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OPERATIONS MANUAL

Avery County Solid Waste Facility Ingalls, North Carolina Permit No. 06-03

Prepared for:



**Avery County
Newland, North Carolina**

March 2016

Prepared by:

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Avery County Solid Waste Facility
Ingalls, North Carolina
Permit No. 06-03

Operations Manual

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1.0 GENERAL FACILITY OPERATION

1.1 Overview

This Operations Manual was prepared for the Avery County Solid Waste Facility, which operates a construction and demolition debris (C&D) landfill and a transfer station under Permit No. 06-03. The Avery County Solid Waste Facility is located at 2275 Brushy Creek Road, in Ingalls, NC as shown on the Site Vicinity Map, included as **Figure 1**. The landfill facility is located on approximately 80 acres owned by Avery County. This document discusses the operations of the landfill unit and other solid waste management activities:

- Scales and scale house facilities;
- Construction and Demolition Debris (C&D) landfill;
- Mobile home deconstruction Area;
- White Goods Area;
- Recycling Recovery Areas;
- Asphalt Shingles
- Asbestos-Containing Material (ACM) handling and
- Transfer Station.

Refer to the facility map, **Figure 2**, for the location of existing and proposed landfill units and other solid waste management activities.

The information contained herein was prepared to provide the facility with a clear understanding of how the Design Engineer assumed that the completed facility would be operated. While deviations from the operations outlined here may be acceptable, they should be reviewed and approved by the Design Engineer. Please refer to the appropriate permit application for a detailed discussion and calculations for the individual components of each landfill unit, including phasing plans.

1.2 Contact Information

Correspondence and questions concerning the operation of the Avery County Solid Waste Facility should be directed to the appropriate Operator and State personnel listed below. For fire or police emergencies, dial 911.

1.2.1 Avery County

Avery County Landfill and Scalehouse

Physical Address: 2175 Brushy Creek Road
Ingalls, North Carolina 27610

Mailing Address: 2175 Brushy Creek Road
Spruce Pine, North Carolina 28777

Scale House Phone: (828) 765-7852

Avery County Solid Waste Department (Office)
Address: 175 Linville Street
Newland, North Carolina 28657
Phone: (828) 737-5420

Solid Waste Director: Eric Foster
Email: avery.sw@averycountync.gov

1.2.2 North Carolina Department of Environmental Quality

North Carolina DEQ - Raleigh Central Office (RCO)
217 West Jones Street
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
Phone: (919) 707-8200
Fax: (919) 707-8200

North Carolina DEQ - Asheville Regional Office (ARO)
2090 U.S. Highway 70
Swannanoa, North Carolina 28778
Phone: (828) 296-4500
Fax: (828) 299-7043

Division of Waste Management (DWM) - Solid Waste Section:
Permitting Branch Head: Edward Mussler III, P.E. (RCO)
Email: ed.mussler@ncdenr.gov
Environmental Engineer: Allen Gaither (ARO)
Email: allen.gaither@ncdenr.gov
Field Operations Branch Head: Jason Watkins (WSRO)
Email: jason.watkins@ncdenr.gov
Western District Supervisor: Deb Aja (ARO)
Email: deborah.aja@ncdenr.gov
Environmental Senior Specialist: Bill Wagner (ARO)
Email: bill.wagner@ncdenr.gov
Hydrogeologist: Perry Sugg (RCO)
Email: perry.sugg@ncdenr.gov

Division of Energy, Mineral and Land Resources- Land Quality Section

Address: 800 Barrett Drive
Raleigh, North Carolina 27609
Phone: (919) 791-4200
Fax: (919) 571-4718

Regional Engineer: Stan Aiken, P.E. (ARO)
Email: stan.aiken@ncdenr.gov

1.3 Facility Operations

1.3.1 Facility Operating Hours

Normal hours of operation are 8:00 A.M. and 4:30 P.M. Monday to Friday and 9:00 A.M. to 1:00 P.M. Saturday. The facility will be closed on Sundays and holidays designated by the County.

In the event of disaster or other emergency situations the supervisor will request approval from the commission's regional office to allow additional temporary operating hours.

1.3.2 Operating Capacity

The operating capacity for the solid waste facility is estimated to be approximately 15,000 tons per year (~50 tons per day based on 312 operating days per year) for the transfer station, 10,000 tons per year of C&D waste, and an allowance of up to two mobile homes on-site at one time for deconstruction purposes.

1.3.3 Service Area

The service area for the facility includes both North Carolina and Tennessee counties as shown in **Figure 3**.

North Carolina counties: Avery County, Burke County, Caldwell County, McDowell County, Mitchell County, and Watauga County.

Tennessee counties: Carter County, Johnson County, and Unicoi County.

1.3.4 Disposal Facility

The anticipated disposal facilities for the transfer station (subject to change) include the following facilities:

1. Bristol Integrated Waste Management Facility, Bristol, VA - Permit No. 588
2. Iris Glen Environmental Center, Johnson City, TN –
Permit No. SNL-901040262
3. Caldwell County Foothills Landfill, Lenoir, NC - Permit No. 14-03
(NC Originated Wastes Only)

In the event that new disposal facility agreements are negotiated other than the list (above), the facility will provide a notice to the DWM within 30 calendar days and a permit modification may be required.

1.4 Access Control

Limiting access to the Avery County Solid Waste Facility is important for the following reasons:

- Unauthorized and illegal dumping of waste materials is prevented.
- Trespassing, and injury resulting therefrom, is discouraged.
- The risk of vandalism is greatly reduced.

Access to active areas of the landfill will be controlled by a combination of fences and natural barriers, and strictly enforced operating hours. A scalehouse attendant will be on duty at all times when the landfill facility is open for public use to enforce access restrictions. Visitors to the facility will be requested to check-in at the scale house and are required to remain with site visit during their visit to ensure their safety.

1.4.1 Physical Restraints

The site will be primarily accessed by the existing entrance on Brushy Creek Road. Each entrance will have a gate which will be securely locked during non-operating hours. Scales, scale house and office are provided at this entrance. All waste will be initially screened and weighed prior to being placed in the landfill or directed to the recycling recover area or the transfer station facility. Mobile homes scheduled for deconstruction will not be weighed but will be directed to the mobile home deconstruction area.

1.4.2 Security

The Avery County solid waste facility is secured by fencing, security gates and natural buffers. Frequent inspections of gates and fences will be performed by landfill personnel. The County will arrange for a random security patrol of the main gate to further discourage trespassing. Evidence of trespassing, vandalism, or illegal operation will be reported to the County Solid Waste Director to coordinate the repair or replacement of damaged property and ensure the integrity of the facility's security.

1.5 Signage

A prominent sign(s) containing the information required by the DWM is located immediately inside the main entrance to the facility. This sign(s) will provide information on operating hours, operating procedures, acceptable wastes and/or information as required under the facility permit. Additional signage will be provided as necessary within the waste disposal complex to distinguish the roadways to the active waste disposal areas, manage and direct traffic, regulate speed limits, identify groundwater monitoring wells, and define waste boundaries. Service and maintenance roads for use by operations personnel will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required. Landfill personnel will routinely inspect the conditions

of the posted signage to ensure they are clearly visible and intact. Damaged or missing signage will be replaced.

1.5.1 Waste Limit Markers

During construction of new phases, expansion of the facility, or following closure of areas, waste limit markers will be used to identify the permitted limits of waste. The waste markers will be constructed of non-degradable material and will clearly state “waste limit” or “edge of liner” in bold lettering. Offsets are acceptable such that all wording is clear to DWM and operational staff. The waste markers will be maintained and replaced when damaged.

1.6 Communications

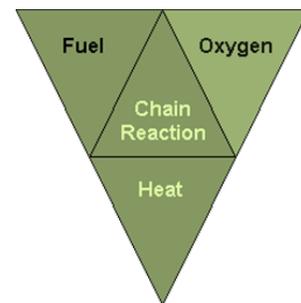
Two way radio communications is maintained between the active landfill unit, the scale house and office. The scale house and office have telephones in case of emergency and for the conduct of day-to-day business. Emergency telephone numbers are displayed in these locations. Cellular phones are available for key operating staff (i.e. managers, operators).

1.7 Fire Control

No open burning of waste is allowed at the facility; however, the possibility of fire within the processing and storage areas, the landfill, or on a piece of equipment must be anticipated in the daily operation of the facility. Potential fire hazards include both surface conditions and subsurface conditions. Surface conditions include equipment operations and newly placed waste. Subsurface conditions include existing waste previously landfilled.

1.7.1 Fire Tetrahedron¹

To better understand the fire’s properties we examine the fundamental methods to extinguish it. The fire “tetrahedron” illustrates the rule that to ignite and burn, each component represents a property of flaming fire; fuel, oxygen, heat, and chemical chain reaction. A fire is prevented or extinguished by removing any one of them. A fire naturally occurs when the elements are combined in the right mixture (e.g., more heat needed for igniting some fuels, unless there is concentrated oxygen). The fire tetrahedron is a more modern adaptation of the traditional fire “triangle” recognizing the chemical reactions that may occur as a component – “the uninhibited chain reaction”. This chain reaction is the feedback of heat to the fuel to produce the gaseous fuel used in the flame. In other words, the chain reaction provides the heat necessary to maintain the fire. These



¹ National Fire Protection Association (www.nfpa.org)

principles are integral in the prevention and management of potential fire situations. *Please note this information is considered as a basis of understanding and may be superseded by the direction and skill of the local Fire Marshall.*

1.7.2 Equipment

A combination of factory installed fire suppression systems and/or portable fire extinguishers will be operational on all pieces of heavy equipment at all times. Potential fire hazards are created from the build-up of fine, dry dust particles on and around operational motors and control panels. The presence of these build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenance are not practiced. Portable fire extinguishers should be maintained in a state of readiness on each piece of moving equipment and equipment should be cleaned periodically.

1.7.3 General Fire Management Strategies

Each fire situation is site specific; however, general strategies for active fire management include the following (in no particular order):

- Accelerated high temperature combustion (displacing fuel);
- Covering of the landfill burn area with soil (reduce oxygen);
- Covering of the burn area with foams (reduce oxygen);
- Flooding the burn area with water (reduce heat);
- Injecting an inert gas such as CO₂ (reduce oxygen);
- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas; and
- Applying extinguishing agents that will interfere with and inhibit the combustion process at the molecular level (break the chemical reaction).

1.7.4 Fires Within Disposal Areas

Sources of fire within the transfer station can result from "hot" loads or combustible materials being discharged within the facility, the build-up of fine particulates inside the facility, or from the mixing of incompatible materials during the transfer process.

Fires within the landfill disposal areas will be limited by the use of periodic cover as a fire break and control of "hot" loads entering the landfill. Trained personnel at the scale house will turn away all trucks containing waste that is suspected to be hot. If a hot load is placed on the working face, then the load will be spread as thin as possible and cover soil will be immediately placed on the waste to extinguish the fire.

