



The National Park Service EnviroFact Sheet

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Managing Construction & Demolition (C&D) Waste (SW-4) **DRAFT**

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C&D Waste is defined by EPA as waste material that is produced in the process of construction, renovation or demolition of structures. Structures include buildings of all types (both residential and non-residential) as well as roads and bridges.

Components of C&D debris typically include concrete, asphalt, wood, metals, rebar, gypsum wallboard, roofing, and fixtures.

Many of these materials can be recycled. Recycling C&D materials from demolition and renovation projects is more economical than disposal and can result in reduced project costs.

Included among C&D wastes may be "special wastes." Special wastes may have particular health, safety, and environmental concerns. These include asbestos-containing materials (e.g., floor tile, plumbing insulation, and roofing), materials with lead-based paint (e.g., siding, walls, furniture, and cabinetry), lighting wastes (e.g., PCB-containing ballasts), and appliances and other equipment (e.g., refrigerators and air conditioning compressors containing refrigerants and oils). (See related EnviroFact Sheets for more information on how to manage these materials).

APPLICABLE REGULATIONS

Construction and demolition (C&D) waste may be sent to either municipal solid waste landfills (MSWLF) or C&D landfills (landfills devoted exclusively to C&D waste). MSWLFs are subject to EPA regulations under 40 CFR 258. C&D landfills are regulated primarily by state and local governments. However, EPA bans disposal of some wastes at C&D landfills. For example, C&D debris containing lead or asbestos should not be sent to a C&D landfill.

State C&D landfill regulations vary widely from state to state. Some states require C&D landfills to meet MSWLF regulations, and others set separate regulations altogether.

Recycling or reuse of C&D material can help parks meet the waste prevention and recycling requirements under (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (see "Reuse/Disposal" below)

HANDLING

Handling C&D waste may require workers to take special precautions, such as using personal protective equipment (PPE) to prevent injury. For example, asphalt may contain carcinogenic components. Always consult your park or regional safety officer for information concerning proper handling and use of PPE.

C&D projects are often conducted by contractors. Therefore, parks should require contractors to develop and implement sound waste recycling and waste minimization procedures. Sample contract language is available from the NPS Denver Service Center (DSC).

Hazardous materials (e.g., lead-based paint) may be removed from the structure prior to deconstruction or demolition activities to minimize special waste handling and disposal requirements for C&D wastes. Qualified personnel, using appropriate health and safety procedures in accordance with regulatory requirements, must conduct these activities.

STORAGE

Areas for the temporary accumulation or storage of C&D wastes should be clearly designated. Drainage controls should be provided to minimize storm water run-off from the areas. Sediment controls may be necessary for debris accumulation areas. Roll-off dumpsters, tarps, and other measures should be used to contain the materials and limit infiltration and damage from precipitation.

REUSE/DISPOSAL

Many C&D materials can be reused on-site (e.g., rubble and road waste). Off-site markets for recovery and reuse are also available for many products. The NPS Denver Service Center has developed a nationwide computerized database of companies that recycle these materials (303-969-2130). Green waste from land clearance activities can be composted. C&D wastes that cannot be recycled, reused, or composted must be disposed of at a **state permitted C&D landfill or MSWLF**.



FOR MORE INFO...

NPS Solid Waste Management Handbook (June 1996)

EPA C&D Debris webpage:
<http://www.epa.gov/epaoswer/non-hw/debris-new/index.htm>



POLLUTION PREVENTION

Many NPS buildings contain valuable, high-quality construction materials (e.g., old growth lumber). As the first step in any demolition project, evaluate whether deconstruction and salvage is possible for the project. Additional recycling tips include:

- Keep waste types segregated to facilitate recycling;
- Minimize land disturbance to reduce land clearance waste; and
- Preserve existing structures when possible.

C&D WASTE COMPLIANCE CHECKLIST

Checklist Item	Notes
1. Ensure that the park or park contractors develop Waste and Recycling Plans for construction and building demolition projects.	
2. Determine if hand-deconstruction and salvage techniques to recover valuable materials are considered for demolition or reconstruction projects.	
3. Determine if pollution prevention opportunities to minimize C&D debris generation and maximize C&D waste reuse and recycling are identified and implemented for all projects. Determine if NPS technical experts and other resources have been consulted. These include the NPS Denver Service Center (303-969-2130) and the Sustainability Coordinator at the Presidio in San Francisco (415-561-4321).	
4. Ensure that wastes that cannot be reused, recycled or composted are properly disposed of in a landfill that is permitted by the state. Ensure that the permit includes the type of C&D waste being generated by the park.	
5. Confirm that C&D wastes are segregated in order to facilitate on-site or off-site reuse or recycling.	
6. Before renovation or demolition activities begin, determine if any hazardous materials or materials requiring special handling are present, such as: <ul style="list-style-type: none"> • Asbestos-containing materials; • Lead pipes and lead paint wastes; or • PCP-containing or PCB-contaminated materials. 	
7. Before renovation or demolition activities begin, ensure that procedures for the proper handling of hazardous or special materials have been developed in project site work plans and in health and safety plans.	
8. Ensure that C&D wastes are properly accumulated and stored to minimize exposure to storm water, and that sediment and vector controls are provided.	
9. Ensure that C&D wastes are transported in vehicles meeting DOT requirements and that the materials are covered and/or bundled so as to prevent spillage during transport.	
10. Ensure that records of C&D debris transport and disposal are maintained to document proper disposal.	
11. Ensure that "green" waste from land clearing activities are composted.	