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Operations Manual

**Avery County C&D Landfill
Ingalls, North Carolina
NC Solid Waste Permit No. 06-03**

Prepared for:



**Avery County
Newland, North Carolina**

PERMIT ISSUE DOCUMENTS

February 2009



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AVERY COUNTY C&D LANDFILL

OPERATIONS MANUAL

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Appendix A	Waste Screening Form
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SECTION 1.0 GENERAL FACILITY OPERATIONS

1.1 OVERVIEW

This Operations Manual was prepared for operations of the Avery County C&D Landfill facility permit No. 06-03 located in Ingalls, North Carolina as shown in **Figure 1**. This document discusses the operation of the following solid waste management activities:

- C&D landfill; and
- Mobile home deconstruction area.

Refer to **Figure 2** (Facility Plan) of the Permit Drawings for the location of existing landfill units and other solid waste management activities.

1.2 CONTACT INFORMATION

All correspondence and questions concerning the operation of the Avery County C&D Landfill should be directed to the appropriate County and State personnel listed below. For fire or police emergencies dial 911.

1.2.1 Avery County

Avery County Landfill (Site and Scale house)
2175 Brushy Creek Road
Newland, NC 28657

Avery County Solid Waste Department (Office)
175 Linville Street
Ingalls, NC 28657
Phone: 828-737-5420
Contact: Henry "Buddy" Norris

1.2.2 North Carolina Department of Environment and Natural Resources

North Carolina DENR - Raleigh Central Office (RCO)
401 Oberlin Road, Suite 150
Raleigh, NC 27605
Phone: (919) 508-8400
Fax: (919) 715-3605

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

Division of Waste Management (DWM) - Solid Waste Section:

Field Operations Branch Head: Mark Poindexter (RCO)
Western Regional Supervisor: Deb Aja
Waste Management Specialist: Bill Wagner (RCO)

Division of Land Resources - Land Quality Section:

Regional Engineer: Janet Boyer, PE

1.3 ACCESS CONTROL

Limiting access to the landfill 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 landfill attendant will be on duty at all times when the facility is open for public use to enforce access restrictions.

1.3.1 Physical Restraints

The site will be primarily accessed by the existing entrance on Brushy Creek Road. Scales and a scale house and office are provided at this entrance. All waste will have been weighed prior to being placed in the landfill. Each entrance will have a gate which will be securely locked during non-operating hours.

1.3.2 Security

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.

1.4 SIGNAGE

A prominent sign(s) containing the information required by the DWM will be placed at the main landfill entrance. This sign(s) will provide information on operating hours, operating procedures, and acceptable wastes. Additional signage will be provided as necessary within the landfill complex to distinctly distinguish the roadway to the active landfill unit. 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.

1.5 COMMUNICATIONS

Two way radio communication will be maintained between the active landfill unit and the landfill 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 the scale house and office.

1.6 FACILITY OPERATING HOURS

Normal hours of operation will be 8:00 A.M. to 4:30 P.M. Monday to Friday and 7:00 A.M. to 12:00 noon on Saturday. Facility will be closed on Sunday.

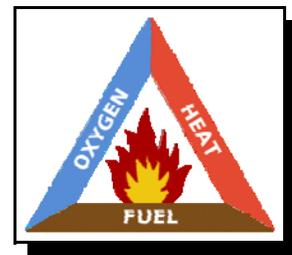
In the event of disaster or other emergency situations the supervisor will request approval from the commission's regional office to allow additional temporary operating hours.

1.7 FIRE AND SAFETY

The possibility of fire at the C&D landfill 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. Subsurface conditions include underground fires caused by decomposition of the C&D materials previously landfilled.

1.7.1 Fire Triangle

The "triangle" illustrates the rule that in order to ignite and burn, a fire requires three (3) elements: heat, fuel, and oxygen. 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). These principles are integral in the prevention and management of potential fire situations.



1.7.2 Equipment Safety

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 at the C&D landfill 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 at the screen location and on each piece of moving equipment and equipment should be cleaned periodically.

1.7.3 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); and
- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas.