In general, fires that break out close to the surface of the disposal area should be excavated and smothered with cover material. Deep fires should be smothered out by placing moist soil on the surface and by constructing soil barriers around the fire. Where the smothering technique fails, the burning material must be excavated and smothered or quenched with water once the burning material is brought to the surface. Note that water is usually not effective unless it can be directly applied to the burning material.

1.7.5 Notification

The County will verbally notify the DWM (see **Section 1.2.2**) within 24 hours of fire discovery within any landfill disposal area. In addition, written documentation describing the fire, the actions carried out to extinguish the fire, and a strategy for preventing future occurrences will be provided to the DWM within 15 days following any such occurrence on the **Fire Occurrence Notification Form** included in **Appendix A**.

1.7.6 Coordination With Local Fire Department

A copy of this Operations Manual will be filed with the local fire department including all contact information for the facility.

1.8 **Severe Weather Conditions**

Inclement weather conditions can directly affect the operation of the facility. Some of these weather conditions and recommended operational responses are as follows.

1.8.1 Ice Storms

An ice storm can make access to the landfill dangerous, prevent movement or placement of periodic cover, and, thus, may require closure of the facility until the ice is removed or has melted. The determination to discontinue activities due to inclement weather conditions will be made by the Site Manager.

1.8.2 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the landfill during rainy periods. Drainage control and use of crushed stone on unpaved roads should provide adequate all-weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, new aggregate should be used for repair.

Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by landfill personnel will be initiated and corrective measures implemented to repair any damage found before the next rainfall.

1.8.3 Electrical Storms

The open area of a landfill is susceptible to the hazards of an electrical storm. If necessary, landfilling activities will be temporarily suspended during such an event. To guarantee the safety of all field personnel, refuge will be available in the on-site buildings or in rubber tired vehicles.

1.8.4 Windy Conditions

Landfill operations during a particularly windy period may require that the working face be temporarily shifted to a more sheltered area. When this is done, the previously exposed face will be immediately covered with cover materials. In addition, laborers will pick up wind-blown debris as needed after episodes of strong wind.

Transfer station activities conducted during windy conditions may result in waste escaping the confines of the building and tunnel areas. Results of such weather events may result in the halting of the processing activities until waste can be contained.

1.8.5 Violent Storms

In the event of hurricane, tornado, or severe winter storm warning issued by the National Weather Service, disposal and processing operations may be temporarily suspended until the warning is lifted. Cover material will be placed on exposed waste and buildings and equipment will be properly secured.

1.9 Equipment Requirements

The Operator will make available as needed the equipment required to perform the necessary facility activities. Periodic maintenance of all equipment and minor and major repair work will be performed at designated maintenance zones.

The anticipated equipment requirements for operation and maintenance of the site are listed in the following table. These may vary based on volume coming into the facility for disposal.

Table 1: Equipment Requirements

Description	Primary Function (Allocation)
1) Dozer (1)	C&D operations, soil cover loading, and site maintenance
2) Solid Rubber-tired Front End Loader (1)	Loading, site cleanup, and transfer operations
3) Trackhoe (1)	C&D operations, excavation, and site maintenance.

4) Off-road Truck (1)	Site transportation and hauling.
5) Other Equipment	As needed.

1.10 Personnel Requirements

An attendant will be present to oversee the unloading of waste. At least one member of the supervisory staff will be certified as a Manager of Landfill Operations (MOLO) by the Solid Waste Association of North America (SWANA) or other NCDEQ approved training program. Each employee will participate in an annual training course (lead by supervisory personnel). As part of this training, personnel learn to recognize loads which may contain prohibited wastes, address emergency events, and review general operation procedures and requirements.

The anticipated personnel requirements for operation and maintenance of the site are listed in the following table. The numbers of site personnel can be adjusted based on volume of waste received for disposal.

Table 2: Personnel Requirements

Description	Primary Function (Allocation)
1) Site Manager (1)	Overall facility management
2) Scalehouse Attendant (1)	Receiving and weight for incoming loads
3) Operators (2)	Management of transfer station and landfill areas
4) Labor (1)	General labor and operational staff around the site

1.11 Health and Safety

All aspects of the facility operations were developed with the health and safety of the operating staff, customers, and neighbors in mind. Prior to commencement of operations of the facility, a member of the operating staff will be designated site safety officer. This individual, together with the facility's management will modify the site safety and emergency response program to remain consistent with SWANA and Occupational Safety and Health Administration (OSHA) guidance.

Safety equipment provided includes equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Facility personnel will be encouraged to complete the American Red Cross Basic First Aid Course. Other safety requirements as designated by the County will also be implemented.

Facility employees will go through an annual training course in health and safety lead by supervisory staff. All training will be documented and attested to by signatures of the trainer and trainee. The following are some general recommendations for the health and safety of workers:

1.11.1 Personal Hygiene

The following items are recommended as a minimum of practice:

- Wash hands before eating, drinking, or smoking.
- Wear personal protective equipment as described in **Section 1.11.2**.
- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

1.11.2 Personal Protective Equipment

Personal Protective Equipment (PPE) must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and/or required in a solid waste management facility workplace.

- Safety shoes with steel toes.
- Noise reduction protection should be used in areas where extended exposure to continuous high decibel levels is expected.
- Disposable rubber latex or chemical resistant gloves for handling and/or sampling of waste materials.
- Dust filter masks.
- Hard hats (in designated areas)
- Portable eyewash.
- Safety goggles.
- Safety vests.

Following use, PPE's should be disposed of or adequately cleaned, dried, or readied for reuse.

1.11.3 Mechanical Equipment Hazard Prevention

Equipment should be operated with care and caution. All safety equipment such as horns, backup alarms, and lights should be functional. A Lockout-Tagout program will be used to identify equipment in need or under repair and insure that operation is "off-limits" prior to maintenance or repair. All operators will be trained in the proper operation of equipment.

1.11.4 Employee Health and Safety

Some general safety rules are:

- Consider safety first when planning and conducting activities.

- Review the equipment O&M manual(s) prior to attempting repairs/changes.
- Remember the buddy system for repair of mechanical equipment.
- Post emergency contact phone numbers.
- Provide easy and visible access to the Right to Know materials.
- Provide easy and visible access to first aid kits and fire extinguishers.

1.11.5 Physical Exposure

Facility personnel may come in contact with the fluids, solids, and airborne constituents found at the facility. Routine training should be conducted regarding the individual and collective materials used at the facility and their associated hazards. Training concerning safe work practices around these potential exposures should cover equipment use and proper disposal procedures.

1.11.6 Material Safety Data Sheets

Material Safety Data Sheets (MSDS) will be collected on every waste (if available and appropriate) that enters the facility. Information will also be made available for all chemicals stored on site for use at the facility. MSDS sheets will be stored in a location with all other Right to Know information for the site.

1.12 Utilities

Electrical power, water and telephone are provided at the scale house and office; a restroom will be provided at the transfer station.

1.13 Recordkeeping Program

The Operator will maintain the following records in an operating record at the facility:

- A. Current permit(s) (Permit to Construct, Permit to Operate, etc.);
- B. Current operations manual/plan and engineering plan;
- C. Inspection reports;
- D. Audit and compliance records;
- E. Annual landfill reports (including survey and other documentation related to airspace usage);
- F. Waste inspection records (**Section 2.4.1**);
- G. Daily tonnage records and disposal records maintained at the scale house - including source of generation;
- H. Waste determination records;
- I. Quantity, location of disposal, generator, and special handling procedures for all special wastes disposed of at the site (if applicable);
- J. List of generators and haulers that have attempted to dispose of restricted wastes;

- K. Employee training procedures and records of training completed;
- L. Ground water monitoring and surface water quality information (See the current **Water Quality Monitoring Plan**) including:
 - 1. Monitoring well construction records;
 - 2. Sampling dates and results;
 - 3. Results of inspections, repairs, etc.
- M. LFG monitoring results and remedial measures as required (see the current **LFG Monitoring Plan**);
- N. Closure and post-closure information, where applicable, including:
 - 1. Notification of intent to close;
 - 2. Testing;
 - 3. Certification; and
 - 4. Recording.
- O. Cost estimates or financial assurance documentation;
- P. A notation of the date and time of final cover placement (where applicable);
- Q. OSHA 300 logs;
- R. Asbestos disposal records;
- S. Mobile Home Acceptance Records;
- T. Laboratory Testing identifying soil or mulch properties such as density and gradation (if performed);
- U. Documentation of Asphalt Shingle Recycling (see **Section 2.5.4.3** and **Appendix E**)

The operating record will be kept up to date by the Solid Waste Director or his designee. It will be presented on request to the DWM for inspection. A copy of this Operations Manual will be kept at the facility and will be available for use at all times.

2.0 WASTE HANDLING OPERATIONS

2.1 Overview

This section describes the required waste handling operations for the Avery County Solid Waste Facility including: the C&D landfill, the mobile home deconstruction area, the solid waste transfer station facility and the recycling recovery areas.

On or before August 1st of every year (or at an earlier date as requested by the Division), the owner or operator shall report to the NC DWM Section, for the previous year beginning July 1st and ending June 30th, the amount by weight of the solid waste that was received at the facility and disposed of in the landfill. To the maximum extent practicable, such reports shall indicate by weight the COUNTY of origin of all solid waste. The owner or operator shall transmit a copy of the report to the county in which the facility is located and to each county in which waste originated. A waste placement grid is provided as **Figure 4**.

2.2 Acceptable Waste

2.2.1 C&D Landfill

The Avery County C&D landfill only accepts wastes generated within the approved service area (**Section 1.3.3**). C&D waste is landfilled on-site within the waste disposal permitted boundaries. C&D waste materials must satisfy the following definitions to be accepted.

Land Clearing and Inert Debris: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.

Land Clearing Waste: as defined in 15A NCAC 13B.0101(23) means solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.

Asphalt: in accordance with NCGS 130A-294(m).

Construction and Demolition Debris: as defined in NCGS 130A-290(a)(4) means solid waste resulting solely from construction, remodeling, repair, or demolition operations on pavement, buildings, or other structures, but does not include inert debris, land-clearing debris, or yard debris.

Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

2.2.2 Transfer Station

The Avery County transfer station only accepts waste that is generated from the approved service area (**Section 1.3.3**), is consistent with the North Carolina solid waste regulations and the general conditions established in the operating permit. The acceptance of waste materials must satisfy the following definitions:

Municipal solid waste as defined by the North Carolina General Statutes 130A-290(a)(18a) means any solid waste resulting from the operation of residential, commercial, industrial, governmental, or institutional establishments that would normally be collected, processed, and disposed of through a public or private solid waste management service. Municipal solid waste does not include hazardous waste, sludge, industrial waste managed in a solid waste management facility owned and operated by the generator of the industrial waste for management of that waste, or solid waste from mining or agricultural operations.

