



*UNIVERSITY OF NORTH CAROLINA*  
**CHARLOTTE**

**SECTION 2**  
**CONSTRUCTION GUIDELINES**

**DIVISION 02B**  
**WASTE REDUCTION & RECYCLING GUIDELINES**

**ANNEX B**

## **WASTE REDUCTION & RECYCLING GUIDELINES**

### **This section represents the supporting documentation referenced in Section 2 – Division 02 – Existing Conditions Building Demolition – Part 3 – Execution 3.4 – Reuse of Materials**

#### **Waste Management Goals**

The University of North Carolina at Charlotte recognizes that there are a number of benefits to implementing waste reduction and recycling practices during construction and demolition projects, including:

- Cost savings for contractors and the University,
- Increased safety and cleanliness at the job site,
- Increased compliance with policies and ordinances.
- Reduce land use and pollution from landfills.

With this information in mind, the University has established that this project shall generate the least amount of waste possible. The Contractor shall implement processes that generate as little waste as possible. Waste materials shall be reused, salvaged, or recycled as much as technologically and locally feasible. The University has established the following goals for diversion of materials from landfill disposal:

- All site preparation/land-clearing debris should be reused on site or sent to a recycling facility. This includes asphalt, concrete, soil, stone, and rock.
- All trees and shrubbery should be ground on site or sent to a mulching/composting facility.
- Divert greater than 50% (by weight) of all construction and demolition waste from landfill disposal. Materials that are reused in the same project can be included in this weight, as long as reuse is documented through weights or estimates. Excavated soil, stone, and rock are not included in this calculation of waste diversion.

Of waste going to landfill, construction and demolition waste must go to an approved construction and demolition landfill. The Contractor is required to submit weight tickets for all waste materials removed from campus. If weight tickets are not possible for a particular class of materials or disposal method, the contractor shall propose a method for deriving weight estimates for the Owner's approval.

#### **Waste Management Plan**

The goal of the University is to increase recycling and decrease waste hauling and disposal impacts. With these goals in mind, the Contractor is required to meet with a representative from the Office of Waste Reduction & Recycling and develop a Solid Waste Management Plan for the project. This plan will include an analysis of recyclable, reusable, and non-salvageable materials to be removed from the project site and will determine the best way for materials to be disposed of based on the scope of the project.

**a) Draft Waste Management Plan:** Within 10 (ten) days after the Notice to Proceed, and before any materials are removed from site, the Prime Contractor shall submit to the Office of Waste Reduction & Recycling a draft waste management plan containing the following.

- I. Waste Assessment: A list of materials the contractor(s) will be handling based on the project scope of work, and whether these materials will be salvaged and reused, recycled, or landfilled. Materials that will be salvaged in the demolition phase and reused in the construction or renovation phase should be included in this section.
- II. List of landfills to be used for waste disposal.
- III. List of recycling or reuse facilities expected to be used.
- IV. A description of how any waste materials to be reused or recycled will be protected from contamination (example: stored in separate location; a separate bin for materials). How will materials be handled to meet requirements for the designated disposal/recycling facilities?
- V. List of haulers to be used for transporting materials (or specify that materials will be self-hauled if the GC will be hauling).

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**b) Final Waste Management Plan:** The owner will review the draft Waste Management Plan within 10 (ten) working days and return it to the Contractor as approved or provide comments for changes and improvements in the Plan. The Contractor will resubmit within 10 (ten) working days. Once the Plan is approved it becomes the Project Waste Management Plan.

**c) Waste Management Plan Implementation**

- I. The Contractor shall designate an on-site party responsible for instructing workers, overseeing, and documenting results of the Waste Management Plan for the project. This contact will notify the Office of Waste Reduction & Recycling immediately should any deviance from the Waste Management plan be necessary.
- II. The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foremen, Subcontractors, and the Owner.
- III. The Contractor shall provide on-site instruction regarding appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- IV. The Contractor shall designate and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
- V. Hazardous wastes shall be separated, stored, and disposed of according to Federal and State regulations.
- VI. Documentation: The Contractor shall submit a monthly waste management report (see Waste Removal Reporting Form at the end of this document). Failure to submit this information shall render the Application for Payment incomplete and shall delay payment. The Summary shall be submitted on a form acceptable to the Owner and shall contain the following information:
  - i. The amount (in tons) of material landfilled from the project, the identity of the landfill, and copies of weight tickets.
  - ii. For each material recycled, reused, or salvaged from the Project, the amount (in tons), the date removed from the jobsite, and the receiving party must be provided. Weight tickets (or alternate weight estimate documentation) must be attached.

