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# Buncombe County, North Carolina

## Buncombe County Solid Waste Management Facility

### C&D Landfill Operation Plan

July 2009

Final Submittal: March 2010



# Section 1

## Purpose

The purpose of this Operation Plan is to provide the Buncombe County C&D landfill staff with a manual that will serve as a guide for safe and efficient operation of the C&D landfill, including the current operating phase through the Phase 5 expansion that is proposed for construction. This Operation Plan has been prepared in accordance with the North Carolina Solid Waste Rule 15A NCAC 13B .0542, Operation Plan and Requirements for C&D Landfill Facilities, and therefore addresses the following issues.

- Waste Acceptance and Disposal Requirements
- Cover Material Requirements
- Spreading and Compacting Requirements
- Disease Vector Control
- Air Criteria and Fire Control
- Access and Safety Requirements
- Erosion and Sedimentation Control Requirements
- Drainage Control and Water Protection Requirements
- Survey for Compliance
- Operating Record and Recordkeeping Requirements

Additionally, Table 1 is provided to summarize all required documents or documentation (record keeping) which must be maintained by the County and retained at the facility. The operating record may be inserted into a 3-ring binder located at the scale house or main administration building. It is the intent that Table 1 is clearly and visually posted to ensure direction on record keeping.

### 1.1 Operation Drawings

In accordance with Rule .0542(b)(1), operation drawings have been prepared and are included in Appendix D.

Table 1  
Buncombe County C&D Landfill  
Operating Record Requirements

Required Record Keeping	Rule	Reference in Ops Plan	Action
<b><i>INCOMING WASTE</i></b>			
Attempted disposal of any prohibited wastes	.0542	2.5	Report to NCDENR within 24 hrs
Attempted disposal of any waste from outside the permitted service area	.0542	2.5	Report to NCDENR within 24 hrs
Records of random waste inspections	.0544	11.1	Note date and result
Amounts by weight of solid waste received at the C&D landfill, include county of generation	--	11.1	--
<b><i>DISPOSAL OPERATIONS</i></b>			
Placement of cover material at a minimum per 3.1	.0542	3.1	Note date and time and include in Operating Record
Open burning requests	.0542	6.2	Note date of approval and approving DWM personnel and include in Operating Record
Fire and explosion notification	.0542	6.4	Report to NCDENR verbally within 24 hrs and written by 15 days and keep notification on file
<b><i>METHANE (LFG) MONITORING</i></b>			
Methane (LFG) monitoring reports	.0544	11.2.1	Quarterly
Exceedance in methane levels - required action within 7 days following detection	.0544	11.2.1	Include in Operating Record detected levels and description of steps to protect human health
Exceedance in methane levels - required action within 60 days following detection	.0544	11.2.1	Include in Operating Record a remediation plan for gas releases
<b><i>GROUNDWATER AND SURFACE WATER MONITORING</i></b>			
Groundwater and surface water monitoring reports	.0544	App. A	Semi-annual
<b><i>TRAINING</i></b>			
Certifications of training	.0544	11.1	--

Training procedures	.0544	11.1	--
<b>MISCELLANEOUS</b>			
Audit records, compliance records and inspection reports	.0542	11.1	--
<b>CLOSURE/POST-CLOSURE (NOT APPLICABLE AS OF OCTOBER 2008)</b>			
Any closure or post-closure monitoring, testing, or analytical data	.0543	11.1	Note date and result and include in Operating Record
<b>REQUIRED APPROVED DOCUMENTS TO BE INCLUDED IN THE OPERATING RECORD</b>			
Current Operations Plan and Monitoring Plan in accordance with Rules .0542 & .0544			
Current Permit to Construct and Permit to Operate			
Current cost estimates and financial assurance documentation			

# Section 2

## Waste Acceptance and Disposal Requirements

### 2.1 Waste Definitions

**Agricultural Waste** - waste material produced from raising of plants and animals, including animal manures, bedding plant stalks, hulls, and vegetative matter.

**Asbestos Waste** - any waste material that is determined to contain asbestos.

**Asphalt** - in accordance with G.S. 130-294(m).

**Blood Product** - all bulk blood and blood products.

**Commercial Solid Waste** - all types of solid waste generated by retail stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential waste.

**Construction or Demolition Debris** - solid waste resulting solely from construction, remodeling, repairs or demolition operations on pavement, buildings, or other structures, but does not include inert debris, land-clearing debris or yard debris.