Solid waste as defined by the North Carolina General Statutes 130A-290(a)(35) means any hazardous or nonhazardous garbage, refuse or sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, domestic sewage and sludges generated by the treatment thereof in sanitary sewage collection, treatment and disposal systems, and other material that is either discarded or is being accumulated, stored or treated prior to being discarded, or has served its original intended use and is generally discarded, including solid, liquid, semisolid or contained gaseous material resulting from industrial, institutional, commercial and agricultural operations, and from community activities.

2.2.3 Recycling Recovery Areas

Only the following wastes may be received at the facility recycling area or as separated in the landfill or transfer area(s):

- White goods;
- Whole Scrap Tires;
- Pallets (damaged and un-damaged);
- Glass;
- Asphalt Shingles;
- Non-treated; non-painted clean lumber;
- Brick and block (undamaged and un-painted); and
- Metal (ferrous and non-ferrous).

2.2.4 Mobile Home Deconstruction Area

Mobile homes are staged, deconstructed, and recycled on-site in accordance with the deconstruction procedures. Waste resulting from the mobile home deconstruction is described in **Appendix D**.

2.2.5 Asbestos Waste Disposal

Special wastes (regulated asbestos only) described in **Section 2.5.4 Special Waste Management** may also be disposed in the C&D landfill unit.

2.3 **Prohibited Wastes**

2.3.1 C&D Landfill Unit

Only wastes as defined in **Section 2.2.1** above may be accepted for disposal in the C&D landfill unit. Prohibited wastes include waste exclusions listed in 15A NCAC 13B .0542 as follows:

- Wastewater treatment sludge. Wastewater treatment sludge may be accepted, with the approval of the DWM, for utilization as a soil conditioner and incorporated into or applied onto the vegetative soil layer component of the final cover system. In this case, the sludge will be applied at no greater than agronomic rates and to a maximum depth of six inches.
- Containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid, hazardous, or municipal solid waste is contained therein;
- Garbage as defined in G.S. 130A-290(a)(7);
- Hazardous waste as defined in G.S. 130A-290(a)(8), to also include hazardous waste from conditionally exempt small quantity generators;
- Industrial solid waste unless a demonstration has been made and approved by the DWM that the landfill meets the requirements of Rule .0503(2)(d)(iii)(A);
- Liquid wastes;
- Medical waste as defined in G.S. 130A-290(a)(18);
- Municipal solid waste as defined in G.S. 130A-290(a)(18a);
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761;
- Radioactive waste as defined in G.S. 104E-5(14);
- Septage as defined in G.S. 130A-290(a)(32);
- Sludge as defined in G.S. 130A-290(a)(34);
- Special wastes as defined in G.S. 130A-290(a)(40);
- White goods as defined in G.S. 130A-290(a)(44); and
- Yard trash as defined in G.S. 130A-290(a)(45).

The following wastes cannot be received if separate from C&D waste:

- lamps or bulbs including but not limited to halogen, incandescent, neon or fluorescent;
- lighting ballast or fixtures;
- thermostats and light switches;

- batteries including but not limited to those from exit and emergency lights and smoke detectors;
- lead pipes;
- lead roof flashing;
- transformers;
- capacitors; and
- copper chrome arsenate (CCA) and creosote treated woods.

Waste accepted for disposal in the C&D landfill unit must be readily identifiable as C&D waste and must not have been shredded, pulverized, or processed to such an extent that the composition of the original waste cannot be readily ascertained except as specified as follows:

C&D waste that has been shredded, pulverized, or otherwise processed may be accepted for disposal from a facility that has received a permit from an authorized regulatory authority which specifies such activities are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material. For this case, a waste screening plan and waste acceptance plan will be prepared and made available to the DWM on request.

The County shall not dispose of C&D waste that is known to be generated within the boundaries of a unit of local government that by ordinance:

- (A) Prohibits generators or collectors of C&D waste from disposing that type or form of C&D waste.
- (B) Requires generators or collectors of C&D waste to recycle that type or form of C&D waste.

2.3.2 Transfer Station

Only wastes as defined in **Section 2.2.2** above may be accepted in the transfer station. No other wastes may be accepted including the following wastes, otherwise considered under NC Landfill Bans (G.S. 130A-309.10):

- Whole Scrap Tires (Except as diverted to the recovery area);
- Used Oil;
- White Goods (Except as diverted to the recovery area);
- Lead Acid Batteries;
- Yard Waste;
- Construction and Demolition Debris (C&D) (Except as allowed in the C&D landfill);
- Discarded computer equipment and televisions;
- Oyster Shells;
- Rigid plastic containers;
- Aluminum Cans;

In addition, operating criteria prohibit other materials from receipt within the transfer station. These materials include:

- Hazardous waste as defined by NC General Statute 130A-290 (a) (8), including hazardous waste from conditionally exempt small quantity generators.
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761 with the exception of trace amounts found in materials such as consumer electronics.
- Bulk or non-containerized liquid wastes unless the waste is household waste other than septic waste and waste oil. A liquid determination will be performed by the paint filter test.
- Containers holding liquid wastes unless the waste is household waste.

2.3.3 Recycling Area

Only wastes, as defined in **Section 2.2.3** above may be accepted in the Recycling and Recovery Areas. No asbestos containing wastes will be accepted.

2.4 Waste Screening Programs

To assure prohibited wastes are not entering the landfill facility, screening programs have been implemented. Waste received at the scale house entrance and directed to the transfer station floor, the mobile home deconstruction area, recovery area, or working face of the C&D landfill is inspected by trained personnel. These individuals have been trained to spot indications of unacceptable and suspicious wastes, including: hazardous placarding or markings, liquids, powders or dusts, sludges, bright or unusual colors, drums or commercial size containers, and "chemical" odors. Screening programs for visual and olfactory characteristics of prohibited wastes are an ongoing part of the facility operation.

2.4.1 Waste Receiving and Inspection

All vehicles must stop at the scale house located at the main entrance of the facility and visitors are required to sign-in. All waste transportation vehicles are weighed and the content of the load assessed. The scale attendant(s) requests from the vehicle driver a description and origin of the waste it is carrying to ensure that unacceptable waste is not allowed onto the site. The attendant(s) then visually checks the vehicle as it crosses the scale. Signs informing users of the acceptable and unacceptable types of waste are posted at the scale house. Once passing the scales, vehicles are routed to the C&D landfill, the transfer station, the mobile home deconstruction area or recover area as appropriate.

Vehicles are randomly selected for screening on a regular basis, depending on personnel availability. Site personnel will ensure that each waste stream received at the site is equitably inspected. At least one vehicle per week, but not

less than 1% by weight of the waste stream entering the facility (based on the previous week's total), will be randomly selected by inspection personnel. A random truck number and time will be selected (e.g., the tenth load after 10:00 a.m.) on the day of inspections. However, if something looks suspicious is spotted in any waste load, that load is inspected further.

Selected vehicles are directed to the inspection area located inside the transfer station or to an area of intermediate cover adjacent to the working face of the landfill as appropriate. The vehicle is unloaded and the waste is carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable at the landfill inspects the waste discharged at the screening site. If unacceptable waste is found, including wastes generated from outside of the service area, the load will be isolated from other waste receipts and secured within the transfer station or bermed from the landfill.

For unacceptable wastes that are nonhazardous the Solid Waste Director will notify the Waste Management Specialist of the DWM (see **Section 1.2.2**) within 24 hours of attempted disposal of any waste the facility is not permitted to receive to determine the proper course of action. In most cases, the transporter will be responsible for the removal of the non-hazardous, unacceptable materials.

For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.4.2** will be followed. To determine the liquid content of the waste, a liquid determination will be performed by the paint filter test (see **Appendix B** for apparatus and procedures). The hauler is responsible for removing unacceptable waste from the landfill property.

If no unacceptable material is found, the load will be commingle with other waste receipts and processed through the transfer station or pushed into the working face and incorporated into the waste cell. All random waste inspections will be documented by staff using the waste screening form provided in **Appendix C**.

In addition to the random waste screening described above, waste unloaded onto the transfer station floor or into the active face of the landfill will be inspected by the equipment operators, trained to spot unacceptable wastes, before and during the processing, spreading, or compaction operations. Any suspicious looking waste is reported immediately to the designated primary inspector for further evaluation.

2.4.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at the transfer station or landfill, appropriate equipment, protective equipment, personnel, and materials as necessary will be employed to isolate the wastes. DWM will be notified immediately (see **Section 1.2.3**) that an attempt was made to dispose of hazardous waste at the facility. If the vehicle

attempting disposal of such waste is known, all attempts will be made to prevent that vehicle from leaving the site or, if the vehicle has left the site, immediate notice will be served on the owner of the vehicle that hazardous waste, for which they have responsibility, has been disposed of at the transfer station or the landfill.

The County will assist the DWM as necessary and appropriate in the removal and disposition of the hazardous waste and in the prosecution of responsible parties. If needed, the hazardous waste will be covered with either on-site soils or other tarping material until such time when an appropriate method can be implemented to properly handle waste removal. The cost of removal and disposal of the hazardous waste will be charged to the owner of the vehicle involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the landfill may be barred from future disposal services.

Should an incident where hazardous waste is found at the transfer station or landfill occur, the event will be documented by landfill staff using the waste screening form provided in **Appendix C**.

Records of information gathered as part of the waste screening programs will be maintained on site during its active life and as long as required by the County and DWM.

2.5 Waste Disposal

2.5.1 Access

Following the completion of the initial waste screening procedures, access to the processing areas and disposal location will be granted by the scale house attendant. The scale house attendant will provide overall site instructions and directions to the drivers of the waste transportation vehicles to ensure that the waste receipts are transported to the appropriate processing or disposal area. Additional directional signage will assist the drivers with the identification of these areas.

2.5.2 General Procedures

Waste transportation vehicles will arrive at the scales and scale house and be directed to the appropriate area such as the transfer station, white goods area, or the working face of the C&D landfill at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. To maintain control over the unloading of waste, only a certain number of vehicles will be allowed on the tipping floor of the transfer station or working face of the landfill at a time. The actual number will be determined by the truck spotter. This procedure will be used to minimize the potential of unloading unacceptable waste and to control disposal activity. Operations at the working

face will be conducted in a safe manner which will encourage the efficient movement of transportation vehicles to and from disposal locations, and to expedite the unloading of waste.

2.5.3 C&D Landfill Disposal Procedures

The approach to the working face will be maintained such that two or more vehicles may safely unload side by side. A vehicle turn-around area large enough to enable vehicles to arrive and turn around safely with reasonable speed will be provided adjacent to the unloading area. The vehicles will back to a vacant area near the working face to unload. Following the unloading operation, the transportation vehicles will immediately leave the working face area. Personnel will direct traffic necessary to expedite safe movement of vehicles.