**Project Meetings:**

Waste management goals and reporting will be discussed at:

- Pre-Bid Meeting
- Pre-Construction Meeting
- Monthly SCO Meetings

**Resource Efficiency**

The Contractor shall use resources as efficiently as possible, in completion of the project. Namely Owner shall require the Contractor to:

- Use techniques that minimize waste generation
- Reuse and renovate existing structures in lieu of demolition
- Salvage materials and items for reuse/resale
- Reuse materials on site where possible
- Recycle waste generated during the demolition and construction process

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**Reuse and Recycling Standards**

The following is a partial list of easily recycled materials from construction & demolition. Depending on the scope of work, other materials may also be deemed recyclable or reusable.

Material	Recyclable	Reusable
Aluminum cans	✓	
Asphalt	✓	
Brick	✓	✓
Cardboard	✓	
Carpet/floor tiles	✓	✓
Ceiling Tiles	✓	✓
Concrete	✓	✓
Soil		✓
Glass bottles	✓	

Material	Recyclable	Reusable
Land clearing debris	✓	
Metal	✓	✓
Pallets	✓	✓
Paper	✓	
Plastic Bottles	✓	
Sheetrock (unpainted)	✓	
Wood (untreated/unpainted)	✓	✓
Trees/Shrubs	✓	✓

In addition to recycling, the University encourages the following reuse and waste reduction practices:

- On-site grinding of tree waste.
- Reuse of clean topsoil or subsoil.
- Reuse of clean topsoil or sub soil.
- Salvaging doors and windows.
- Salvaging plumbing fixtures and pipes (provided they don't contain lead).
- Salvaging electrical fixtures and wiring.
- Salvaging mechanical equipment.

Removal of debris is included in the project bid, and the contractor is responsible for any costs and labor incurred. The contractor may not place this debris in University dumpsters. The Owner, acting through the Designer, shall retain the right to direct the disposal of salvageable and recyclable equipment and materials (such as metals, cardboard, plastics, paper, glass, and blueprints). The Owner may direct the delivery of salvaged equipment and materials to a University location or a local non-profit organization.

For all demolition or renovation work that removes serviceable, repairable, or otherwise recoverable equipment or materials (such as metals, cardboard, plastics, paper, glass, and blueprints), the Contractor shall certify that he or she has exercised every practical means of recovery or salvage. (Note: This is in addition to the required recyclables).

**Please review the Waste Removal Reporting Form included on the next page.**

**Note:** A fully active Excel **Waste Removal Reporting Form** with preset calculating fields is accessible using the "link" address in blue font below, which takes you to a Google Sheets document.

Within Google Sheets, go to "File" (on upper far left menu), go down to "Download", select "Microsoft Excel (.xlsx), name your document, it is ready for use.

[https://docs.google.com/spreadsheets/d/1UoBF0gm8t43kO0aBO719j\\_L1GPCC5UhaPoHP68Sat4s/edit#gid=0](https://docs.google.com/spreadsheets/d/1UoBF0gm8t43kO0aBO719j_L1GPCC5UhaPoHP68Sat4s/edit#gid=0)

# Waste Removal Reporting Form

Project Name:

Job Site:

Contractor Name:

Sub-Contractor:

Date:

## 1 Project Wastes Sent to Landfill

Landfill Site:	Quantity - LS: (tons)	Materials Being Landfilled	Explain Presence of Divertible Materials
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

A  A

## 2 Project Wastes Diverted from Landfill

Material Type:	Quantity - MT: (tons)	Material handling Procedure *	Destination & Means of Transport:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

B  B

## 3 Meetings Held to Address Waste Management

<ol style="list-style-type: none"> <li>1. Preconstruction Meeting</li> <li>2. Monthly Construction or LEED Meetings</li> </ol>
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Material handling Procedure *
Was the Material ?
Recycled
Reused on Site
Returned to Vendor for Recycling or Reuse
Other - Please Specify

## 4 Progress to Date on Exceeding 50% Diversion

<b>A</b> Total Project Waste to Landfill (tons):	<input type="text"/>	<b>A</b>
<b>B</b> Total Project Waste Diverted (tons):	<input type="text"/>	<b>B</b>
<b>C</b> Diversion Rate Percentage: **	<input type="text"/>	<b>C</b>

\*\* The calculation for "Diversion Rate Percentage" line C above is an example only.

\*\* The calculation can be made by the formula:  $B / (A + B) = \text{Diversion Rate}$ .

Return Completed Sheet to: <b>Shannon Caveny-Cox</b> Email: <a href="mailto:sccaveny@uncc.edu">sccaveny@uncc.edu</a>	<b>UNC Charlotte Recycling</b>
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**Link to Waste Removal Reporting Form:**

[https://docs.google.com/spreadsheets/d/1UoBF0gm8t43kO0aBO719j\\_L1GPCC5UhaPoHP68Sat4s/edit#gid=0](https://docs.google.com/spreadsheets/d/1UoBF0gm8t43kO0aBO719j_L1GPCC5UhaPoHP68Sat4s/edit#gid=0)



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