1.7.4 Coordination

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

1.8 LITTER CONTROL

The vegetative trees/bushes act as a barrier to keep litter contained within the site. Landfill Operators pick up litter within the site daily and respond to weather and heavy wind conditions that may spread litter.

The litter control crew picks up litter outside the site and on access roads each weekday. 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.

1.9 SEVERE WEATHER CONDITIONS

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

1.9.1 Ice Storms

An ice storm can make access to the landfill dangerous, prevent movement or placement of cover soil, and, thus, may require closure of the landfill until the ice is removed or has melted.

1.9.2 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the landfill during rainy periods. The control of drainage and use of crushed stone on unpaved roads should provide 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 taken to repair any damage found before the next rainfall.

1.9.3 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 taken in the on-site buildings or in rubber-tired vehicles.

1.9.4 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 daily cover.

1.9.5 Violent Storms

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

1.10 EQUIPMENT REQUIREMENTS

The County will maintain on-site equipment required to perform the necessary landfill activities (see **Section 2.4.4**). Periodic maintenance of all landfilling equipment, and minor and major repair work will be performed at designated maintenance zones outside of the landfill.

1.11 PERSONNEL REQUIREMENTS

At least one member of the landfill supervisory staff will be certified as a Manager of Landfill Operations (MOLO) by the Solid Waste Association of North America (SWANA). Each landfill employee will go through an annual training course (led by supervisory staff) and is certified by SWANA as Landfill Operations personnel. As part of this training, personnel learn to recognize loads which may contain prohibited wastes. The personnel requirements for operation and maintenance of the site are listed in **Section 2.4.3**.

1.12 HEALTH AND SAFETY

All aspects of the transfer and C&D landfill 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 National Solid Waste Management Association 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 Owner will also be implemented.

Each facility employee will go through annual training course in health and safety (led by supervisory staff). All training shall 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 at the Avery County facility.

1.12.1 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 1.12.2**.
- 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).

1.12.2 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 are expected.
- Disposable rubber latex or chemical resistant gloves for handling and/or sampling of waste materials.
- Dust filter masks

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

1.12.3 Mechanical Equipment Hazard Prevention

The loaders and other 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 shall be used to identify equipment in need or under repair and insure that operation is "off-limits" prior to maintenance or repair. All operators shall be

trained in the proper operation of equipment.

1.12.4 Employee Health and Safety

Some general safety rules are:

- Consider safety first when planning and conducting activities.
- Review the equipment Manual prior to attempting repairs/changes.
- Remember the buddy system in case of 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 the first aid kit and fire extinguishers.

1.12.5 Physical Exposure

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

1.12.6 Material Safety Data Sheets

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

1.13 UTILITIES

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

1.14 RECORD KEEPING PROGRAM

The County will maintain the following records in an operating record at the landfill:

- A. Waste inspection records (see **Section 2.3.1**);
- B. Daily tonnage records - including source of generation;
- C. Waste determination records;
- D. Quantity, location of disposal, generator, and special handling procedures for all special wastes disposed of at the site;
- E. List of generators and haulers that have attempted to dispose of restricted wastes;
- F. Employee training procedures and records of training completed;
- G. Documentation of cell activation;
- H. Documentation of mobile home deconstruction (see **Appendix B**)
- I. Gas monitoring results and remediation measures as required (see **Section 3.4**);
- J. All 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. Statistical analyses; and
 4. Results of inspections, repairs, etc.
- K. Annual landfill reports;
- L. All closure and post-closure information, where applicable, including:
1. Testing;
 2. Certification; and
 3. Recording.
- M. Cost estimates or financial assurance documentation.

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

SECTION 2.0 WASTE HANDLING OPERATIONS

2.1 OVERVIEW

This section describes the required waste handling operations for the Avery County Landfill facility.