Waste unloading at the landfill will be controlled to prevent disposal in locations other than those specified by site management. Such control will also be used to confine the working face to a minimum width, yet allow safe and efficient operations. The width and length of the working face will be maintained as small as practical to maintain the appearance of the site, control windblown waste, and minimize the amount of cover required each day. Normally, only one working face will be active on any given day, with all deposited waste in other areas covered by either periodic or final cover, as appropriate.

The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into adequately sized lifts, and compaction on relatively flat slopes (i.e. 5H:1V max.), in two-foot intervals, using a minimum number of three full passes.

Portable signs with directional arrows and portable traffic barricades will facilitate waste unloading at the designated disposal locations. These signs and barricades will be placed along the access route to the working face of the landfill or other designated disposal areas which may be established.

Wind screens adjacent to the working face may be used as needed to control windblown waste.

2.5.3.1 Periodic Cover

At the completion of waste placement each week or sooner, a 6 inch layer of earthen material or other material as approved by the DWM will be placed over the exposed waste. Cover will be placed sooner if the area of exposed waste exceeds one-half acre in size, or as necessary to control vectors, fire, odors, and blowing debris. The date and time of cover placement will be recorded by landfill employees.

2.5.3.2 Intermediate Cover

A 12 inch layer of soil cover should be placed on all waste surfaces that have not received waste in 30 days but are below final elevation. This intermediate cover should be seeded immediately and graded such that precipitation run-off is channeled to the surface water systems.

2.5.3.3 Height Monitoring

On a weekly basis, the landfill staff will monitor landfill top and side slope elevations. When such elevations approach design grades, shown on the **Permit Drawing 3/S2 (Final Grading Plan)**, the final top of waste grades will be staked to limit over placement of waste.

2.5.4 Special Waste Management

2.5.4.1 Asbestos Management

The County may dispose of regulated asbestos within the C&D landfill. Regulated asbestos-containing material (RACM) means:

- (a) Friable asbestos material;
- (b) Category I nonfriable asbestos-containing material (ACM) that has become friable;
- (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or
- (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Asbestos containing materials are further defined as:

- Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.
- Category II ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

- Asbestos-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. *This material is non-regulated.*

Asbestos will only be accepted if it has been processed and packaged in accordance with State and Federal (40 CFR 61) regulations. Asbestos will arrive at the site in vehicles that contain only the asbestos waste and only after advance notification by the generator.

Once the hauler brings the asbestos to the landfill, the hauler will be directed to the designated asbestos disposal area by operations personnel. The designated disposal area will be prepared by operations personnel by leveling a small area using a dozer or loader. Prior to disposal, the landfill operators will stockpile cover soil near the designated asbestos disposal area. The volume of soil stockpiled will be sufficient to cover the waste and to provide any berms, etc. to maintain temporary separation from other landfill traffic.

Once placed in the prepared area, the asbestos waste will be covered with a minimum of 18 inches of daily cover soil placed in a single lift. The surface of the cover soil will be compacted and graded using a tracked dozer or loader.

Asbestos wastes will be buried in accordance with applicable North Carolina and NESHAP requirements. The landfill staff will record the approximate location and elevation of the asbestos waste once cover is in-place. The Solid Waste Director or other supervisory staff will review pertinent disposal and location information to assure compliance with regulatory requirements and enter the information into the Operating Record.

Once disposal and recording for asbestos waste is completed, the disposal area may be covered with waste. No excavation into designated asbestos disposal areas will be permitted.

2.5.4.2 Deconstruction of Mobile Homes

The deconstruction of mobile homes is handled in an area adjacent to the C&D landfill unit. A description of the process is provided in **Appendix D**.

2.5.4.3 Asphalt Shingles

Asphalt shingles may be recovered for recycling in a dedicated container. A process description is provided in **Appendix E**.

2.5.4.4 Animal Carcasses

Methods approved by the State Veterinarian include the disposal of domesticated animal carcasses in landfills. Animal carcasses are handled in an area adjacent to the C&D landfill unit as identified on **Figure 2**. In accordance with 02 NCAC 52C .0102, animal carcasses will be buried three feet beneath the surface of the ground.

2.5.5 Transfer Station Management

2.5.5.1 Access

Traffic will be clearly directed to the transfer station by the scale house and be directed by the spotter on the tipping floor. Traffic speed on the site should be less than 7 MPH.

2.5.5.2 Building Features

The transfer station and tipping floor area includes the features listed in the following table.

Table 3: Transfer Station Features

Description	
1) Roof	Yes
2) Sides (3)	Yes
3) Concrete Floor	Yes
4) Bi-Level Direct Push	Yes
5) Leachate Collection and Storage	Yes
6) Ventilation	Yes
7) Water Supply	Yes
8) Lighting	Yes
9) Interior Office & Bathrooms	Yes
10) Explosive Gas Monitoring	No
11) Communications (Telephone, Radios, Cell Phones)	Yes
12) Built In Fire Suppression/Sprinkler System	No
13) Odor Control Equipment	Yes

2.5.5.3 General Procedures

The transfer operations will be conducted in accordance with the approved Operation Plan and conditions of the Solid Waste Permit issued by the DWM.

Facility operations are anticipated as follows:

1. Collection vehicles delivering waste to the facility will enter through the main entrance;
2. Pass by and over the scales and scale house for weight;
3. Continue along the access road until reaching the transfer station tipping area;
4. The tipping area has “push” walls running along the interior of the building that direct the waste to feed “hoppers” overlying the transfer trailers and/or equipment on the lower level of the building. The attendant (“spotter”) will direct vehicles, waiting to unload, to back into the facility through the entrance. Adequate area is available in front of the transfer area for drivers to queue their vehicles into a backing maneuver. Station operating personnel will be on the station floor to direct and guide the vehicles.
5. The vehicles will back onto the tipping floor to an area designated by the attendant.
6. Once the vehicle is in position, the waste load will be discharged directly onto the tipping floor.
7. The spotter will inspect the discharged waste before it is mixed with other waste on the tipping floor and pushed by a rubber-tired loader into the open top transfer trailers, specifically designed for hauling wastes located in the lower level of the Transfer Station. All waste will stay in the covered area of the transfer station.
8. The equipment operator will complete a secondary visually screening of the waste and, if acceptable, direct the driver of the waste collection vehicle to exit the transfer facility. If unaccepted waste is identified, the driver of the vehicle will be instructed to retrieve and remove the prohibited waste from the site.

Documentation of the event will follow the procedures outlined in **Section 2.4 Waste Screening Program**. Subsequent vehicles will be directed to the transfer area and similar procedures will be completed.

2.5.5.4 Storage

Waste volume is allowed to accumulate on the tipping floor only to facilitate adequate waste placement into the transportation hauling vehicles. The equipment operator will mix the waste with the front-end loader, conduct a tertiary waste screening and remove any prohibited

waste, and distribute the material types and weights prior to pushing the waste into the tractor trailers located toward the rear of the building and beneath the tipping floor.

2.5.5.5 Transfer Truck Loading

The placed waste is compacted inside the trailers by gently tamping with the interchangeable bucket attachment. The equipment operator is responsible for loading each transportation vehicle in a fashion to comply with the Department of Transportation's roadway weight limits. Once the tractor trailer is filled with compacted waste, the vehicle is moved to an exterior location to allow the placement of the vehicle's tarp and ensure containment of the waste inside the trailer body.

2.5.5.6 Transfer Area Maintenance

At the end of each operating day, the transfer station will be cleared of waste inside and around the facility. Windblown materials resulting from the operation will be collected and returned to the site and disposed. The tipping floor will be maintained in a sanitary fashion by washing the entire floor and discharging the wash water into the leachate collection drainage system and holding tank. The tarps for the loaded but not transported trailers will be securely fastened to each tractor trailer remaining on site. Barricades will be erected around the hopper to prevent falling hazards.

2.5.5.7 Leachate Management

Liquids are generated from waste receipt and floor washing activities. The transfer station's floor is sloped in a fashion to promote drainage toward the sump and to two floor drains located in the lower level loading area. Leachate generated from waste processing activities is collected in floor drains and discharged to an exterior, 3,000-gallon holding tank. The liquid volume of the holding tank is inspected on a weekly basis to ensure that adequate capacity is available.

As needed, the contents of the leachate holding tank are pumped and transported to the Jimmy Smith Wastewater Treatment Plant (WWTP) located in the Town of Boone. The WWTP conditionally approved the acceptance of batch volumes (2,500 gallons) from the Avery County facility with prior notification.

Additionally, any full transfer trailers that are stored on-site will be inspected for leaks and, if present, the leaks will be contained and cleaned.

3.0 RECYCLING AND RECOVERY AREA OPERATIONS

The facility's recycling and material recovery areas are located around the transfer station and are used to store, separate and contain recyclable materials. These materials are generated from separated waste from the transfer station and/or pre-sorted materials such as tires, white goods, or other materials off-loaded into an appropriate container. Recycling and recovery operation areas are shown on **Figure 2**.

3.1 White Goods Handling Area

A white goods handling area is located adjacent to and north of the existing transfer station (**Figure 2**). Within the white goods handling area, white goods and scrap metal are stockpiled up to about 10 feet high over an approximate 100 foot by 200 foot area. Once the stockpile reaches capacity (typically once per quarter), a recycler removes Freon and hauls the white goods and scrap metal off-site to be recycled. A certificate of disposal for the removed Freon is provided to Avery County by the subcontractor.

3.2 Used Tire Storage Area

Used tires are collected at an area adjacent to and south of the existing transfer station (**Figure 2**) and placed in a tire trailer. Once the trailer is full, the trailer is picked up by a recycling contractor.

3.3 Mobile Home Deconstruction Area

Mobile homes are staged, deconstructed, and recycled on-site in accordance with the deconstruction procedures. Recycling resulting from mobile home deconstruction is described in **Appendix D**.

3.4 Asphalt Shingles

Asphalt shingles may be recovered for recycling in a dedicated container. A process description is provided in **Appendix E**.

3.5 Other Storage Areas

- Glass: A glass recovery and recycling area for clear, brown, and green glass is located just west and behind the transfer station (**Figure 2**). This area contains three (3) bays constructed of concrete masonry unit (CMU) walls and are periodically removed for recycling when they reach capacity.
- Pallets: A pallet recovery area is located adjacent just southwest of the transfer station (**Figure 2**). Once a truckload is generated, the pallets will be picked up by a recycling contractor.
- Brick and Block Area: A undamaged and unpainted brick and block area is located adjacent to and southwest of the existing transfer station (**Figure 2**) for utilization for site access roads and the active face area of the landfill.

