

After the Disaster: Managing the Debris



Northeast Recycling Council, Inc.
www.nerc.org

Background

□ **What is NERC?**

- Non-profit
- 10 Northeast states
- Mission: environmental sustainability through solid waste management

□ **EPA Contract: Develop debris management guide**

- Small businesses and residents
- Tool for communities
- Practical
- 3 Rs & proper disposal

NERC is an equal opportunity employer & provider

Words to the Wise

- ❑ Long after the disaster is gone, the debris remains.
- ❑ You can't reduce the amount of debris, but you can reduce the impact.
- ❑ Government & public preparedness can help!

Disaster Debris Characteristics

□ Resembles C&D

- Wood, concrete, brush, gypsum, glass, insulation, carpet, etc.

□ Also includes:

- Household belongings.
- Household hazardous wastes.
- Appliances, electronics, etc.

Tornado in New Hampshire



Flood Damage



Ice Storm



Snow Storm



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Hurricane Katrina



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New Orleans Landfill after Katrina



Pre-Disaster Planning

- Allows for more cost-effective options.
- Helps avoid mistakes.
- Speeds recovery.
- Assists in obtaining reimbursement from FEMA.
 - Establish policies that support diversion efforts over disposal.

Goals

- Community recovery.
- Divert materials away from landfills or incineration.
 - Salvage
 - Recycling
 - Composting
- Without diversion
 - A disaster can substantially impact disposal capacity.
 - And, costs.

Disaster Debris Management Plan

- ❑ Types of disasters likely.
- ❑ Types & amounts of debris.
- ❑ Resources available.
- ❑ Strategy for handling debris.



Plan, cont.

- Public information.
- Funding.
- Know the FEMA and State requirements.
 - Plan for documenting, tracking, monitoring.
 - Certified volume capacity of municipal & contractor vehicles.
 - Staff/volunteers to monitor, track, & certify all loads.

Resources

- Staff roles.
 - Sources of additional staff, volunteers.
- Available debris removal equipment.
- Mutual aid agreements.
- Haulers and processors.
 - Existing & pre-qualified.
 - Standby contracts.
- CD contractors & processors.
- Recycling, mulching, disposal facilities.

Resources, continued

- Potential markets for materials.
- Agriculture, secondary fuel options.
- HHW & small-quantity generator disposal options.
- Temporary storage (“staging”) & processing sites.
- Reuse options/salvage.
- Public information.

Diversion

- ❑ Works best if coupled with existing recycling, C&D debris, and yard waste recovery programs.
- ❑ Focus on increasing capacity of existing programs to deal with sudden influx of materials.
- ❑ Regional coordination & multijurisdictional agreements.

Immediately after a Disaster

- Focus on debris removal posing an immediate threat.
- Roadway obstructions.
- Unstable structures.
- Hospitals, police and fire stations, shelter areas, residential areas.

Contractors at Work



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Staging Area



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Community Recovery

- Curbside collection, drop-off bins, or combination.
- Source separation
 - Imperative for marketability & diversion.
 - CD/furniture, yard waste, appliances, electronics, scrap metal, HHW.

Public Information

- Public's cooperation is crucial.
- Effective & timely information about the diversion effort.
- How will disaster debris be handled?
 - When will regular refuse/recycling service resume?

Communication Techniques

- ❑ Create Pre-disaster Information—press releases, brochures, guides.
- ❑ Newspaper, TV & radio announcements.
- ❑ Fliers.
- ❑ Internet, Twitter.
- ❑ Telephone: Prepare your staff!

What the Public Needs to Know

- ❑ Safe & effective clean-up.
- ❑ What can be salvaged? How?
- ❑ How should materials be separated?
- ❑ Which materials...Where? When?
- ❑ Storage & transportation of HHW.

Please Separate Your Waste

Waste management recommendations after a natural disaster – 4/2/09

Residents and Small Businesses

As you clean up after a flood, please take steps to protect yourself by wearing waterproof gloves and by washing up with soap afterwards.

If you have a fuel oil tank in your basement, please contact Call Center-218-477-4747.

Flood-Related Material

For Pickup, Check With Your Licensed Waste Hauler

To minimize the impact to the environment please separate items for your waste hauler and/or bring items to the facilities and destinations listed below.

Flier, cont.

- ❑ **1. Large Appliances and Electronics** A. Refrigerators, freezers, ovens, dishwashers, air conditioners, furnaces, washing machines, clothes dryers, etc.—**to Clay County Landfill (appliance corral) for a fee.** B. Televisions, computers and monitors—**to collection sites at Moorhead Transfer Station or Clay County Landfill. Residential only.**
- ❑ **2. Household Hazardous Waste 2729 Hwy 10 E, Moorhead**
Hours: Mon & Wed 8-4pm and 1st Sat. of Month 8-12 Noon
Note: Please put any leaking containers of HHW in a tub or lined box and don't mix wastes together. Keep labels with products or write the name on the container so wastes can be identified and safely handled. **Residents only may bring to HHW Facility: (No Fee) Automotive products**, such as gas, oil, antifreeze, and parts cleaners **Cleaners**, such as bleach, ammonia, oven, toilet and kitchen cleaners **Mercury-containing items**, such as thermometers, thermostats and fluorescent light bulbs **Paints and Solvents**, such as oil, latex, stains, thinners, spray paint, acetone, xylene and toluene **Lawn & Garden products**, such as fertilizers, pesticides, bug and weed killers **Questions:** Please call 299-5077

Flier, cont.

- ❑ **3. Demolition Waste** Sheetrock, wallboard, wood, pipes, wiring, shingles, cement, insulation, lumber, window glass, and any part of the building structure—to Demolition Landfill, north of Hwy 10, Glyndon, (218) 498-2430. (Fee charged.)
- ❑ **4. Municipal Waste** Household garbage, food, lamps, furniture, bedding, clothing, dishes, books, magazines, papers, cardboard, small appliances, housewares, carpet removed from the building, and any asbestos-containing waste—to **Clay County Landfill, address and phone number at top.** (Fee charged.)
- ❑ **5. Woody Waste** Trees, branches, logs, stumps and shrubs—to Mhd Compost Site, Hwy 75 N, just north of 15th Ave. N. (218-979-9516)

Thank you for your cooperation. We appreciate your help. In cooperation with the 651-296-6300 or 800-657-3864 toll-free www.pca.state.mn.us

Disaster Debris Management Guide

- Practical information.
 - Unique
 - Concise
- Tool for communities.
 - Answers to common questions from the public.

Recovery, Recycling, Disposal

- ❑ Appliances, books, brush, carpet, drywall, food, furniture, linens, wood, and more.
- ❑ Guide is posted for free download on the NERC website.
- ❑ Copy available in Word for towns to include local emergency management information.

Sample Guide Listing

- **Brush**—trees, branches, shrubs, and logs
 - *Pre-disaster*: Trim brush away from house. Plan plantings to minimize potential damage to buildings. Keep trees and shrubbery trimmed to help make trees more wind resistant by removing diseased or damaged limbs.
 - *Recovery*: Stack brush, tree limbs, branches and other vegetative materials in pile. Keep separate from other debris.
 - *Mulch*: Use chipper to chip materials on site. Or, take to town mulch facility.

Don't Wait!

- ❑ Make a plan.
- ❑ Prepare for implementation.
- ❑ Document, document, document.
- ❑ Monitor implementation.



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