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Solid Waste Section

Asheville Regional Office

**Henderson County Household Hazardous Waste Facility  
Operations Plan**

APPROVED DOCUMENT

Division of Waste Management

Solid Waste Section

Date **September 4, 2008** By **LY Frost**

~~1.0 Introduction~~

The purpose of this plan is to define a standard operations procedure for Henderson County Landfill to operate an on-site, Household Hazardous Waste (HHW) program. This plan should be utilized by personnel that have been trained to a minimum, at the **operations level** according to the OSHA 1910.120 standard also known as the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. This involves undergoing twenty four hours of hands - on and classroom training. Please see the Contingency Plan (Appendix A)

## **2.0 Facility Preparation**

Prior to the scheduled HHW collection, Henderson County personnel should complete the following checklist;

- Check drive thru and post signage such as No Smoking, Stay in your vehicle...
- Set up tables and cover them in plastic.
- Place fire extinguishers under tables.
- Place the emergency air horn (evacuation signal) under table.
- Open storage building and inventory contents.
- Organize work area. Example, locate drums in a convenient area for processing and make sure they are labeled.
- Make safety supplies available in a convenient area. Safety supplies such as gloves, Tyvek aprons/suits/coats, safety glasses...
- Conduct site safety meeting including a review of emergency facilities and procedures.

## **3.0 Receiving Waste**

Personnel should unload wastes onto tables in the receiving area. This process should remain organized in a manner that prevents incompatible chemicals from mixing, and minimizes potential exposure, slips, trips, falls and spills. If the work area becomes too cluttered personnel should stop vehicle unloading until wastes are segregated and placed in appropriate containers and safe working conditions have been restored. Personnel unloading vehicles should look for labels on containers and if a container is not labeled ask the resident about the contents. Vehicle unloaders should look for leaking containers and provide containment for leaking containers immediately.

Spills associated with leaking containers should be cleaned up immediately. **Any containers that are unknown, in bulging containers, have crystallized or appear to be unstable should be brought to attention of the chemist immediately. Do not move these items prior to having the chemist check them.** Once the onsite chemist has determined the best procedure for processing this waste personnel can resume normal work practices. Personnel Protective Equipment (PPE) should be as follows:

- Unloaders      Level D
- Segregators    Level D with Level C available
- Chemist        Level D with Level C available

### **Personal Protective Equipment**

Personal Protective Equipment (PPE) is necessary when handling hazardous materials to prevent skin contact with harmful substances. Normally, contractor personnel will not be opening containers, so airborne exposures will be minimal. However, PPE is needed to protect persons from spills, broken containers and sharp objects. PPE that is to be worn by contractor personnel are specified according to the Health & Safety Plan. The following states the typical PPE which would be utilized at household hazardous waste collection programs;

#### **Persons Removing Waste from Cars or Pickup Trucks**

- White Tyvek- suits/coveralls
- Safety glasses with side shields
- Chemical resistant gloves with outer leather or other puncture resistant gloves
- Safety shoes
- Traffic vest

NOTE: Depending on the substances being handled, a higher level of PPE including chemical resistant coveralls and appropriate respirators may be required.

#### **Persons Opening containers**

- Chemical resistant coveralls (polyethylene-coated type or equivalent), or splash aprons
- Polyurethane or other chemical resistant safety boots.
- Respirator with organic vapor cartridge and high efficiency particulate air (HEPA) filter if necessary (as determined by the waste material being handled)
- Chemical resistant inner glove and outer puncture-resistant (leather glove)

## Persons Segregating Waste from Vehicles

- Safety glasses
- White Tyvek suits/coveralls
- Safety shoes/ boots
- Respirator (as required for splash or respiratory hazards) Chemical resistant inner glove and puncture resistant outer glove

## Persons Lab Packing Household Hazardous Waste

- Safety glasses (with goggles or full-face shield when necessary)
- White Tyvek or chemical resistant coverall
- Safety boots
- Respirator (as required)
- Chemical resistant inner glove and puncture resistant outer gloves

## 4.0 Segregating Waste

Personnel are unloading wastes onto tables in the processing area and helping segregate these items during the unloading process. There will be a person working at the tables in this area whose job is segregating and packing the wastes as they come into the facility. The wastes should be segregated by DOT hazard class. Please see the Chemical Incompatibilities Chart Appendix B and the Household Hazardous Substance and Primary Hazards List Appendix C. Utilize the charts in the appendices to aid in the following categorization strategy;