3.6 Markets

The final destination of the recyclable materials separated from the waste may vary depending on market prices for such materials. Contracts are established with subcontractors to facilitate processing and product removal. Subject to contract renewal, the final markets are anticipated as follows:

- a. Metals: State Line Scrap Metal
- b. Pallets: To be determined and as needed.
- c. Glass: Strategic Materials, Inc.
- d. Tires: U.S. Tire

3.7 Safety

The recycling area will generally be located contiguous to the active, operating C&D disposal face. The recycling area will be partitioned from the active C&D area with physical barriers (i.e. fencing, earthen materials, etc.) for safety and protection of site personnel who are segregating materials within the recycling area. All equipment operating in the recycling area will be equipped with back-up alarms. All appropriate Personal Protective Equipment will be worn by workers in the recycling area, including two-way radios between the workers and equipment operators.

Asbestos Containing Waste (ACW) or suspected ACW will not be hauled to, or dumped into, the sorting area.

3.8 Operations

Only those C&D waste loads delivered to the site that contain predominantly recoverable materials will be diverted to the recycling area for segregation handling. Materials that are not recoverable, but which were dumped within the sorting area, will be pushed and/or loaded and hauled to the adjacent active area for proper disposal on a daily basis.

The landfill (intermediate) cover will be maintained at 12 inches in thickness in the recycling/sorting area. Additional material will be added as needed to maintain this buffer.

3.9 Equipment

Anticipated equipment to be used in and around the recycling area will include:

- one small rubber-tired loader, skid-steer, or bobcat; and
- one small excavator.

Other equipment may be added as needed.

3.10 Personnel

Based the amount received, up to four (4) site personnel, including equipment operators, are anticipated for operations within the recycling area of the site.

3.11 Recovered Material Management

Only waste loads which are predominantly recyclable materials will be diverted to the sorting area. Materials will be weighed on the site scales prior to being used on site.

3.12 Recordkeeping

As a result of the recovered material management practices, there will be accurate records and reporting of the weight of waste and the weight of recycled/reused materials. The net weight of waste equals the total weight of material entering the site minus the weight of recovered materials removed from the waste stream.

4.0 ENVIRONMENTAL MANAGEMENT

4.1 Overview

This section reviews the overall environmental management tasks required for the successful operation of the landfill facility.

4.2 Erosion and Sedimentation Control

A separate erosion and sedimentation control plan is provided in the Erosion and Sedimentation Control Plan of the Permit Application. This plan describes the engineered features and practices for preventing erosion and controlling sedimentation at this site. The erosion and sediment control system consists of the following major components:

1. Drainage Channels,
2. Diversion Berms (Side Slope Swales and Cap Diversion Berm),
3. Down Pipes, and
4. Sediment Basins/Traps.

The landfill side slopes are designed with 3H:1V slopes and diversion berms placed along the slope. The berms are designed to keep water volumes and velocities low enough to minimize erosion of the landfill cover. Maintenance of the cover system will involve periodic mowing and repair of any erosion problems and bare spots. These items will be inspected at least once a month and after any significant rainfall events.

The down pipes are designed to carry concentrated flows of surface water off of the landfill. The down pipes will be inspected at least once a month and after any significant rainfall event.

Additional erosion control measures have been implemented within the drainage channels and at points of stormwater discharge. All final cover should be inspected regularly for erosion damage and promptly repaired.

Stormwater run-off from the LCID landfill is conveyed to sediment basins and traps. These structures should be inspected regularly for sediment build-up or erosion damage and should be cleaned out when sediments fill the lower half of each structure.

4.3 Water Quality Monitoring

The monitoring program and procedures outlined in the current Water Quality Monitoring Plan will be followed for the monitoring of site groundwater monitoring wells and surface water monitoring locations. The results of the water quality monitoring program will be placed in the facility operating record as described in **Section 1.13**.

4.4 Landfill Gas Control

Monitoring shall be performed to identify (if any) subsurface migration of landfill gas at explosive levels are present in on-site structures and/or at the property boundary in gas monitoring probes. Methane or other explosive gas concentration shall not exceed 25% of the lower explosive limit (LEL) (1.25% of CH₄) in on-site structures, such as the scale house or 100% if the LEL (5% CH₄) at the facility property boundary. All landfill gas monitoring will be performed in compliance with the Landfill Gas Monitoring Plan.

If landfill gas levels exceed these limits, the following will be performed:

- Immediately implement steps necessary for the protection of personnel, staff and neighboring properties and notify the DWM.
- Within 7 days, place in the operating record a description of events/actions performed following the detection event.
- Within 60 days, implement a remediation plan for the explosive gas releases, place a copy in the operating record, and notify the DWM that the plan has been implemented.

Subsurface methane monitoring wells are installed between the landfill perimeter and the property line, as shown in the Landfill Gas Monitoring Plan.

4.5 Litter Control

The vegetative trees/bushes act as a barrier to keep litter contained within the site. Landfill personnel pick up litter within the site daily and respond to weather and heavy wind conditions that may compromise the property appearance. The litter control crew picks up litter outside the site and on access roads each weekday.

Customers are encouraged to contain and cover all waste within their vehicles/trailers prior to entering the facility in an effort to reduce litter. Any load that is not secured in a manner that would prevent material from leaving the vehicle while it is in motion is subject to an additional fee. Also, trailers are covered by heavy tarp lids to minimize litter and potential for birds to enter the trailer and spread litter.

4.6 Vector Control

Vector control within and around the transfer station will be managed by removing all waste from the facility on a daily basis. All transfer station waste deposits will be removed from the tipping floor by the end of each working day. At the end of each operating day, the tipping floor will be cleaned and washed in a manner to remove all waste remnants or liquids that could promote or attract vectors to the facility. Portable, forced air odor control equipment is utilized as needed. Routinely, the entire interior of the transfer station will be pressure-washed to remove the accumulation of dust, dirt, and waste particles. Leachate generated from the routine washing activities will be discharged to the leachate holding tank and pumped to the WWTP as needed.

Due to the nature of the waste disposed in the C&D landfill, vector control is not expected to be of concern. Note periodic cover will discourage animals from nesting in the waste.

4.7 Odor Control

Odor control within the transfer station will be managed by minimizing the volume of waste accumulated on the tipping floor and by transferring waste into the tractor trailers as soon as practical. Portable, forced air odor control equipment is utilized as needed. Staff will routinely inspect the floor drainage system to ensure that the leachate collection system remains free-flowing and stagnant water does not persist. Additional housekeeping efforts employed at the facility to reduce and eliminate the occurrence of odor will include inspecting exterior stormwater downspouts, removing litter, cleaning the tunnel area, maintaining the appearance of the access areas and roadways, and ensuring that the tractor trailer tarps are in good condition.

Due to the nature of the waste disposed in a C&D landfill, odor is not expected to be of concern. However, if odors do occur, additional cover will be placed or other mitigation alternatives will be provided.

4.8 Dust Control

If required, a water truck will be utilized to limit dust on the gravel portion of the access roadways. Dust accumulation inside the transfer station will be eliminated by routinely pressure washing the interior of the facility as needed. Dust generated by excavation of cover soil will be limited by watering the cut soil areas if accessible to the water truck.

4.9 Interim Cover

In addition to the occasional placement of the 6 inches of earthen material over the exposed waste, an additional 12 inches of earthen cover should be placed on all waste surfaces that have not received waste in three (3) months or more but are below final elevation. This intermediate cover should be graded and seeded such that precipitation run-off is channeled to the stormwater collection system.

4.10 Interim Cover Monitoring

Routine inspections of the site will include monitoring any interim cover to ensure the adequacy of the vegetative protective cover and to identify potential erosion concerns. Corrective actions will address any identified concerns.

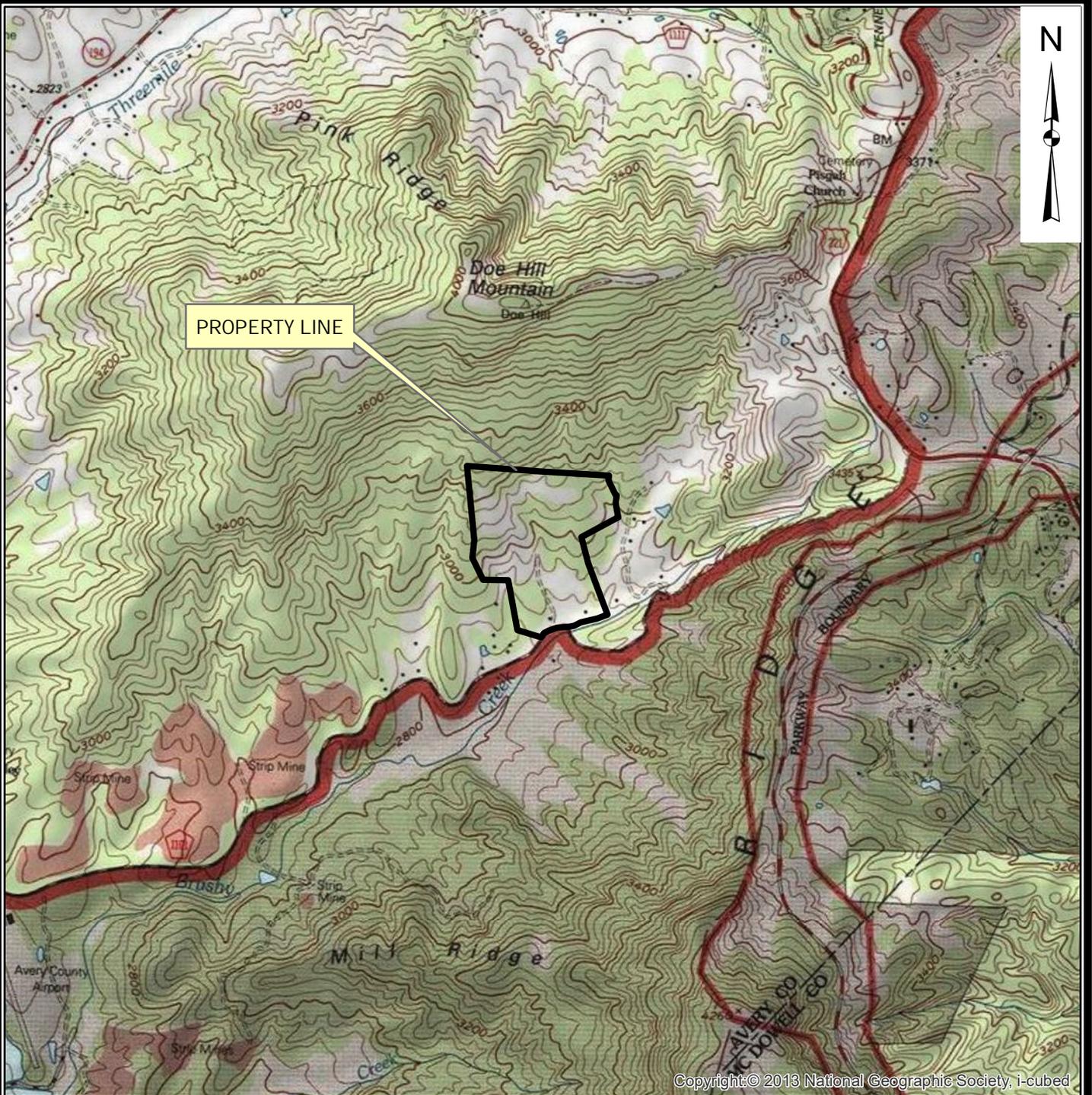
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Figures

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

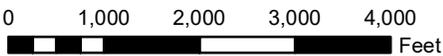
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PROPERTY LINE

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- REFERENCES
1. U.S.G.S. 7.5 MIN. QUADRANGLE MAP "LINVILLE FALLS, NC" DATED 1994.
 2. SITE PROPERTY LINE FROM FIELD SURVEY DATED 1/14/08, BY SURVEYING SOLUTIONS, PC.

