

## **ATTACHMENT “N” LEED PROJECT PROCEDURES**

1. All subcontractors, sub-subcontractors and suppliers at all tiers are to include the following items in their trade scope of work:
  - a. Submit data and documentation as requested by Contractor in order to support the LEED certification process. In the event that Subcontractor fails to provide required documentation, within two weeks of receipt of written request from Contractor, Subcontractor shall be deemed in default of Subcontract.
  - b. Submittal documentation required from Subcontractor is stipulated in the LEED Materials Information Sheet, Exhibit I. This form is to be completed as part of Subcontractor submittals package.
  - c. Comply with Waste Management Plan as described in Exhibit II.
  - d. Comply with Indoor Air Quality Management Plan as described in Exhibit III.
  - e. Subcontractor is required to submit proof of FSC Chain of Custody certification for all wood-based materials furnished and/or installed that are specified in the construction documents to be Forest Stewardship Council (FSC) Certified. See Exhibit I. In the event that Subcontractor fails to provide FSC Chain of Custody certification, Subcontractor shall be deemed in default of Subcontract.

# ATTACHMENT "N"

## EXHIBIT I: LEED MATERIALS INFORMATION SHEET

**Submit to Harbison-Mahony-Higgins Builders, Inc.** Page \_\_\_ of \_\_\_

<b>Project Name:</b> _____ <b>Job Number:</b> _____ <b>Subcontractor:</b> _____  <b>Material/Product Name:</b> _____ <b>Contract Materials Cost:</b> _____ <b>Contract Wood Cost:</b> _____ <b>Description of work scope:</b> _____	<u>Submittal Instructions:</u> 1. Photocopy this material information sheet and attach it to the manufacturer's literature that verifies the information stated below. 2. This material information sheet and the manufacturer's literature are to be turned in as part of your complete submittal package. 3. Calculating Cost ... materials please see
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### MR Credit 3 - Materials Reuse

List Materials Reuse specifics here:			
Vendor	Product	Material Value (\$)	Information Source

### MR Credit 4 - Recycled Content

List Recycled Content description here:				
Vendor	Product	% Post-consumer	% Pre-consumer	Information Source

### MR Credit 5 - Regional Manufacture & Material Harvest

List Regional Material specifics here:				
Vendor	Product	Manufacturing: (mi)	Extraction/ Recovery: (mi)	Information Source

### MR Credit 6 - Rapidly Renewable

List Rapidly Renewable specifics here:				
Vendor	Product	% Rapidly Renewable	Harvest Cycle (yrs)	Information Source

### MR Credit 7 - FSC Certified Wood

For <i>all</i> wood-based products:				
Vendor	Product	FSC Certified? (Yes/No)	FSC Chain of Custody No.	% FSC Materials

**ATTACHMENT “N”**  
**EXHIBIT 1a: DEFINITION OF TERMS FOR ATTACHMENT “N”**

**Materials Reuse**

Materials Reuse is defined as building materials that have been salvaged and/or refurbished for reuse. The cost of Materials Reuse will be the higher of either actual cost paid or replacement value, if the material came from onsite. The replacement value is determined by pricing a comparable material in the local market.

**Recycled Content**

**Post Consumer Material**

Post-consumer material is defined as waste material generated by end-users of a product, which can no longer be used for its intended purpose.

**Pre-Consumer Recycled Material**

Pre-Consumer Recycled Material is defined as material diverted from the waste stream during the manufacturing process. Excluded is material that is reclaimed and reused within the same manufacturing process that generated it.

**Regional Manufacture and Material Harvest**

Regionally Manufactured and Harvested Materials are defined as materials that are sourced (via harvest, extraction or recovery) *and* manufactured within 500 miles of the project site. Point of manufacture is defined as the location of final assembly.

**Rapidly Renewable**

Rapidly Renewable Materials are defined as materials that come from plants that have a ten year harvest cycle or shorter.

**FSC Certified Wood**

FSC certified wood is defined as wood-based products that are certified by the Forest Stewardship Council as being grown, harvested and manufactured in an environmentally sustainable manner.

**Wood-based Components**

Wood-based components are permanently installed items and include, but are not limited to, structural and dimensional framing, flooring, subflooring, and wood doors and finishes.

At the discretion of the project team, wood-based products may be defined to include furniture and wooden concrete forms.

**FSC Chain of Custody**

Chain of custody certification is awarded to companies that manufacture and/or sell products made of certified wood after FSC audits verify proper accounting of material flows and proper use of FSC name and logo.

**ATTACHMENT “N”**  
**EXHIBIT 1b: CALCULATION METHOD FOR ATTACHMENT “N”**

Assigning Individual Material Value within Assembled Products

Assembled products are defined as all products composed of multiple materials.

In the case of an assembly, only the material value of the LEED attribute in the assembly can be applied towards LEED credits. For material costing purposes, LEED attributes include:

- Materials Reuse
- Recycled Content
- Regional materials
- Rapidly Renewable Materials
- FSC wood

The value of a LEED attribute within an assembly is assigned according to the relative weight of the LEED item compared to the weight of the overall assembly. For example, in a wooden kitchen cabinet assembly if only the drawers are FSC certified then only the value of the drawers can be counted towards the LEED FSC wood point.

In this case, the value of the drawers is determined as follows:

{ Weight of the Drawers/Total Weight of the Kitchen Cabinet Assembly } x

Total Material Cost of the Kitchen Cabinet Assembly = Material Value of FSC drawers

If FSC drawers comprise one fifth of the total assembly weight, and the material cost of the entire cabinet assembly is \$15,000 then the FSC value of the assembly due to the drawers is  $1/5 \times \$15,000 = \$3,000$ .