2.2 ACCEPTABLE WASTES

Only the following wastes generated within the approved service area may be disposed of in the C&D landfill unit (Note list is in accordance with existing permit):

- Land Clearing and Inert Debris: as defined in 15A NCAC 13B.0101(54) 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(53) 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.
- C&D-Like Waste: wastes that are similar to waste typically found in the land clearing-inert debris and C&D waste streams consisting of: roofing shingle waste from the manufacturer, waste building materials from mobile home/modular home manufacturer, and wooden pallets.
- Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

In addition, waste from the deconstruction of mobile homes described in **Section 2.6** and the special wastes (asbestos only) described in **Section 2.5.3** and may also be disposed of in the C&D landfill unit.

2.3 WASTE SCREENING PROGRAMS

In order to assure that prohibited wastes are not entering the landfill facility, screening programs have been implemented at the landfill. Waste received at both the scale house entrance and waste taken to the working face is inspected by trained personnel. These individuals have been trained to spot indications of 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 landfill operation.

2.3.1 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 driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the landfill. 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, the vehicles are routed to the C&D landfill, MSW transfer station, or other area (mobile home deconstruction, etc.) as appropriate.

Vehicles are randomly selected for screening on a regular basis, depending on personnel available. At least one vehicle per week, but not less than 1% by weight of the waste stream entering the landfill (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.

Vehicles selected for inspection are directed to an area of intermediate cover adjacent to the working face where the vehicle will be unloaded. 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 and secured by berming off the area. For unacceptable wastes that are non-hazardous, the Solid Waste Director will then notify officials of the DWM (see **Section 1.2.2**) within 24 hours of attempted disposal of any waste the landfill is not permitted to receive in order to determine the proper course of action. For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.3.2** will be followed. The hauler is responsible for removing unacceptable waste from the landfill property.

If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell. All random waste inspections will be documented by landfill staff using the waste screening form provided in **Appendix A**.

In addition to random waste screening described above, waste unloaded on the active face will be inspected by the equipment operators, trained to spot unacceptable wastes, before and during spreading and compaction. Any suspicious looking waste is reported immediately to the designated primary inspector for further evaluation.

2.3.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at the landfill, appropriate equipment, protective gear, personnel, and materials as necessary will be employed to isolate the wastes. The DWM will be notified

immediately (see **Section 1.2.2**) that an attempt was made to dispose of hazardous waste at the landfill. 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 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 the waste. The cost of the removal and disposing 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 using the landfill.

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

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

2.4 FACILITY OPERATIONS

2.4.1 Operating Capacity

The Operating Capacity for the solid waste facility is estimated to be approximately 10,000 tons per year of C&D waste.

2.4.2 Service Area

The anticipated service area for the facility (subject to change) is generally anticipated to be concentrated as shown in **Figure 3**.

2.4.3 Personnel Requirements

The anticipated personnel requirements for operation and maintenance of the site are listed in the following table.

Description	Primary Function (Allocation)
1) Site Manager (1)	Overall management of the facility
2) Scale house Attendant (1)	Receiving and weight for incoming loads
3) Operators (1)	Management of active proposed area.
4) Labor (1)	General labor and operational staff around the site

2.4.4 Equipment Requirements

The anticipated equipment requirements for operation and maintenance of the site are listed in the following table.

Description	Primary Function (Allocation)
1) Excavator (1)	Soil cover loading, and site maintenance
2) Front End Loader (1)	Loading, and site cleanup
3) Dump Truck	Hauling material around site

2.5 WASTE DISPOSAL

2.5.1 Access

Traffic will be clearly directed to the appropriate active access road. The location of access roads during waste placement will be determined by operations personnel in order to reflect waste placement strategy.

2.5.2 General Procedures

Waste transportation vehicles will arrive at the working face at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. In order to maintain control over the unloading of waste, a certain number of vehicles will be allowed on the working face at a time. The actual number will be determined by the truck spotter. This procedure will be used in order to minimize the potential of unloading unacceptable waste and to control disposal activity. Operations at the working face will be conducted in a manner which will encourage the efficient movement of transportation vehicles to and from the working face, and to expedite the unloading of waste.

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. Upon completion of 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 in order 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, intermediate, or final cover, as appropriate.

The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into 2 foot lifts, and compaction on relatively flat slopes (i.e. 5H:1V max.) using a dozer and a minimum number of three full passes.