NC LIC. NO. C-0828 (ENGINEERING)

**AVERY COUNTY SOLID WASTE FACILITY
SITE VICINITY MAP**

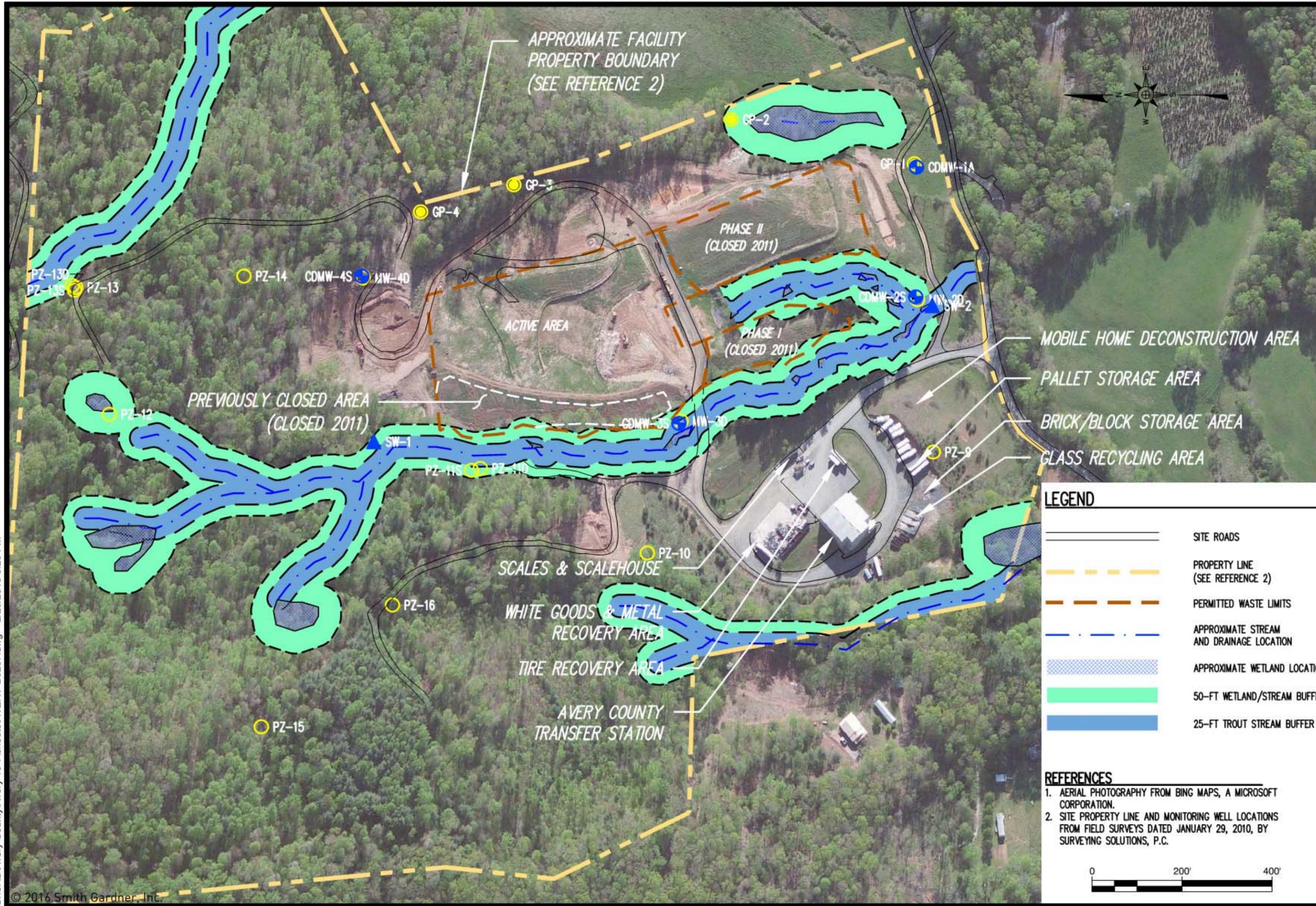
SMITH + GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

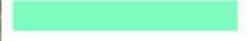
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C.T.J.	M.M.G.	AS SHOWN	Jan. 2016	AVERY 15-7	1

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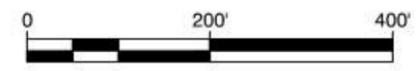


LEGEND

-  SITE ROADS
-  PROPERTY LINE (SEE REFERENCE 2)
-  PERMITTED WASTE LIMITS
-  APPROXIMATE STREAM AND DRAINAGE LOCATION
-  APPROXIMATE WETLAND LOCATION
-  50-FT WETLAND/STREAM BUFFER
-  25-FT TROUT STREAM BUFFER

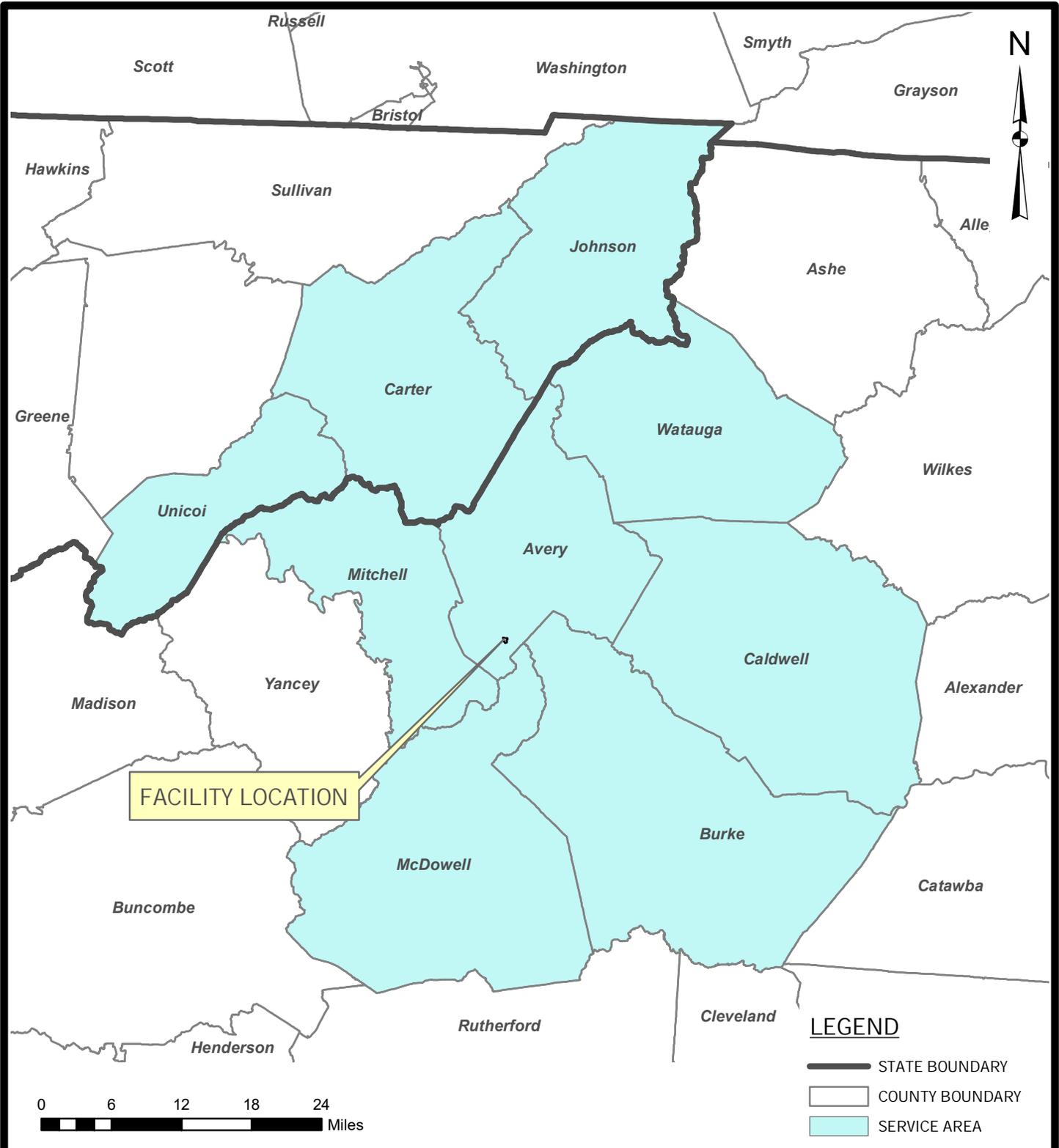
REFERENCES

1. AERIAL PHOTOGRAPHY FROM BING MAPS, A MICROSOFT CORPORATION.
2. SITE PROPERTY LINE AND MONITORING WELL LOCATIONS FROM FIELD SURVEYS DATED JANUARY 29, 2010, BY SURVEYING SOLUTIONS, P.C.