**ATTACHMENT “N”**  
**EXHIBIT II: CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN**

Harbison-Mahony-Higgins Builders, Inc.

Project Name: \_\_\_\_\_

Job Number: \_\_\_\_\_

Project Manager: \_\_\_\_\_

Waste Hauling Company: \_\_\_\_\_

Contact Name: \_\_\_\_\_

All Subcontractors shall comply with the project's Construction Waste Management Plan.  
All Subcontractor foremen shall sign the CWM Plan Acknowledgement Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to a deductive change order or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to a deductive change order or withheld payment, as deemed appropriate.

1. The project's overall rate of waste diversion will be: \_\_\_\_ %.
2. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.
3. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the HMH LEED Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. Each Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgement Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.
5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner, or donated to charity if feasible.
6. [HAULING COMPANY] will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to [Sorting Facility Name and Location]. The average diversion rate for commingled waste will be \_\_\_\_%.  
As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g. concrete and wood waste) to ensure the highest waste diversion rate possible.

7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required for LEED, then a strategy of source-separated waste diversion will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal
8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on the waste diversion rate being achieved on the project. [HAULING COMPANY's] monthly report will track separately the diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project, the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.
9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING COMPANY] waste diversion data for their debris boxes.
10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.
11. Debris from jobsite office and meeting rooms will be collected by [DISPOSAL SERVICE COMPANY]. [DISPOSAL SERVICE COMPANY] will, at a minimum, recycle office paper, plastic, metal and cardboard.

**Project Name:** \_\_\_\_\_  
**Job Number:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Waste Hauling Company:** \_\_\_\_\_

**Harbison-Mahony-  
 Higgins Builders, Inc.**



**Construction Waste Management (CWM) Plan**

Waste Material Type	Diversion Method:		Projected Diversion Rate
	Commingled and Sorted Off-site	Source Separated Onsite	
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid Insulation			
Fiberglass Insulation			
Acoustic Ceiling Tile			
Gypsum Drywall			
Carpet/Carpet Pad			
Plastic Pipe			
Plastic Buckets			
Plastic			
Hardiplank Siding and Boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable, batteries, toner cartridges, and electronic devices			
Other:			
Other:			
Other:			
Other:			



**ATTACHMENT “N”**  
**EXHIBIT III: INDOOR AIR QUALITY PLAN – DURING CONSTRUCTION**

Harbison-Mahony-Higgins Builders, Inc.

Project Name: \_\_\_\_\_

Job Number: \_\_\_\_\_

All Subcontractors shall comply with the project's Indoor Air Quality (IAQ) Plan. Subcontractors who fail to comply with the IAQ Plan will be subject to a deductive change order and/or withheld payment, as deemed appropriate.

**Purpose:**

Prevent and mitigate any hazardous air quality conditions that may arise from construction operations during the project.

**Scope:**

1. Protect absorptive materials (such as drywall and carpet) that are either stored onsite or installed from moisture intrusion.
2. Replace all air handling filtration media immediately prior to occupancy. If air handlers are used during construction (excluding start-up procedures), then filters with a MERV 8 rating or greater will be installed at each return air grille and all filtration media will be replaced immediately prior to occupancy.
3. The project's Indoor Air Quality (IAQ) Plan will follow the five measures described in SMACNA's IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3. (The five SMACNA measures are outlined on the following page.)

Photographs will be taken by the HMM LEED Coordinator throughout the construction process (a minimum of six pictures on three separate occasions) to demonstrate compliance with the IAQ plan.

## **SMACNA IAQ STRATEGIES TO BE IMPLEMENTED ON THE PROJECT:**

### **i. HVAC Protection**

- Protect HVAC equipment from dust and odors. Seal all duct and equipment openings with plastic.
- If feasible, do not operate the permanently installed HVAC system during construction.
- If the air handling system must be used during construction, protect the return/negative pressure side of the system from contamination
- If the returns cannot be closed off, install a minimum of MERV 8 filters at each return grille.
- If an unducted plenum is used, keep the plenum clean and protected from airborne contaminants.
- Upon completion of construction, replace all filtration media immediately prior to occupancy.

### **ii. Source Control, after dry-in**

- At the end of each work day, recover and isolate containers housing toxic and volatile materials so that they can ventilate outside the building.
- Use low VOC (Volatile Organic Compounds) finishes, paints and carpets, as specified in the construction documents.

### **iii. Pathway Interruption**

- When performing work in an occupied building, isolate work areas from occupied spaces to prevent contamination of clean occupied areas.
- Isolation strategies may include erecting temporary barriers and/or depressurizing the work area and/or using 100% outside air to exhaust contaminants.

### **iv. Housekeeping**

- Protect absorptive building materials that are either installed or stored onsite from moisture intrusion.
- Implement a regular cleaning regimen to control contaminants, such as dust from cutting and grinding.
- Any spills are to be promptly cleaned up and disposed of appropriately.

### **v. Scheduling**

- Schedule construction activities to minimize or avoid disruption of occupied areas of the building.
- If necessary, conduct activities with high pollution potential during off-hours, to allow time for ventilation and to protect occupied portions of the building from contamination.
- In the event that the project is pursuing a LEED point for "IAQ Prior to Occupancy" then allow adequate time in the schedule to complete building flush-out or air quality testing as required by LEED.
- Upon completion of construction, replace all filtration media immediately prior to occupancy.