**Hazardous Waste** - any solid waste that is defined as hazardous in 15A NCAC 13A 261.3 and that is not excluded from regulation as a hazardous waste from conditionally exempt small quantity generators as defined within 15A NCAC 13A 261.5.

**Hot Load** - when a waste hauling vehicle is transporting solid waste that is burning or smoldering, it is referred to as a hot load.

**Household Waste** - any solid waste derived from households including hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.

**Industrial Solid Waste** - solid waste generated by manufacturing processes that is not a hazardous waste regulated under Subtitle C of RCRA. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Inert Debris - any solid waste which consists solely of material such as concrete, brick, concrete block, uncontaminated soil, rock, and gravel.

Infectious Waste - any solid waste capable of producing an infectious disease. These types of waste include microbiological waste, pathological waste, blood products, and sharps.

Land-Clearing Debris - solid waste which is generated solely from land clearing activities such as stumps and trees trunks.

Liquid Hydrocarbons - as defined under Article 21A of Chapter 143 of the North Carolina General Statutes: except that any such oils or other liquid hydrocarbons that meet the criteria for hazardous waste under the Federal Resource Conservation and Recovery Act (P.L. 94-580) as amended.

Liquid Waste - any waste material that is determined to contain free liquid by Method 9095 (Paint Filter Test).

Microbiological Waste - includes cultures and stocks of etiologic agents. The term includes cultures of specimens from medical, pathological, pharmaceutical, research, commercial, and industrial laboratories.

Oils - As defined under Article 21A of Chapter 143 of the North Carolina General Statutes: except that any such oils that meet the criteria for hazardous waste under the Federal Resource Conservation and Recovery Act (P.L. 94-580) as amended.

Pathological Waste - includes: human tissue, organs, body parts, secretions, and excretions, blood, and body fluids that are removed during surgery and autopsies; the carcasses and body parts of all animals that were exposed to pathogens in research, were used in the production of biological or in the in-vitro testing of pharmaceuticals, or that died of known or suspected infectious disease.

Polychlorinated Biphenyls (PCB) - defined as any of several compounds that are produced by replacing hydrogen atoms in biphenyl with chlorine. PCB's were most frequently used as an additive to oil or other liquid in situations where heat is involved. PCB's have been used in paints and lubricants, however the most common application was in electric transformers.

Radioactive Waste - any waste that contains radioactivity as defined by the North Carolina Radiation Protection Act, G.S. 104E-1 through 104E-23. Radioactivity is defined as the property possessed by some elements of spontaneously emitting alpha or beta rays and sometimes gamma rays by the disintegration of the nuclei of atoms.

Sharps - includes needles, syringes with attached needles, capillary tubes, slides and cover slips, and scalpel blades.

Spoiled Food - any food which has been removed from sale by the United States Department of Agriculture, North Carolina Department of Agriculture, Food and Drug Administration, or any other regulatory agency having jurisdiction in determining that food is unfit for consumption.

Treatment or Processing Waste - any waste that is a residual solid from a wastewater treatment or pretreatment facility.

Tires - rubber tires from vehicles.

White Goods - any inoperative and discarded refrigerators, freezers, ranges, washers, dryers, water heaters, and other large domestic commercial appliances.

Yard Trash - solid waste resulting from landscaping and yard maintenance such as brush, grass, tree limbs, and similar vegetative material.

## 2.2 Acceptable Waste

In accordance with Rule .0542(c)(1), a C&D landfill shall only accept those solid wastes which it is permitted to dispose of. In accordance with the current Permit to Operate (dated March 5, 2008), the Buncombe County C&D landfill is permitted to dispose of the following using normal operating procedures (as defined previously):

- Construction or Demolition Debris;
- Inert Debris;
- Land-Clearing Debris;
- Asphalt; and
- Asbestos Wastes.

## 2.3 Acceptable Waste Requiring Special Handling

Asbestos waste is part of the permitted, acceptable waste stream and will require special handling procedures. The County has delineated a defined, isolated area within the C&D landfill footprint of the active phase as shown on Sheets OP-2 through OP-5.

The asbestos waste shall be managed in accordance with 40 CFR 61. In accordance with Rule .0542(c)(2), the regulated asbestos waste shall be covered immediately with soil in a manner that will not cause airborne conditions and must be disposed of separate and apart from other solid wastes.