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

The use of portable signs with directional arrows and portable traffic barricades will facilitate the unloading of wastes to 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 areas which may be established.

2.5.3 Special Waste Management

2.5.3.1 Asbestos Management

The County may dispose of asbestos within the C&D landfill. 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 cover soil placed in a single lift. The surface of the cover soil will be compacted and graded using a tracked dozer or loader. The landfill dozer will be prohibited from operating over asbestos disposal areas until at least 18 inches of cover are in-place.

The landfill staff will record the approximate location and elevation of the asbestos waste once cover is in-place. The Solid Waste Director will then 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 Periodic Cover

At the completion of waste placement each week, or sooner if the area of exposed waste exceeds one acre in size, a 6-inch layer of earthen material or other material as approved by the DWM will be placed over the exposed waste. This periodic cover is intended to control vectors, fire, odors, and blowing debris.

2.5.5 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 all precipitation run-off is channeled to the surface water systems.

2.5.7 Height Monitoring

Approximately every month, the landfill staff will monitor landfill top and side slope elevations with a level. When such elevations approach design grades, the final top-of-waste grades will be staked to limit over-placement of waste.

2.6 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 B**.

SECTION 3.0 ENVIRONMENTAL MANAGEMENT

3.1 OVERVIEW

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

3.2 SURFACE WATER CONTROL

As used herein, the definition of “surface water” is water which results from precipitation or site run-on that has not contacted the waste.

Proper control of surface water at the landfill will accomplish the following goals:

- Prevent the run-on of surface water into the landfill unit or the active face(s);
- Limit the erosion caused by surface waters; and
- Limit sediments carried off-site by surface waters.

Separate erosion and sedimentation control plan(s) have been provided for the facility. These plans describe both short and long term engineered features and practices for preventing erosion and controlling sedimentation at this site. The following is a brief discussion of some of these features and practices, focusing more on the landfill units.

3.2.1 Surface Water Run-On Control

The perimeter channels around the landfill unit are designed to prevent the run-on of surface water from adjacent land into the landfill. Additional structures such as diversion berms, channels, down pipes, etc. carry surface water away from the landfill.

3.2.2 Erosion Control

The serviceability of the landfill relies heavily on soil berms, barrier layers, and agricultural layers that are readily eroded by flowing water. Erosion control provisions incorporated in the landfill include the following:

- The slope of the working face must be no steeper than 5H:1V where practical to limit erosion of the periodic cover.
- Intermediate cover that has been exposed for more than 30 days must be seeded immediately and repaired when erosion features are identified.
- Drainage breaks (diversion berms, etc.) are provided on the final cover to

limit the flow length of run-off.

- Water collected by each drainage break is routed to stormwater drainage channels or down pipes so that the run-off volume does not accumulate going down the slope.
- The vegetative soil layer placed over the final cover must be seeded immediately.

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

3.2.3 Sedimentation Control

Stormwater run-off from the landfill unit is conveyed to the on site sediment basin. This basin should be inspected regularly for sediment build-up or erosion damage. The basin should be cleaned out when sediment fills the lower half of the basin.

3.3 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 1.14**.

3.4 LANDFILL GAS MANAGEMENT

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 concentrations shall not exceed 25 percent of the lower explosive limit (LEL) (1.25% of CH₄) in on-site structures, such as scale houses, or 100% of the LEL (5% of CH₄) at the facility property boundary. Subsurface methane monitoring wells are installed between the landfill perimeter and the property line, and are spaced approximately 500 feet apart. Additional wells will be installed as necessary and consistent with landfill expansion.