PREPARED BY: SMITH+GARDNER <small>NC LIC. NO. C-0833 (ENGINEERING)</small> <small>14 N. Boylan Avenue, Raleigh NC 27603 919.828.0577</small>		
APPROVED: J.A.L.	C.T.S.	FIGURE NO.: 2
DRAWN: J.A.L.	SCALE: AS SHOWN	FILENAME: AVERY-B0257
PREPARED FOR:	DATE: Feb 2016	PROJECT NO.: AVERY 15-7
AVERY COUNTY CGO LANDFILL MANAGEMENT FACILITY		

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**AVERY COUNTY SOLID WASTE FACILITY
FACILITY SERVICE AREA**

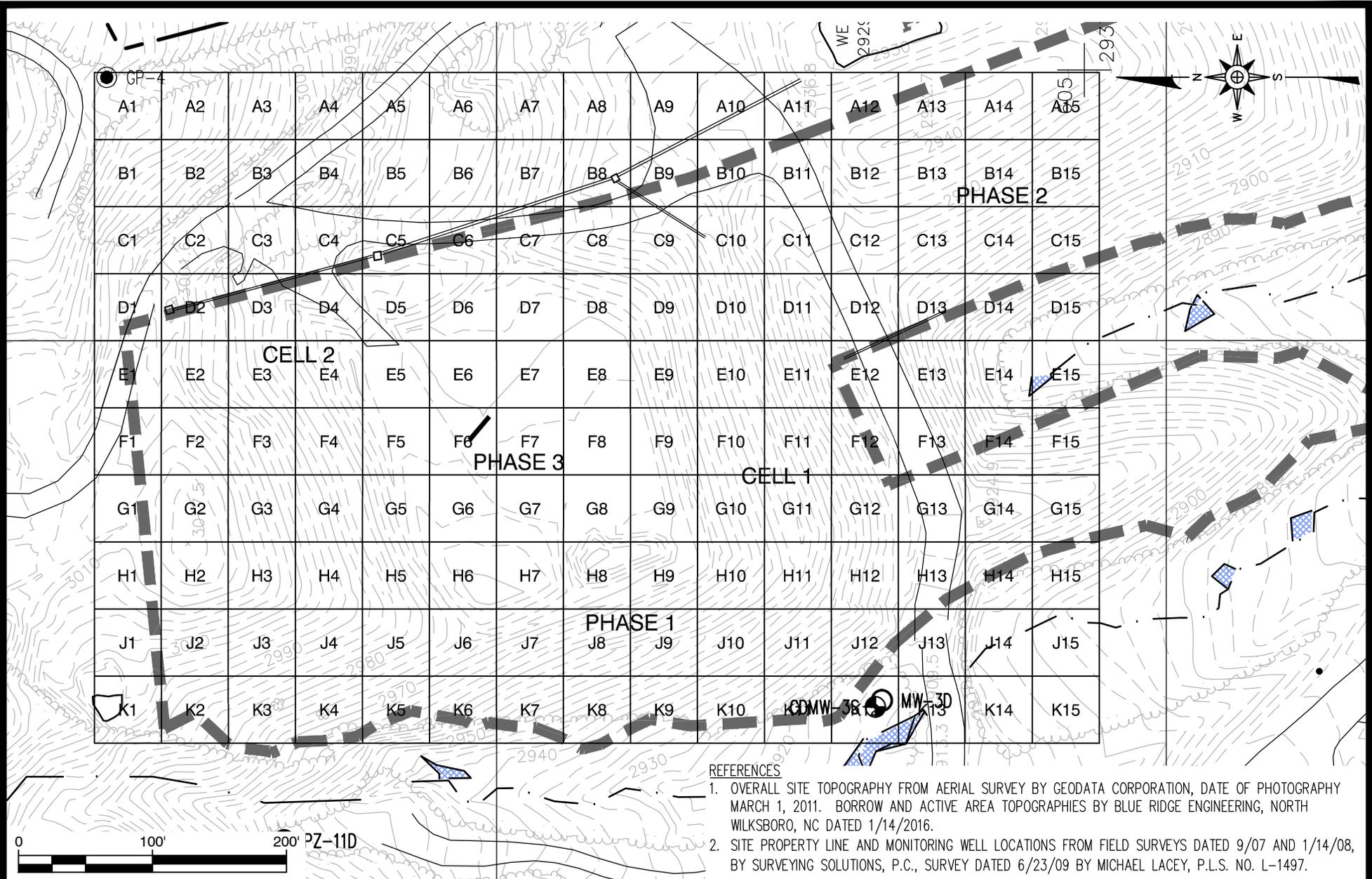
NC LIC. NO. C-0828 (ENGINEERING)

SMITH + GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

DRAWN: C.T.J.	APPROVED: M.M.G.	SCALE: AS SHOWN	DATE: Jan. 2016	PROJECT NO.: AVERY 15-7	FIGURE NO.: 3
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- REFERENCES**
1. OVERALL SITE TOPOGRAPHY FROM AERIAL SURVEY BY GEODATA CORPORATION, DATE OF PHOTOGRAPHY MARCH 1, 2011. BORROW AND ACTIVE AREA TOPOGRAPHIES BY BLUE RIDGE ENGINEERING, NORTH WILKSBORO, NC DATED 1/14/2016.
 2. SITE PROPERTY LINE AND MONITORING WELL LOCATIONS FROM FIELD SURVEYS DATED 9/07 AND 1/14/08, BY SURVEYING SOLUTIONS, P.C., SURVEY DATED 6/23/09 BY MICHAEL LACEY, P.L.S. NO. L-1497.

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PREPARED FOR: AVERY COUNTY SOLID WASTE FACILITY C&D LANDFILL WASTE PLACEMENT GRID	DRAWN: J.A.L.	APPROVED: _____	SCALE: AS SHOWN	DATE: Jan 2016	PREPARED BY: _____ NC LIC. NO. C-0828 [ENGINEERING]
	PROJECT NO.: AVERY 15-7	FIGURE NO.: 4	FILENAME: AVERY-A0244	SMITH+GARDNER 14 N. Boylan Avenue, Raleigh NC 27603 919.828.0577	

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Appendix A

Fire Occurrence Notification Form

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

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SOLID WASTE MANAGEMENT FACILITY FIRE OCCURRENCE NOTIFICATION

NC DENR Division of Waste Management
Solid Waste Section



Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.
(If additional space is needed, use back of this form.)

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE: _____ @ _____

HOW WAS THE FIRE REPORTED AND BY WHOM:

LIST ACTIONS TAKEN:

WHAT WAS THE CAUSE OF THE FIRE:

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED:

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE:

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS:

NAME: _____ TITLE: _____ DATE: _____

THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF
DATE RECEIVED _____

List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:
 NO PHONE CALL SUBMITTAL MEETING RETURN VISIT BY: _____ (DATE)

ACTIONS TAKEN OR REQUIRED:

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Appendix B

Paint Filter Liquids Test

EPA Method 9095

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

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METHOD 9095 PAINT FILTER LIQUIDS TEST From EPA SW-846

1.0 SCOPE AND APPLICATION

This method is used to determine the presence of free liquids in a representative sample of waste and determine compliance with 40 CFR 264.314 and 265.314.

2.0 METHOD SUMMARY

A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5 minute test period, the material is deemed to contain free liquids.

3.0 INTERFERENCES

Filter media were observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

4.0 APPARATUS AND MATERIALS

Conical paint filter: Mesh number 60 (fine meshed size). Available at local paint stores such as Sherwin-Williams and Glidden for an approximate cost of \$0.07 each.

Glass funnel: If the paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least 1 inch of the filter mesh to protrude should be used to support the filter. The funnel is to be fluted or have a large open mouth that supports the paint filter but does not interfere with the movement, to the graduated cylinder, of the liquid that passes through the filter mesh.

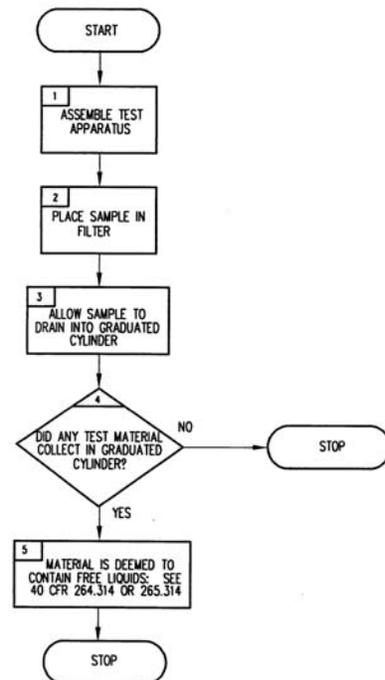
Ring stand and ring or tripod.

Graduated cylinder or beaker: 100-mL.

5.0 REAGENTS

None.

METHOD 9095
PAINT FILTER LIQUIDS TEST



6.0 SAMPLE COLLECTION, PRESERVATION AND HANDLING

Samples must be collected according to the directions in Chapter Nine of EPA SW-846.

A 100 mL or 100 g representative sample is required for the test. If it is not possible to obtain a sample of 100 mL or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 mL or 100 g, i.e., 200, 300, 400 mL or g. However, when larger samples are used, analysts shall divide the sample into 100-mL or 100-g portions and test each portion separately. If any portion contains free liquids, the entire sample is considered to have free liquids.

7.0 PROCEDURE

1. Assemble test apparatus as shown in Figure 1.
2. Place sample in the filter. A funnel may be used to provide support for the paint filter.
3. Allow sample to drain for 5 minutes into the graduated cylinder.
4. If any portion of the test material collects in the graduated cylinder in the 5-min. period, then the material is deemed to contain free liquids for purposes of 40 CFR 264.314 and 265.314.

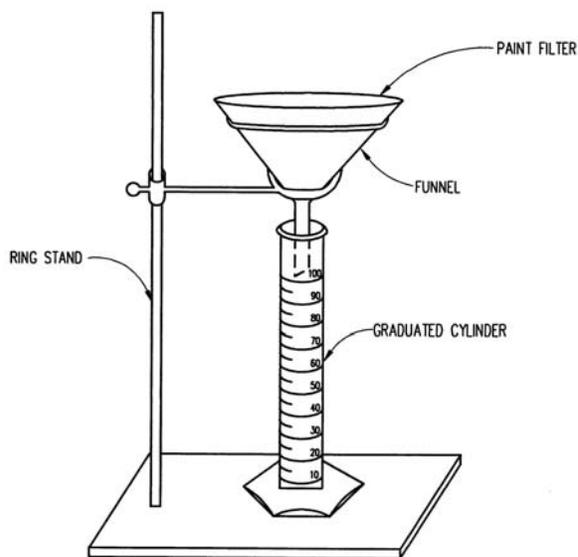


FIGURE 1. PAINT FILTER TEST APPARATUS.

8.0 QUALITY CONTROL

Duplicate samples should be analyzed on a routine basis.

9095-3

9.0 METHOD PERFORMANCE

No data provided.

10.0 REFERENCES

None required.

Appendix C

Waste Screening Form

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

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Avery County Solid Waste Facility
C&D Landfill & Transfer Station Permit No. 06-03

WASTE SCREENING FORM

Day / Date: _____ Time Weighed in: _____
Truck Owner: _____ Driver Name: _____
Truck Type: _____ Vehicle ID / Tag No: _____
Weight: _____ Tare: _____
Waste Generator / Source: _____

Reason Load Inspected: Random Inspection _____ Staff Initials _____
Detained at Scales _____ Staff Initials _____
Detained by Operating Staff _____ Staff Initials _____

Inspection Location: _____

Approved Waste Determination Form Present? Yes _____ No _____ N/A _____

Description of Load: _____

Load Accepted (signature) _____ Date _____
Load Not Accepted (signature) _____ Date _____

Reason Load Not Accepted (complete only if load not accepted)

Description of Suspicious Contents:
Color: _____ Hazardous Waste Markings: _____
Texture: _____ Smell: _____
Drums Present: _____
Est. Cubic Yards in Load: _____
Est. Tons in Load: _____

Avery County Emergency Management Contacted? Yes _____ No _____

Company or Authority Contacted? _____
Hazardous Materials Present: _____

Hauler Notified (if waste not accepted) Phone: _____ Time Contacted: _____
Other Observations: _____

Final Disposition
Signed: _____ Date _____
Waste Screening Inspector or Landfill Manager

Attach related correspondence to this form.
File completed form in Operating Record.

