-8823 (lorna.thomson@dcd.cccounty.us) for assistance in the management of construction & demolition debris.

B. The recyclers listed below provided for the convenience of Contractor. No preference is given to the recyclers listed below. Contractor shall contact any additional resources as required to complete the work. Some of the names and numbers may be out of date, and Contractor shall not rely on the information presented in this Section in preparing its Bid or its Waste Management Plan.

1. Cardboard:

   Contact: National Recycling Corporation (510) 268-1022; California Waste Solutions (510) 836-6200; Community Conservation (510) 524-0113. May find the public will remove if made available.

2. Clean, untreated, dimensional wood and pallet wood:

   Contact: California Waste Solutions (510) 836-6200, Waste Management, Inc. (916) 374-2711.

3. Usable Palettes

   Contact: Return to product vendors or recycle: Industrial Pallet (510) 489-4050.

4. Beverage containers:

   Contact: California Waste Solutions (510) 836-6200 .

5. Metals from banding, ductwork, piping, rebar, roofing, steel studs, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze:

   Contact: Alliance Metals (510) 547-2408; Aaron Metals (510) 569-6767; DC Metals (510) 836-2655; Lakeside Non-Ferrous Metals, (510) 444-5466; Waste Management, Inc., (916) 374-2711.

6. Carpet and pad:

   Contact: Return to manufacturer; donate large remnants to Habitat for Humanity (510) 251-6304 or other non-profit.

7. Paint:

Contact, paint recycles: E-Coat, Kelly Moore (916) 921-0165.

Contact, hazardous waste management: Alameda County Household Waste Management Program (800) 606-6606; Safety Clean (510) 832-7942.

8. Insulation:

   Check with manufacturer or installer for take-back programs.

9. Brick:

   Contact, (whole bricks): A Bygone Era; Ohmega Salvage (510) 843-7368.

10. Gypsum Board:

    Contact: Zanker Resource Management (408) 263-2383.

C. The following sources provided for references:

1. BuildingGreen.com
2. California Integrated Waste Management Board
3. EPA Office of Solid Waste and Energy Response
4. Construction Waste Management Handbook

1.7 WASTE MANAGEMENT PLAN

A. Waste Management Plan: Within ten (10) calendar days after receipt of Notice of Award of Bid, or prior to any waste removal, whichever occurs sooner, Contractor shall submit to the District and District's Representative a Waste Management Plan, tailored to this project and site, for review and acceptance. The Plan shall include, but not limited to, the following:

1. The Contractor shall designate an on-site party (or parties) as the Waste Management Plan Program Manager responsible for instructing workers and overseeing and documenting results of implementation of the Waste Management Plan for the Project.
2. Indicate how the Contractor proposes to recover at least 75% of the wastes for reuse and recycling.
3. The Waste Management Plan should coordinate the recovery effort with the construction, and renovation / demolition schedule.
4. Indicate compliance with this specification's section on Quality Assurance.
5. Description of the regular meetings to address waste management.
6. Include a list of reuse facilities, recycling facilities and processing facilities that will be receiving the recovered materials (including take back by District or on-site auctions.)
7. If some of the materials will be donated or sold on-site auctions, describe the process and identify the organizations that may receive the materials.
8. Identify materials that are not recyclable or not recovered which will be disposed of in a landfill (or other means acceptable by the State of California and local ordinance and regulations) and explain why the materials are not recovered.
9. List the permitted landfill, or other permitted disposal facilities, that will be accepting the disposed waste materials.

10. Indicate instances or situations where compliance with the requirements of this specification do not apply or do not appear to be possible.
11. Identify each type of waste material to be reused or recycled and estimate the amount, by weight.
12. Provide estimate of time requirements for demolition and for the removal of valuable reusable items and materials.

B. Revise and resubmit Plan as required by District.

C. Approval of Contractor's Plan will not relieve Contractor of responsibility for compliance with applicable environmental regulations.

1.8 QUALITY ASSURANCE

A. Regulatory Requirements. Comply with applicable requirements of the State of California, local ordinances and regulations concerning management of construction, clearing, and inert materials.

B. Disposal Site, Recyclers and Waste Materials Processors. Use only facilities properly permitted by the State of California, and/or by local authorities where applicable.

C. Pre-Work Waste Management Meeting.

1. Prior to beginning work at the site, schedule and conduct a meeting to review the Waste Management Plan and discuss procedures, schedules, coordination and specific requirements for waste materials recycling and disposal. Discuss coordination and interface between Contractor, sub-contractors, architect, engineers, project manager, District, and other waste management activities. Identify and resolve problems of compliance with requirements. Record minutes of the meeting, identifying conclusions reached and matters requiring further resolution. Maintain waste management as an agenda item at future construction meetings.
2. Attendees: Contractor and related contractor personnel associated with work of this section, including personnel in charge of the waste management program; Waste Management Plan Program Manager; architect; engineers; material and equipment suppliers where appropriate; and such additional District personnel as District deems appropriate.
3. Plan Revision: Make revisions to Waste Management Plan agreed upon during the meeting and incorporate resolutions agreed to be made subsequent to the meeting. Submit revised plan to architect or the District personnel as District deems appropriate for approval.