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

- Immediately take all steps necessary for the protection of personnel, staff, or neighboring properties and notify the DWM;
- Within seven (7) days, place in the operating record a description of events taken following the detection event; and

- 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

3.5 VECTOR CONTROL

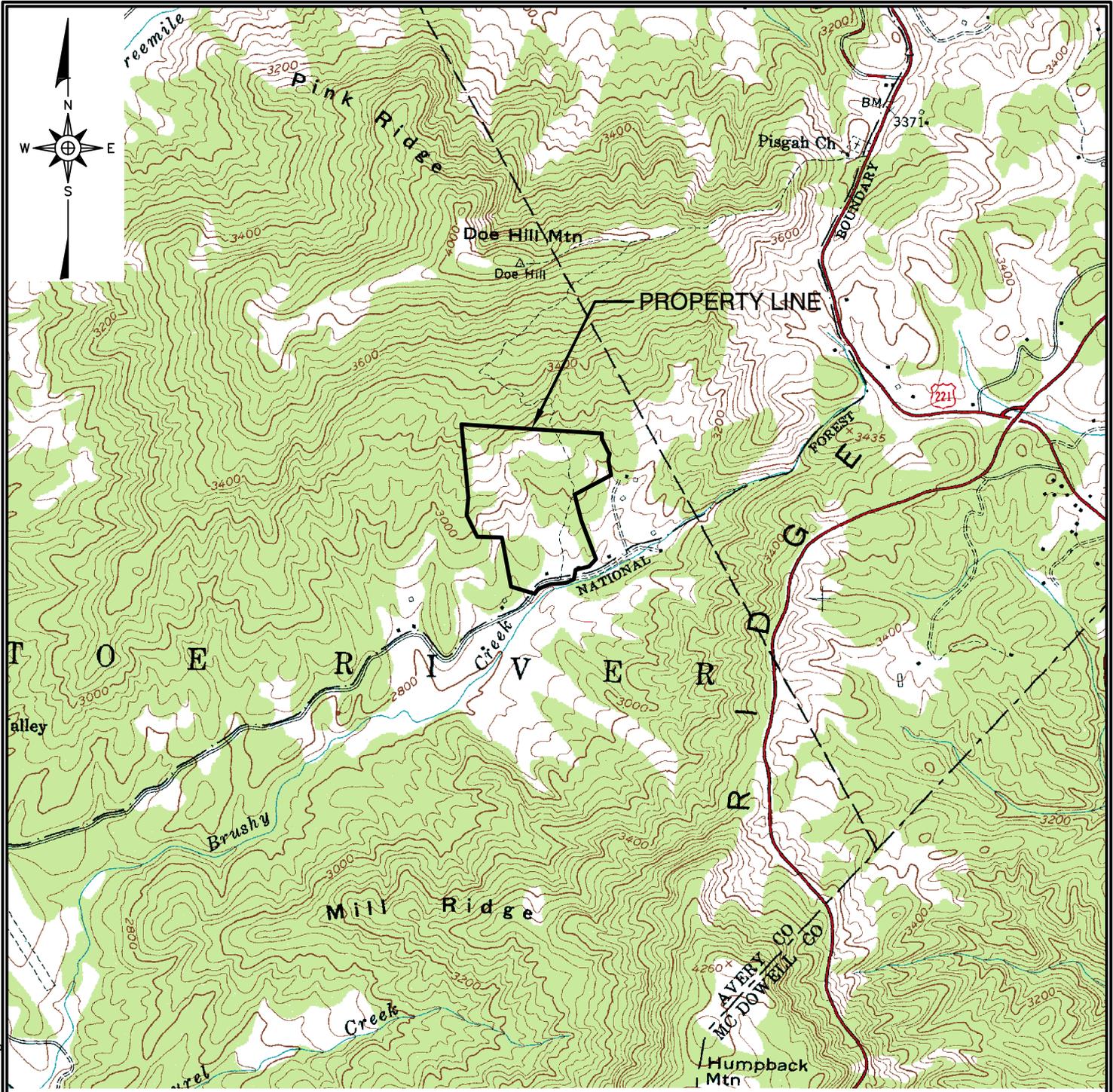
Due to the nature of the waste disposed in the C&D landfill unit, vector control is not anticipated to be of concern. Note that the use of periodic cover will discourage animals from nesting in the waste.

3.6 ODOR CONTROL

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

3.7 DUST CONTROL

Dust related to waste hauler traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portion of the road. Dust generated by excavation of cover soil will be limited by watering the cut soil areas if accessible to the water truck.