Hot loads arriving at the site should be dumped immediately in the designated primary hot load area located near the working face. The designated area must be located only on areas containing compacted refuse covered by at least 12 inches of cover material. The location of the primary hot load area will change along with the

landfill development so as to always be near the working face. Hot loads should be extinguished immediately after being dumped by applying water to the burning refuse and by covering the refuse with soil from the stockpile area. If problems are encountered, the local fire department should be called. Once extinguished, the hot load should be observed until it is certain that the fire is out. The remaining refuse should then be compacted and buried at the working face.

## 2.4 Prohibited Wastes

The following wastes will be prohibited from disposal at the Buncombe County C&D Landfill:

- Wastewater treatment sludge;
- 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 within;
- Garbage;
- Hazardous waste;
- Industrial solid waste;
- Liquid waste;
- Medical waste;
- Municipal solid waste;
- Polychlorinated biphenyls (PCB) wastes;
- Radioactive waste;
- Septage;
- Sludge;
- Special wastes;
- White goods; and
- Yard trash.

The following wastes cannot be received if separate from C&D landfill 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 shall be readily identifiable as C&D waste and shall not have been shredded, pulverized, or processed to such an extent that the composition of the original waste cannot be readily ascertained.

The County shall not knowingly dispose any type or form of C&D waste that is generated within the boundaries of a unit of local government that by ordinance:

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

## **2.5 Receiving Prohibited Waste**

The Buncombe County C&D landfill shall only accept those solid wastes that it is permitted to receive. The County will notify the North Carolina Department of Environment and Nature Resources Division of Waste Management (NCDENR DWM) within 24 hours of attempted disposal of any waste the C&D and Subtitle D landfills are not permitted to receive.

A report shall be prepared of any attempted delivery of waste of which the landfill is not permitted to receive, including waste from outside the permitted landfill service area. The report will be forwarded to:

Department of Environment and Natural Resources  
Division of Waste Management  
Solid Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646

# Section 3

## Cover Material Requirements

### 3.1 Operational Cover

In accordance with Rule .0542(f), the County shall cover disposed C&D waste with six inches of earthen material (or alternative cover material (ACM) approved by the Solid Waste Section (SWS)) when the waste disposal area exceeds one-half acre and at least once weekly. Soil cover shall be used once monthly at a minimum. Cover shall be placed at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging. A notation of the date and time of the cover placement must be recorded in the operating record.

In accordance with Rule .0542(f)(2), areas which will not have additional wastes placed on them for three months or more, but where final termination of disposal operations has not occurred, shall be covered and stabilized with vegetative ground cover or other stabilizing material.

#### 3.1.1 Wet Weather Operations

During wet weather, the County will develop a wet weather working face. The wet weather working face will be kept as small as possible. At the end of disposal operations, the County will cover in accordance with Section 3.1.

### 3.2 Alternative Cover Material

ACM methods are described in this section for Posi-Shell and soil/mulch mixture. Each ACM shall provide control for disease vectors, fires, odor, blowing litter, and scavenging. The ACM approval letter is included in Appendix B.

#### 3.2.1 Posi-Shell

The Posi-Shell Cover System is proposed as an ACM (see Appendix C for Manufacturer's Usage Guide) on waste disposed at the C&D landfill. Posi-Shell provides a thin cover that hardens over the covered waste surface.

##### 3.2.1.1 Properties of Posi-Shell

The properties of each component of Posi-Shell are presented in the Manufacturer's Usage Guide in Appendix C.

##### 3.2.1.2 Cover System Description

As described in the Manufacturer's Usage Guide, the application rate for short-term coverage (overnight cover for daily cover operations) is approximately 8 to 10 square feet per gallon. Assuming the working face is less than one acre (100 feet wide and 400 feet long), the desired load size would be approximately 4,000 gallons. At a minimum, the Posi-Shell material quantities for daily use should be the following:

- 3,200 gallons of liquid (water or leachate),

- 8 bags (15 lbs each) of Posi-Pak,
- 40 bags (50 lbs each) of PSM-200 setting agent, and
- 80 bags (94 lb each) of optional Portland cement.

Posi-Pak is a specially designed plastic fiber with a proprietary finish that provides the reinforcement matrix for the finished cover. PSM-200 setting agent is a blend of clay, polymers, and adhesives that provides thickening, lubrication, and adhesion. Portland cement can be used as a binder component which will help neutralize odors and enhances the durability of the cover system.