- Flammable cubic yard boxes include: 1 gallon containers (or smaller) of adhesives, glues, cement, oil based - paint, paint thinner, sealants, polishes, and strippers. The box should be labeled **OIL BASED PAINT**.
- Non-flammable cubic yard boxes include: 1 gallon (or smaller) containers of; latex paint, latex based sealants, coatings, strippers, polishes, deck cleaner, glues and adhesives. The box should be labeled **LATEX PAINT**. **Non-flammables can go in flammable boxes because it is exempt waste but, flammables are regulated wastes and CANNOT go into the non-flammables boxes.**
- 55 gallon open top Poly drums are suitable for corrosives. The acid drum will contain products with a pH of 0-7 such as muriatic acid. It is important to pH products as they are received and write the pH on the container. Place acids in the acid drum as they are received. Label the drum **ACIDS pH 0-7**. Acids should be segregated into **Organic** and **Inorganic** and should not be placed in the same container.
- 55 gallon open top Poly drums suitable for corrosives. The Alkali drum will contain products with a pH of 8-14 such as oven cleaner and other household cleaners and strippers. It is important to pH products as they are received and write the pH on the

container. Place alkalis in the alkali drum as they are received. Label the drum **ALKALI pH 8-14**.

- The North Carolina Department of Agriculture (NCDA) will take all pesticides, insecticides, rodenticides and lawn care products that have an EPA Registry number free on scheduled dates. Keep these items on the shelves in the storage building and in containers in that same room. Segregate these into liquids and solids. NCDA will not accept fertilizers through this program.
- Reactives and Oxidizers will be handled as they are received in order to assure secondary containment and appropriate storage. Photo chemicals and swimming pool products usually fit into these categories.
- Aerosol cans should be placed into 55 gallon steel open top drums as they are received. This drum should be labeled **FLAMMABLE AEROSOLS**.
- Small flammable containers (16 ounce or less) can be placed in a 55 gallon steel drum labeled **FLAMMABLE LOOSEPACK**. These items may include touch up paints, glues, caulks, epoxies, polishes, waxes, gasoline additives, inks, and various chemicals.
- A small 5 gallon Poly lab pack should be designated for mercury wastes such as thermometers and thermostats. This container should be labeled **MERCURY**.
- Fluorescent light bulbs should be placed in cardboard boxes labeled **UNIVERSAL WASTE LAMP(S)** and kept **CLOSED** except when adding or removing wastes (this is true for 4' & 8' lamps). Compact fluorescents should be placed into a 5 gallon Poly lab pack and labeled **UNIVERSAL WASTE LAMP (S)** also.
- Used oil will be collected or poured in the tank labeled **USED OIL**.
- Used antifreeze should be collected or poured in 55 gallon steel drums labeled **USED ANTIFREEZE**.
- Used automotive and recreational vehicle batteries should be collected on pallets, shrink wrapped and stored in a manner that prevents potential release into the environment.
- Rechargeable batteries should be segregated into lithium ion, nickel/metal hydride, or cadmium categories. Each category may be stored in a 6 gallon lab pack that is appropriately labeled.

Unknown wastes that are received will undergo field screening tests to determine their classification. In the event that field screening measures are not adequate for identification purposes the waste will remain on-site, isolated in a container by itself. If it is necessary for off-site analysis to be performed, contractor personnel will prepare samples for chemical analysis. Contractor personnel will maintain a chain of custody and deliver samples to a state certified laboratory for analysis. Once the analytical results are received, the material will be properly packaged for transport and scheduled for appropriate disposal.

Partially filled containers will remain on-site until adequate amounts are collected and properly packaged for transport. At the end of each collection event all materials will be properly packaged and safely stored in accordance with state and local fire codes until the next collection or transportation whichever comes first.

If pumping, pouring, or bulking of wastes is required, grounding and explosion-proof equipment will be used as needed. For lab pack and bulk packaged waste, all containers will meet DOT specifications, as far as type, and size most appropriate for the specific waste type and planned method of treatment or disposal. Wastes will be packed in either fiber, plastic, or steel containers of open or closed-head types in sizes ranging from 5-gallon pails to 1 cubic yard boxes.

## **5.0 Packing and Labeling**

The Project Manager for your contractor will assist with packing, labeling, transporting, placarding, manifesting and disposal. When packing waste remember that waste must be packed in a suitable DOT - approved container that is compatible with the waste. When packing wastes the following containers will be used;

- DOT - approved for shipping hazardous materials, triple walled cubic yard boxes with poly liners.
- DOT - approved open top steel drums with bungs, ring and gasket.
- DOT - approved open top poly drums with bungs, ring and gasket.