REFERENCES

1. U.S.G.S. QUADRANGLE "LINVILLE FALLS, NC" 1956, PHOTO INSPECTED 1984
2. SITE PROPERTY LINE FROM FIELD SURVEY DATED 1/14/08, BY SURVEYING SOLUTIONS, P.C.



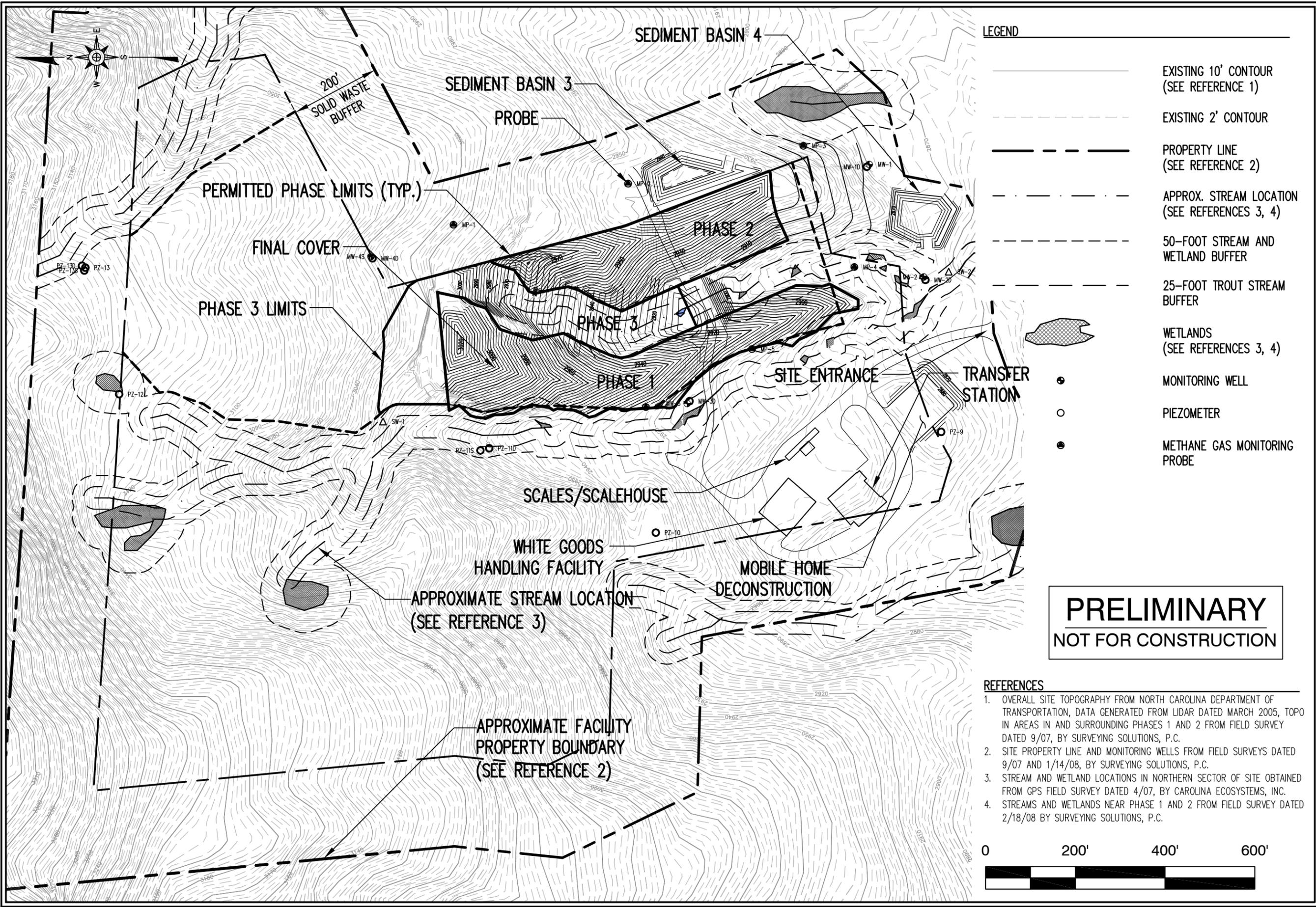
**AVERY COUNTY C&D LANDFILL
SITE VICINITY MAP**

**RICHARDSON SMITH GARDNER
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SCALE: AS SHOWN	DRAWN BY: J.A.L.	CHECKED BY: J.A.S.	DATE: Jul. 2008	PROJECT NO. AVERY 07-1	FIGURE NO. 1	FILE NAME AVERY-A0048
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LEGEND