### 3.2.1.3 Cover System Application Procedures

#### Application Procedure

Application of the Posi-shell will generally follow the manufacturer's recommendation and will employ the following minimum procedures:

- The Posi-shell will be applied in two different directions to avoid spray shadow or wind dispersion;
- The Posi-shell will be applied at the end of each working day;
- The Posi-shell surface will be visually inspected on a daily basis for exposed waste and/or inadequate coverage. Inadequate coverage is generally defined as a thickness of less than 1/8 of an inch.

Areas of exposed waste and/or inadequate coverage will receive an additional application prior to operations ending for that day.

#### Maximum Daily Area Coverage

Based on the July 2008 Airspace Analysis Report:

- Annual 2007 waste disposal rate (C&D only) = 66,400 tons
- Operating days per year = 284 days
- Approximate daily waste disposal rate = 230 tons
- In-place density = 0.65 tons of C&D per cubic yard
- Daily cubic yards disposed = daily waste disposal rate / in-place density = 350 yd<sup>3</sup> or 9,500 ft<sup>3</sup>

The working face will be restricted to the smallest area feasible. The working lift is typically 4 feet high. Based on a working lift thickness of 4 feet, the working face area is 5,400 square feet (daily cubic yards disposed / working lift thickness), which is less

than the daily coverage area.

Daily Depth and Quantity to be Applied

N/A

Average Monthly Volume of Daily Cover

N/A

List of Equipment

Equipment required for the Posi-Shell consists of a standard hydroseeding unit and a towing unit.

Material and Equipment Storage

The material components of Posi-Shell will be housed in the machine shop to minimize the risk of hydration. The spraying equipment will be parked in a County designated area which will not impede daily operations.

Wet Weather Operation

See Section 3.1.1 of this section.

Contingency Plans

If, for any reason, the County cannot use Posi-Shell as ACM material, soil or a soil/mulch mixture will be used.

Screening Criteria

N/A

### **3.2.2 Soil/Mulch Mixture**

A mulch (30% maximum by volume) and soil mixture is proposed as another ACM material. Mulch will be hauled from the on-site mulching operations and soil will be provided from the County's on-site borrow area. The soil/mulch mixture will be free of petroleum contaminated soils. The materials will be mixed at the borrow area or the working face.

#### **3.2.2.1 Properties of Soil/Mulch Mixture**

At the Buncombe County facility, waste segregation occurs at the scale house to prevent the mulch processing of any unacceptable material. Unacceptable material includes construction and demolition debris, potentially contaminated debris, etc. Since waste segregation occurs prior to the waste processing into mulch, the resulting mulch is considered inert.

### 3.2.2.2 Cover System Application Procedures

#### Application Procedure

Application of the soil/mulch mixture will employ the following minimum procedures:

- The mixture will be prepared by combining three (3) loads of mulch and seven (7) loads of soil;
- Mix soil and mulch load and visually verify that the mixture is adequately commingled, ensure that there are no large clumps (3 inches in diameter or larger) of either soil or mulch in the mixture;
- Load and haul soil/mulch mixture to active working face using an articulating truck; and
- Use dozer to cover working face with six inches of soil/mulch mixture.

The surface will be visually inspected on a daily basis for exposed waste and/or inadequate coverage. Areas of exposed waste and/or inadequate coverage will receive additional cover.

#### Maximum Daily Area Coverage

See Section 3.2.1.3.

#### Daily Depth and Quantity to be Applied

As stated above, **6 inches** of the soil/mulch mixture will be applied to the daily coverage area of 5,400 square feet. Therefore; the required daily quantity of soil/mulch mixture placed is approximately **100 yd<sup>3</sup>** (Assuming no other daily cover is used).

#### Average Monthly Volume of Daily Cover

As stated above, approximately 100 yd<sup>3</sup> per day of soil/mulch mixture will be used. Assuming 24 working days per month, the average monthly volume of daily cover required for normal operating conditions is **2,400 yd<sup>3</sup>**.

#### List of Equipment

An articulating truck and dozer will be used for the application process.

#### Material and Equipment Storage

Any soil/mulch mixture requiring storage will be stored at the borrow area. Mulch stock pile sizes shall not exceed 30 feet in width and 15 feet in height to avoid spontaneous combustion and to maintain a manageable pile size in the event of a fire. Landfill equipment used for ACM procedures will be stored at County designated

areas.

Wet Weather Operation

See Section 3.1.1 of this section.