1.9 RECYCLING PROGRAM

A. The recycling program could utilize one or a combination of any of the following common waste diversion strategies:

1. Sources Separation
2. Time-Based Separation
3. Commingled or Off-site Separation

4. Back haul of packaging
5. On-site sales auctions and removal.

B. Waste Material management hierarchy can be viewed as: reuse on-site, recycle on-site, reuse off-site, and recycle off-site.

1.10 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Plan Distribution:

1. Contractor shall provide copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, job site Superintendent, Project Inspector, Project Manager, District, Construction Manager, and Architect or Engineer.
2. Contractor shall provide Waste Management Plan to include, but not limited to, the following:

B. Instruction: Contractor shall 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 and/or phases of the Project.

C. Meetings: Contractor shall conduct Construction Waste Management meetings. Meetings shall include all subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at the following meetings:

1. Pre-bid meetings.
2. Pre-construction meeting; (including pre-construction meeting for each phase of Project)
3. Regularly scheduled job-site meetings.

D. Separation Facilities: Contractor shall designate a specific area or areas to facilitate separation of materials for potential reuse, salvage, recycling, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid co-mingling of materials. Bins shall be protected during non working hours from offsite contamination. Secure waste collection areas to protect from wind, access, rain, run off, ground contamination, etc.

E. Materials Handling Procedures: Materials to be recycled shall be protected from contamination, and shall be handled, stored and transported in a manner that meets the requirements set by the designated facilities for acceptance.

1.11 PROGRESS DOCUMENTATION

A. Provide the Waste Program Manager with delivery receipts for the recovered materials and waste materials sent to the permitted recycling facilities, processing facilities, or landfill with the following information on a form to be approved by the District:

1. Name of firm accepting the recovered materials or waste materials
2. Specify type of facility (e.g. retail facility, recycler, processor, Class III landfill, MRF)
3. Location of the facility
4. Type of materials
5. Net weights (or volume) of each type of material

6. Date of delivery
7. Value of the materials or tipping fee paid

B. Document on form shall be reviewed and approved by District and Architect.

C. Application for Progress Payments: Contractor shall submit with each Application for Progress Payment a Summary of the project waste generated. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The District and its representatives shall not be responsible for delay Progress Payment. With each Application for Payment, submit required Progress Documentation, including.

1. manifest,
2. weight tickets,
3. receipts,
4. and invoices specifically identifying the project and waste material.

D. Record Submittals: With Record Submittals as specified in Section 01330, submit the following:

1. Summary of solid waste disposal and diversion. Submit on form preapproved by District and Architect.
2. Estimate of total Project waste to be generated; name of the landfill(s) where Project waste would normally be disposed of.
3. Estimate of amounts (weight, feet, square yards, gallons, etc.) All waste categories listed.
4. Estimate of net cost revenue or additional costs resulting from separating and recycling, (versus land filling), each material. Net means that the following have been subtracted from the cost of separating and recycling:

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 STORAGE AND HANDLING:

A. Site Storage

1. Remove materials for recycling and recovery from the work locations to approved containers or storage area as required. Failure to remove waste or recovered materials will be considered cause for withholding payment and termination of Contract.
2. Position containers for recyclable and recoverable waste materials at a designated location on the Project Site. If materials are sorted on site, also provide a sorting area and necessary storage containers.
3. Change-out loaded containers for empty containers, as demand requires.

4. If recovered materials are stored on-site for project duration provide adequate security from pilferage.

B. Handling

1. Deposit indicated recyclable, and recoverable materials in storage areas or containers in a clean (no mud, adhesive, solvents, petroleum contamination), debris-free condition. Do not deposit contaminated materials into the containers until such time as such materials have been cleaned.
2. Insure all recovered materials are made safe for handling and storage.
3. If the contamination chemically combines with the material so that it cannot be cleaned, do not deposit into the recycle containers. In such case, request resolution by the C&D Quality Manager for disposal of the contaminated material. Directions from the C&D Quality Manager do not relieve the Contractor of responsibility for compliance with all legal and regulatory requirements for disposal, nor shall such directions cause a request for modification of the Contract.

3.2 PROJECT CONDITIONS

A. Site Condition:

1. Signs and instructions should be clear, and easy to understand. All recycling containers should be clearly labeled and lists of acceptable and unacceptable materials will be posted throughout the site. Whenever possible, they should be in multiple-languages, especially in Spanish, and in graphic symbols.
2. The Contractor shall ensure the safety of all personnel involved in the waste management process.
3. A site management plan shall be created including: work areas, materials processing areas, materials storage and disposal areas, worker hand-washing and changing stations, first aid and medical information.

END OF SECTION 01505