	EXISTING 10' CONTOUR (SEE REFERENCE 1)
	EXISTING 2' CONTOUR
	PROPERTY LINE (SEE REFERENCE 2)
	APPROX. STREAM LOCATION (SEE REFERENCES 3, 4)
	50-FOOT STREAM AND WETLAND BUFFER
	25-FOOT TROUT STREAM BUFFER
	WETLANDS (SEE REFERENCES 3, 4)
	MONITORING WELL
	PIEZOMETER
	METHANE GAS MONITORING PROBE

PRELIMINARY
NOT FOR CONSTRUCTION

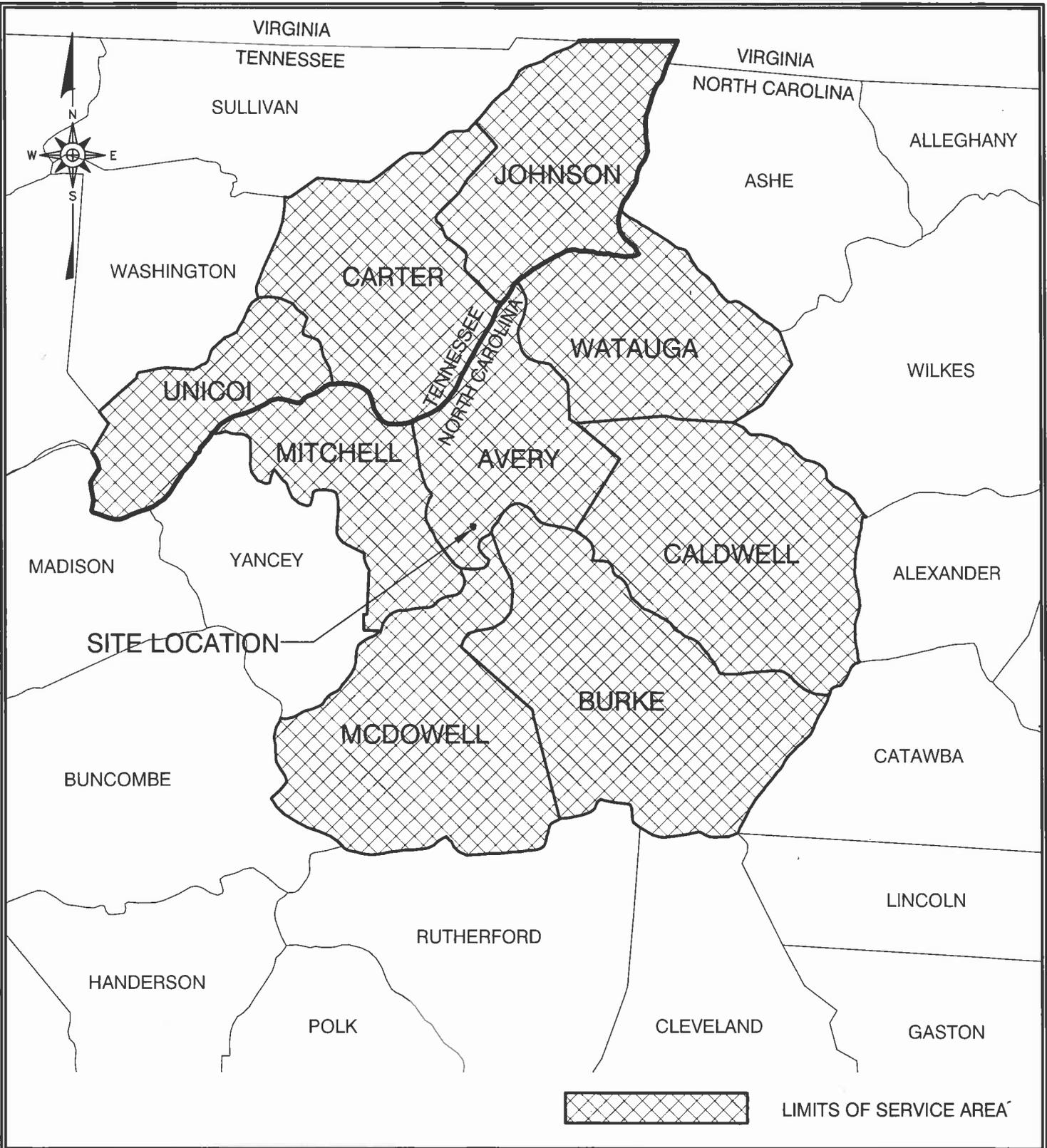
- REFERENCES**
- OVERALL SITE TOPOGRAPHY FROM NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, DATA GENERATED FROM LIDAR DATED MARCH 2005, TOPO IN AREAS IN AND SURROUNDING PHASES 1 AND 2 FROM FIELD SURVEY DATED 9/07, BY SURVEYING SOLUTIONS, P.C.
 - SITE PROPERTY LINE AND MONITORING WELLS FROM FIELD SURVEYS DATED 9/07 AND 1/14/08, BY SURVEYING SOLUTIONS, P.C.
 - STREAM AND WETLAND LOCATIONS IN NORTHERN SECTOR OF SITE OBTAINED FROM GPS FIELD SURVEY DATED 4/07, BY CAROLINA ECOSYSTEMS, INC.
 - STREAMS AND WETLANDS NEAR PHASE 1 AND 2 FROM FIELD SURVEY DATED 2/18/08 BY SURVEYING SOLUTIONS, P.C.