Contingency Plans

If, for any reason, the County cannot obtain mulch for the on-site processing area for use as ACM material, soil or Posi-shell will be used.

Screening Criteria

Each soil/mulch mixture load will be visually inspected prior to transport to the working face to determine if the material is adequately mixed. The load will not be placed if the mixture is not commingled adequately or if foreign material is observed.

## **Section 4**

# **Spreading and Compacting of Waste**

The primary goals of waste placement are to (1) maximize the mass of waste landfilled through compaction, (2) minimize erosion and sedimentation impact to the surrounding and disposal areas, and (3) comply with all operating rules and regulations of the North Carolina Solid Waste Section for C&D landfills.

### **4.1 Working Area**

In accordance with Rule .0542(g)(1), the County shall restrict solid waste into the smallest area feasible (working face). The working face is defined as where waste is unloaded, inspected, spread, compacted, and ultimately covered with cover material. The working face shall be wide enough to prevent a backlog of vehicles waiting to unload and to allow adequate working space for landfill equipment. At a maximum, the width of the working face shall not exceed 100 feet.

### **4.2 Compaction**

Per Rule .0542(g)(2), solid waste shall be compacted as densely as practical into cells. Proper waste spreading and compaction is necessary both to conserve the capacity of the disposal areas and to minimize future settlement. C&D waste will be unloaded, inspected for unacceptable items, and spread on the working face. Each layer shall be compacted with a dozer.

### **4.3 Controlling Wind Blown Material**

In accordance with Rule .0542(g)(3), appropriate methods such as fencing and diking shall be provided as needed within the landfill area to confine solid waste which is subject to be blown by the wind. At the conclusion of each day of operation, all windblown material at the landfill site shall be collected and returned to the working face.

### **4.4 Filling Sequence**

Yearly operational grades are provided per Rule .0542(b)(1)(B) on Sheets OP-2 to OP-5.

## **Section 5**

# **Disease Vector Control**

In accordance with Rule .0542(h), the County shall prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment. Disease vectors are defined as any rodent, flies, mosquitoes, or other animals or insects, capable of transmitting disease to humans.

Effective vector control measures shall be applied when necessary. Control of vectors will be maintained by application of well-compacted cover material over the compacted solid waste. This will protect against migration of vectors into and from the landfill. Stagnant ponding water should be prevented to control mosquito breeding. Filling in low spots should be performed regularly, and if necessary, County mosquito control or a licensed exterminator shall be employed to control vectors.

# Section 6

## Air Criteria and Fire Control

### 6.1 State Implementation Plan

In accordance with Rule .0542(i)(1), the County shall ensure that units do not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.

The Western North Carolina Regional Air Quality Agency was contacted during September 2008 and they indicated that two air quality regulations, which are in the local code, apply to the C&D landfill. They are as follows:

- Chapter 4.0540 – Particulates from Fugitive Non-Process Dust Emission Sources
- Chapter 4.1806 – Control and Prohibition of Odorous Emissions

Chapter 4.0540 states that the C&D landfill shall not cause, permit, suffer or allow particulate matter to become airborne in the ambient air as a result of storage, transportation, processing, or handling of materials or refuse without taking reasonable precautions, approved by the Board, for the prevention of such particulate matter from becoming airborne. Additionally, the C&D landfill shall not cause, permit, suffer or allow particulate matter to become airborne in the ambient air as a result of the construction, alteration, maintenance, repair or demolition of any road, bridge, tunnel, railroad track right of way, vehicle, equipment, machinery, building or structure without taking reasonable precautions, approved by the board, for the prevention of such particulate matter from becoming airborne. As described in Section 7.4 of this plan, dust control measures are used throughout the facility and will be continuously used during the construction and operation of any phase of the C&D landfill.

Chapter 4.1806 states that the C&D landfill shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. Any potential odors resulting from the C&D landfill are control by the use of operational cover. Additionally, the working face is kept to the smallest feasible area and disposal occurs in areas that are protected from the prevailing winds.

### 6.2 Open Burning of Waste

Per Rule .0542(i)(2), open burning of solid waste, except for the approved burning of land clearing debris generated on-site or debris from emergency clean-up operations, is prohibited at the C&D landfill. Prior to any burning, a request shall be sent to the NCDENR DWM for review. The DWM will determine if the burning to be approved is one of the two types of burning as described above. A notation of the date of

approval and the name of the Division personnel who approved the burning shall be included in the operating record.