The container will have at least one 4" X 4" DOT diamond indicating the appropriate hazard class. If the container contents have more than 1 hazard then there will be more than 1 label with the primary hazard label being placed above the secondary hazard. For example acetic acid is an organic acid that is both acidic and flammable. A drum of acetic acid would have a primary hazard of corrosive and a secondary hazard of flammable. When labeling this drum the corrosive label would be first and on top then the flammable label would be placed beneath and to the right. Please see the DOT Hazard Classes listed below;

- Class 1 Explosives
- Class 2 Flammable, Non-flammable and poisonous Gases
- Class 3 Flammable and combustible liquids
- Class 4 Flammable solids, spontaneously combustible materials, and dangerous when wet materials.
- Class 5 Oxidizers and organic peroxides
- Class 6 Poisonous materials and infectious substances.
- Class 7 Radioactive materials
- Class 8 Corrosive materials.
- Class 9 Miscellaneous hazardous materials.

The majority of the waste coming into the facility will be class 3 flammable and combustible liquids class 6 poisonous materials and infectious substances and class 8 corrosive materials. The operations permit issued by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management (DWM) forbids the acceptance of explosives, Biohazardous waste, and radioactive materials. The wastes will also have a Non-Hazardous Non-Regulated label or a Non-Hazardous Waste label on each container to the left of the DOT hazard class diamond. The Non-

Hazardous Waste label is a 6" X 6" square that includes the waste description and generator information such as address, EPA ID # and phone number. The waste description should include the name such as oil based - paint; DOT hazard class, packing group, and Emergency Response Guidebook (ERG) guide number. This information will also be required on the manifest.

For any necessary lab packing, wastes will first be segregated according to DOT hazard class, then by chemical compatibility and by acceptance criteria of specific waste recycling, treatment, or disposal facilities. An absorbent material such as vermiculite will be used to surround inner containers, prevent breakage, absorb any leaking materials, and prevent release from the outer shipping container. Each inner container will be recorded on container content forms, providing a complete report of the contents of any drum.

Whether lab pack or bulk, the filled drums will be closed, labeled, and marked in accordance with DOT and EPA shipping requirements, and the proper information will be recorded on the manifest. The generator's notification and certification will also be prepared as required under the land-ban regulations if applicable.

## **6.0 Storage and Accumulation**

The Henderson County Permanent HHW Collection Facility will be designed and constructed to ensure safe and efficient operation. According to state guidance concerning the storage of ignitable and reactive wastes, the structure will be located at least 50 feet from the facility's property line. The storage building will be segregated from other operational areas of the solid waste facility in order to minimize damage in the event of a fire. The location of the HHW facility relative to other operational areas is shown on the enclosed map.

As required for safety and environmental protection the structure will be:

- Designed to contain spills and leaks
- Covered to exclude rainwater
- Secured to control access
- Constructed in accordance with all applicable National Fire Protection Association codes

The storage building will be designed to accommodate the temporary accumulation of several classes of hazardous materials.

In accordance with state requirements for temporary storage, the date upon which each period of accumulation begins will be clearly marked and visible on each container. A complete inventory log of materials will be kept on-site.

Storage time may vary according to the volume of wastes received. The contractor will schedule removal of waste as necessary to minimize expense while still complying with the applicable regulations and safety considerations. Wastes will not be stored longer than 180 days without written permission from the NC DENR Division of Solid Waste Management.

## **7.0 Provisions for Ignitable, Reactive, or Incompatible Wastes**

Facility and contractor personnel will use special precautions to protect ignitable or reactive wastes from sources of ignition or reaction. These wastes will be separated from other wastes being stored in the collection facility. Any ignitable or reactive wastes will be protected from possible sources of ignition or reaction, including but not limited to: open flames, hot surfaces, frictional or radiant heat, and spontaneous ignition [e.g., from heat-producing chemical reactions). Any tools used for equipment maintenance in areas containing ignitable wastes will be of a non-sparking type.

Maintenance activities such as welding or cutting, which potentially could generate sparks or open flame, will be allowed only by special permission of the contractor's Project Supervisor or designee. This permission will be granted only after the area has been inspected and tested for flammable vapors, and all ignitable or reactive materials have been removed or protected.