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FIGURE NO.	2	FILE NAME	AVERY-B0076
SCALE:	AS SHOWN	PROJECT NO.	AVERY 08-7
CHECKED BY:		DATE:	Feb. 2009
DRAWN BY:	J.A.L.		

TITLE:
AVERY COUNTY FACILITY PLAN



**AVERY COUNTY LANDFILL
FACILITY SERVICE AREA**



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SCALE:	DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.	FIGURE NO.	FILE NAME
NOT TO SCALE	C.T.J.	S.A.S.	Apr. 2008	AVERY 07-1	3	AVERY-A0035

Appendix A

Waste Screening Form

Avery County C&D Landfill
Permit No. 06-03
(828) 737-5420

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 _____ Haz. Waste Markings _____
Texture _____
Drums Present _____ Smell _____
Est. Cu. Yds. Present in Load _____
Est. Tons Present 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 Solid Waste Director

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

Appendix B

Mobile Home Deconstruction

AVERY COUNTY C&D LANDFILL
OPERATIONS MANUAL
APPENDIX B: MOBILE HOME DECONSTRUCTION

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AVERY COUNTY C&D LANDFILL

OPERATIONS MANUAL

APPENDIX D: MOBILE HOME DECONSTRUCTION

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 in order 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 upon 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 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 planned delivery. The delivered mobile home will not be weighed on the scales at time of delivery, but the owner will be charged based upon 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 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 all other non-construction and demolition waste prior to acceptance by the landfill.

2.3 White Goods

White goods will be accepted with the mobile home. White goods will be removed and handled in accordance with all State and Federal regulations. Any white goods containing CFC's will have them 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. Upon demolition of a 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 dependant upon 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). 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 placed in the C&D landfill before the end of the day in which the deconstruction takes place. 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

All mobile homes must be deconstructed within 45 days from acceptance into the deconstruction area. Upon receipt at the landfill, the date shall be painted on the side or end of the mobile home, or on the frame, for identification purposes for Solid Waste Section personnel.

2.7 Holding Time for Recyclables

Once a recyclable material is removed from a 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 areas awaiting recycling.

3.0 RECORD KEEPING PROGRAM

The County shall maintain the following records related to the Mobile Home Deconstruction in an operating record at the landfill (see also **Section 1.11** of the Operations Manual):

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