### **6.3 Fire Protection Equipment**

In accordance with Rule .0542(i)(3), equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to immediately provide fire-fighting services when needed. Fires that break out close to the surface of the fill area should be dug out 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 shall be excavated and smothered or quenched with water once the burning material is brought to the surface. Water is usually not effective unless it can be directly applied to the burning material.

### **6.4 Fire and Explosion Notification**

Per Rule .0542(i)(4), fires and explosions that occur at a C&D landfill require verbal notice to the DWM within 24 hours and written notification within 15 days. Written notification shall include the suspected cause of fire or explosion, the response taken to manage the incident, and the action(s) to be taken to prevent the future occurrence of fire or explosion. Verbal and written notification shall be submitted to:

Department of Environment and Natural Resources  
Division of Waste Management  
Solid Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646  
(919) 733-4810

# **Section 7**

## **Access and Safety Requirements**

### **7.1 Landfill Access and Security**

In accordance with Rule .0542(j)(1), the Buncombe County C&D Landfill must be adequately secured by means of gates, chains, berms, fences and other security measures approved by the DWM to prevent unauthorized entry.

All vehicles disposing of waste at the facility enter and leave through the access control gate. All waste entering the landfill must be weighed at the scale where a full-time Scale Operator verifies compliance with operation requirements. Unauthorized vehicle access to the site is prevented around the remaining portion of the landfill property by fencing, steep gradient, woods, wetlands, gates, and storm water ditches.

### **7.2 Attendant**

Per Rule .0542(j)(2), an attendant shall be on duty at the site at all times while the facility is open for public use to ensure compliance with operational requirements.

A full-time Scale Operator will be located in the scale house during operating hours. The Scale Operator will verify compliance with operation requirements. In addition, a Facility Supervisor will be present on-site at all times during operation.

### **7.3 Access Road**

In accordance with Rule .0542(j)(3), the access road to the site and access roads to monitoring locations shall be of all-weather construction and maintained in good condition. Potholes, ruts, and debris on the roads will receive immediate attention in order to avoid damage to vehicles. Access roads will be regraded as necessary to maintain positive slope for adequate drainage.

### **7.4 Dust Control**

Per Rule .0542(j)(4), dust control measures shall be implemented when necessary. Minimum dust control will include a water truck for wetting of dusty roads. Sprinklers are also used along some portions of the landfill perimeter access road. Petroleum products shall not be used for dust control.

### **7.5 Signs**

In accordance with Rule .0542(j)(5), a sign providing information on disposal procedures, the hours during which the site is open for public use, the permit number and other pertinent information specified in the permit conditions is posted at the site entrance.

In accordance with Rule .0542(j)(6), signs are clearly posted stating that no liquid, hazardous and municipal solid waste can be disposed in the C&D landfill.

In accordance with Rule .0542(j)(7), traffic signs or markers are provided to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.

## **7.6 Waste Removal Scavenging Policy**

Per Rule .0542(j)(8), the removal of solid waste from the C&D landfill is prohibited. A recycling program can be implemented which would allow removal of solid waste if program is approved by DWM. Currently, the County does not have a recycling program.

# Section 8

## Erosion and Sedimentation Control Requirements

### 8.1 Control of Sediment

In accordance with Rule .0542(k)(1), adequate sediment control measures shall be utilized to capture and control sediment in order to prevent sediment from impacting wetlands and off-site properties.

Surface water runoff passing through the C&D landfill site shall be diverted to the sediment ponds by the use of ditches, berms, and pipes as shown on the Operation Drawings. Existing Sediment Pond 11 was constructed in accordance with the approved Sediment and Erosion Control Plan for control of onsite stormwater run-off and sediment transport from landfill operations. Sediment Pond 12 is proposed for control of Phase 5 expansion stormwater. Additionally, existing Sediment Ponds 10 and 11 will be modified.

The sediment ponds have been designed in such a manner that releases will not overload downstream drainage features or damage adjacent property. Sediment accumulated in the ponds shall be removed as specified in the approved Sediment and Erosion Control permit. Silt gages shall be installed in all ponds as shown on the Detail Sheets in the Engineering Plan. Ditches require frequent inspection for sediment buildup. At a minimum, the sediment buildup should be assessed after all significant rain events.

### 8.2 On-Site Erosion Control

Per Rule .0542(k)(2), adequate erosion control measures consisting of vegetative cover, materials, structures or devices shall be utilized to prevent excessive on-site erosion of the C&D landfill.