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Appendix D

Mobile Home Deconstruction

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

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1.0 OVERVIEW

This portion of the Operations Manual was prepared for the Mobile Home Deconstruction Area located adjacent to the Avery County Construction and Demolition Debris (C&D) Landfill unit. The Mobile Home Deconstruction Area is strictly for the deconstruction of mobile homes to recycle materials from the mobile homes. Avery County plans to recycle as many varieties of materials as possible as end users are available. Initially, scrap metal recycling will be conducted. Once an end-user of another material (i.e. glass) is located, these other materials may be recycled. Any non-recyclable material will be disposed of appropriately by the County following completion of the deconstruction process.

2.0 MOBILE HOME DECONSTRUCTION PROCESS

Mobile homes will be deconstructed using the following processes.

2.1 Access

Mobile home owners seeking disposal will contact the landfill facility and be placed on a waiting list. No more than TWO (2) mobile homes will be allowed on-site for deconstruction at one time. Once space is available for a mobile home, landfill personnel will contact the next owner on the waiting list. The owner will have a 48 hour window in which to contact the landfill facility with information regarding the delivery date and hauler. If the owner cannot arrange delivery within this initial 48 hour period, the owner may make alternate arrangements for delivery and must notify the landfill facility a minimum of 48 hours prior to the planned delivery. The delivered mobile home will not be weighed on the scales at time of delivery, but the owner will be charged based on the size and dimensions of the mobile home.

If delivery is not made within 48 hours of the scheduled delivery date, the owners name will be placed back on the waiting list and the owner will be notified. If an owner has more than one mobile home, they will be rotated with others on the waiting list.

2.2 Waste Disposal

All mobile homes must be free of garbage, household hazardous waste, and other non-construction and demolition waste prior to landfill acceptance.

2.3 White Goods

White goods present inside the mobile home will be accepted with mobile home delivery. White goods will be removed and handled in accordance with State and Federal regulations. CFC contained within any white goods will need to have the CFC's managed properly prior to removal of the white goods and deconstruction of the mobile home.

2.4 Asbestos

Since asbestos may be located in the building materials of mobile homes constructed prior to 1983, all mobile homes built before 1/1/1983 will be thoroughly sprayed with water (both interior and exterior) to minimize dust. Following demolition of any mobile home constructed prior to 1983, the waste generated will be placed in the C&D landfill and covered with six inches of soil or approved alternate cover.

2.5 Deconstruction of Mobile Homes

Once accepted, the mobile home will be placed in the mobile home deconstruction area. Mobile home deconstruction will be dependent on weather conditions and manpower availability and will ONLY take place in the deconstruction area. Prior to deconstruction, mobile homes constructed before 1983 will be thoroughly sprayed with water to minimize dust (as noted above). Any mercury containing equipment (thermostats, etc) will be removed before deconstruction and properly managed as universal waste. The home will then be deconstructed using a track-hoe. The track-hoe will tear the trailer apart and lay the pieces on the ground to be separated by landfill personnel. The personnel will separate the non-recyclable materials from the recyclable materials. Initially, scrap metal is planned for recycling. As other end-users for other materials are available, other materials may be separated for recycling. All material not planned for recycling will be weighed at the scale house and placed in the C&D landfill before the end of the day in which the deconstruction transpires. Material from mobile homes constructed prior to 1983 will be covered prior to the end of the day. All recyclable materials will be stockpiled in the deconstruction area for future recycling. **NO OPEN FLAMES OR CUTTING WITH TORCHES WILL BE ALLOWED WITHIN 100 FEET OF THE C&D LANDFILL.**

2.6 Holding Time for Mobile Homes

Mobile homes must be deconstructed within 45 days following acceptance in the deconstruction area. When received at the landfill, the date shall be painted on the side, end or on the frame of the mobile home, for identification purposes for Solid Waste Section personnel.

2.7 Holding Time for Recyclables

Once recyclable material is removed from the mobile home, it may be stockpiled in the mobile home deconstruction area for up to 45 days. No materials shall be kept in this area for more than 45 days, nor shall they be stockpiled in other recycling areas.

3.0 RECORD KEEPING PROGRAM

The County shall maintain the following records related to the Mobile Home Deconstruction in the landfill operating record (**Section 1.13** of the Operations Manual):

- A. Mobile Home Acceptance records including dates and description;
- B. Owner and hauler information for each mobile home;
- C. Deconstruction date for each mobile home and materials to be recycled;
- D. Date and disposal information for recycled materials including location, vendor/ recipient of recycled materials.
- E. Date and certification of CFC's removed.

Appendix E

Asphalt Shingles

**Operations Manual
Avery County Solid Waste Facility
Ingalls, North Carolina**

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1.0 OVERVIEW

This portion of the Operations Manual was prepared to describe the plan for the recycling of asphalt shingles at the facility. Asphalt shingle recycling will occur in an area located at the transfer station. The Asphalt Shingle Recycling Area is strictly for the management of tear-off asphalt shingles to provide a “clean” material that can be used in the production of asphalt. This plan describes the criteria for waste acceptance, material receipt, inspection, stockpiling, material transport and record keeping.

2.0 WASTE ACCEPTANCE

Asphalt roofing shingles contain asphalt cement, mineral aggregate, and mineral filler which are raw materials used in asphalt production. Asbestos was used in shingle manufacture until the mid-1970’s and in other roofing materials such as roof felt, roof putty, surface coating, and mastic until the mid 1980s. Due to the potential for the presence of asbestos, the following source separation and certification requirements will be followed. These practices help ensure that only recyclable tear-off shingles are sent for asphalt production while minimizing sorting at the facility.

2.1 Source Separation

Shingles will be accepted only when appropriately separated prior to delivery to the facility. Materials from flat and built-up roofing system are not acceptable and must be disposed rather than accepted for recycling due the higher use of asbestos roofing materials in those systems. Shingle suppliers are instructed to separate tear-off shingles into either a dedicated trailer or to layer their waste when loading so that the shingles can be easily separated from the unacceptable debris. A list of acceptable and unacceptable material is provided in **Appendix E1**.

2.2 Certification

Shingle suppliers are required to complete a supplier certification form (**Appendix E2**). Asbestos handling and disposal during demolition and renovation is regulated under the National Emissions Standards for Hazardous Air Pollution (NESHAP). NESHAP-regulated facilities are required to submit a notification of demolition and renovation prior to starting work. The notification includes an inspection by a North Carolina accredited asbestos inspector or roofing supervisor and analysis for asbestos. The supplier of shingles from a NESHAP-regulated facility must present documentation that the shingles do not contain greater than 1% asbestos. This documentation is a letter from the accredited asbestos inspector or roofing supervisor that sampled the shingles and the analytical test results. A copy of the documentation is kept with the supplier certification form. Shingles from a NESHAP-regulated facility that do not have the required documentation or that are documented to contain greater than 1% asbestos are properly disposed.

Shingles from single family homes or residential buildings containing four or fewer dwelling units are generally not regulated under NESHAP. In this case, only the source of shingles is required on the certification form.

3.0 MATERIAL RECEIPT, INSPECTION, AND STOCKPILING

Shingles will be visually inspected when entering the facility to determine whether the shingles have been separated or if it is a mixed load. The supplier is then asked for a completed certification form including documentation when required (**Appendix E2**). Mixed loads, shingles from a NESHAP-regulated facility that contain greater than 1 percent asbestos, and shingles from a NESHAP-regulated facility without the proper documentation are directed to the C&D landfill unit (or alternately the transfer station) for disposal. Loads that were source-separated into dedicated containers are sent directly to the sorting area and unloaded. Loads that were separated into layers usually have the asphalt shingles on the bottom and other material on the top. These loads are first directed to the C&D landfill unit (or alternately the transfer station) to remove the non-shingle roofing waste and then to the sorting area for unloading the shingles. Shingles are not unloaded into an area with standing water and sorted and unsorted materials are kept separate.

Source-separation by the supplier eliminates most unacceptable materials that cannot be used in tear-off shingle recycling. The unloaded tear-off shingles are examined for unacceptable materials and any unacceptable materials are removed. The remaining sorted shingles are stockpiled in the recycling area until there is a sufficient amount to transport to a facility that will grind and use or sell the ground shingles for asphalt production.

4.0 MATERIAL TRANSPORT

Following the transport of shingles to the receiving facility, the County will provide copies of supplier certification forms and other documentation. When requested (and as agreed to prior to material transport), the County will follow any additional requirements of the receiving facility.

5.0 RECORD KEEPING PROGRAM

The County will maintain the following records related to asphalt shingle recycling in an operating record at the landfill (**Section 1.13** in the Operations Manual):

- A. Supplier certification forms and supporting documents;
- B. Waste and recyclable disposal (quantity of materials disposed and disposal location; quantity of recycled shingles and receiving facility information).

Appendix E1

List of Acceptable and Unacceptable Materials

**Operations Manual - Appendix E: Asphalt Shingle Recycling
Avery County Solid Waste Facility
Ingalls, North Carolina**

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TEAR-OFF ASPHALT SHINGLE RECYCLING

List of Acceptable and Unacceptable Materials

“YES”

Include these items:

- Shingles
- Felt attached to shingles

“NO”

Do NOT include these items:

- Wood
- Metal flashings, gutters, etc.
- Nails (best effort)
- Rolls of sheets of felt paper
- Plastic wrap, buckets
- Paper waste
- No garbage, trash, or other waste materials
- Built-up asphalt roofing
- Asbestos-containing materials
- Shingles containing mastics

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Appendix E2

Shingle Supplier Certification Form

**Operations Manual - Appendix E: Asphalt Shingle Recycling
Avery County Solid Waste Facility
Ingalls, North Carolina**

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SHINGLE SUPPLIER CERTIFICATION FORM

Supplier of Whole Tear-off Asphalt Shingles

Supplier Name: _____
Address: _____
Contact Name: _____
Phone: _____

We the undersigned certify that (check appropriate boxes):

The tear-off shingles are from a NESHAP regulated facility and documentation stating that the shingles do not contain >1% asbestos is attached. (Documentation is a letter from the North Carolina accredited asbestos inspector or roofing supervisor that collected the samples with the analytical results attached.)

The tear-off shingles are from a single family home or residential building having four or fewer dwelling units that is not regulated under NESHAP.

Tear-off shingles were removed from the following addresses:

(Please attach additional sheets as needed to record each building address.)

Shingle Supplier (signature)

Date

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