Policy will prohibit smoking or open flame within or near the storage building. "No Smoking" signs will be placed at the entrance to unloading and storage areas and will be conspicuously placed wherever there is a direct hazard from ignitable or reactive wastes. Areas in which ignitable materials are stored will require the use of explosion-proof equipment and lighting. Proper grounding will be maintained in order to dissipate any accumulation of static charges generated by the movement of hazardous liquids in pouring or bulking operations.

Regarding incompatible wastes, the following special provisions apply:

- Incompatible wastes will not be placed in the same container;
- Hazardous wastes will only be placed in new, unused containers or in containers cleaned and reconditioned by a licensed manufacturer (and labeled as such);
- A storage container holding a hazardous waste that is Incompatible; with any waste or other materials stored in close proximity will be separated from them by containment structures such as built-up curbs or will have secondary containment such as drip pans constructed of steel or polyethylene.

As a general rule, the handling and storage of all hazardous wastes (especially any that are ignitable, reactive, or incompatible) will be conducted so that it does not:

1. Generate extreme heat or pressure, fire or explosion, or violent reaction;
2. Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

3. Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
4. Damage the structural integrity of the device or facility containing the wastes; or
5. Threaten human health or the environment.

The procedures to comply with these provisions depend upon:

- Proper identification of waste materials as they are received;
- Segregated storage according to compatible hazard class; and
- No co-mingling, bulking, or combining of incompatible hazard classes.

## 8.0 Manifesting and Transporting

HHW is exempt and should be manifested using a Non-Hazardous Waste manifest. The manifest should include the following information:

- Generator's ID number (this is the facility's EPA ID #).
- Emergency response phone number
- Waste tracking number
- Generator's name and mailing address
- Generator's site address if it is different from the mailing address.
- Transporter name and EPA ID #
- Designated facility name, site address, phone # and facility EPA ID #
- Waste shipping name and description (this will include DOT hazard class, packing group and ERG Guide #).
- The number of containers for each description, container type, total quantity, and the unit weight/volume.
- Any special handling instructions
- **The Generator's Certification** including signature
- Transporter signature
- Designated facility information including signature and certification of receipt of materials

Once the waste has been received by the designated facility and the manifest has been signed by the facility certifying receipt the receiving facility will send a signed return manifest back to the County. This return manifest must be received within 45 days or the County must file an exception report with the NC DENR HWS which will start an investigation of the disposition of the waste. **For this reason it is strongly recommended that in the event the County has not received a signed return manifest from the receiving facility within 30 days they should call the facility and make arrangements to get the appropriate documentation from them.**

Once the return manifest has been received it should be stapled to the initial manifest and kept on file for a minimum of 3 years.

When transporting the waste you must use a licensed hazardous waste transporter. The facility generating the waste is equally liable for the waste during transportation as the transporter. Facility personnel will need to verify that all of the information on the manifest is accurate and that the truck is placarded correctly on all 4 sides before allowing the transporter to leave the facility.

## **9.0 Unacceptable Waste**

### **Radioactive Waste**

Smoke detectors are the most likely household waste to contain radioactivity. Residents will be advised by government employees to mail the used smoke detector back to the manufacturers if they are still in business. If the company is no longer in business, then the Nuclear Regulatory Commission recommends landfilling the smoke detector in a municipal solid waste landfill.

Other household wastes are unlikely to have any measurable radioactivity except static eliminators from record players which have a very short life. The Radiation Protection Office of University of North Carolina recommends landfilling these when they become unusable.

### **Explosives**

If explosives are delivered to the facility, the first step will be to immediately assess the possible danger and close the site if necessary until these materials are removed. Henderson County Sheriff's Department will handle any small arms ammunition including rifle, shotgun, and handgun. For any military type explosives, the Sheriff's Department can be contacted to handle explosives.

### **Infectious Waste**

The County will receive sharps if they are packaged in approved collection boxes, and will contract for collection and disposal at an approved facility.

Other, non-sharp, unregulated or regulated medical waste that may show up at the facility may be received by the County, on a case by case basis, and collected and transported by a contractor to be disposed of at an approved medical waste facility. Regulated medical waste will either be treated through steam sterilization, incineration per the regulations of the State, or microwaving which is a new technology, that the State allows for medical waste.

## **10.0 Closure Plan**

When the County decides to close the HHW facility and cease operations all wastes will be removed from the storage areas, packed in accordance with the receiving facility and DOT requirements, transported by an approved hazardous waste transporter to a permitted treatment , storage and disposal facility for appropriate disposal.

Once all waste have been removed and appropriately disposed the County will contact their designated Waste Management Specialist from NC DENR DWM for inspection.