Erosion control measures shall include:

- A. Disturbing as little area as practical at any one time for landfilling operations.
- B. Seeding/Mulching of all disturbed areas commencing as soon as practically possible. Employing erosion netting or sod on steep slopes and other erosion prone areas.
- C. Use of earthen berms, hay bales, silt fences, riprap or equivalent devices down-gradient of disturbed areas, stockpiles, drainage pipes inlets and outlets and at intervals along grassed waterways, until such time as permanent vegetation is established.
- D. Placement of riprap at the inlets and outlets of stormwater piping.

### 8.3 Vegetative Cover

In accordance with Rule .0542(k)(3), vegetative ground cover sufficient to restrain erosion shall be accomplished as directed by appropriate state or local agency upon completion of any phase of C&D landfill development consistent with Rule .0543(c)(5).

Riprap, haybales, or other acceptable temporary methods of erosion control may be required until permanent cover is established. Mulching, until a vegetative cover is established, can stabilize areas where final grade has been reached. Soil mulching can be achieved using wood chips, straw, hay, asphalt emulsion, jute matting, and synthetic fibers. Mulches allow for greater water retention; reduce the amount of runoff; retain seeds, fertilizer, and lime in place; and, improve soil moisture and temperature conditions.

Temporary seeding shall be applied in accordance with the NC Erosion and Sediment Control Planning and Design Manual, June 2006.

# **Section 9**

## **Drainage Control and Water Protection Requirements**

### **9.1 Surface Water Diverted From Operational Area**

In accordance with Rule .0542(1)(1), surface water shall be diverted from the operational area. Excessive surface water at the working face creates difficulties for maneuvering equipment and prevents the operator from achieving maximum compaction of the waste. To divert surface runoff away from the working face, temporary diversion berms shall be installed on the current lift, up-gradient from the working face and in other locations as dictated by the direction of grade. The area between the temporary berm and the working face should be limited to one acre to prevent excessive ponding. The soil cover in the areas beyond the diversion berms shall be uniformly graded and compacted to prevent the formation of erosion channels. In the event that channels do form, the cover shall be promptly repaired. During the formation of the initial lift of each phase area additional measures shall be employed to divert surface water. Existing phases were graded with a high point located within each phase. The high point will separate each phase into two distinct areas from the perspective of stormwater control. Initial disposal operations for each phase will begin on only one side of the high point.

### **9.2 Surface Water Shall Not Be Impounded Over Waste**

Per Rule .0542(1)(2), surface water shall not be impounded over or in waste. Completed areas shall be adequately sloped at a minimum of 5% to allow surface water runoff in a controlled manner.

### **9.3 Waste Shall Not Be Disposed Of In Water**

In accordance with Rule .0542(1)(3), solid waste shall not be disposed of in water. The minimum four-foot separation between waste and the seasonal high groundwater table along with the drainage controls described in Section 8 will prevent waste from being disposed of in water.

### **9.4 Leachate Containment**

Operational cover is placed on the C&D landfill working face to minimize leachate generation. Any leachate generated is contained by existing and proposed stormwater control devices.

## **Section 10**

### **Survey for Compliance**

In accordance with Rule .0542(m), within 60 days of the County's receipt of the DWM's written request, the County shall conduct a survey of the active or closed portions of the C&D landfill in order to determine whether operations are being conducted in accordance with the approved design and operational plans. The County shall report the results of such survey, including a map produced by the survey, to the DWM within 90 days of receipt of the DWM's request. The survey shall be performed by a land surveyor registered in North Carolina.

# Section 11

## Operating Record and Record Keeping Requirements

### 11.1 Regulatory Requirements

In accordance with Rule .0542(n)(1), the county shall record and retain at the facility the following information as it becomes available:

- Records of random waste inspections, monitoring results, certifications of training, and training procedures required by Rule .0544;
- Amounts by weight of solid waste received at the C&D landfill;
- Any demonstration, certification, finding, monitoring, testing, or analytical data required by Rules .0544 through .0545;
- Any closure or post-closure monitoring, testing, or analytical data as required by Rule .0543;
- Any cost estimates and financial assurance documentation required by Rule .0546;
- Notation of date and time of placement of cover material; and
- All audit records, compliance records and inspection reports.

### 11.2 Operating Record

Per Rule .0542(n)(2), all information contained in the operating record must be furnished to the Division according to the permit or upon request, or be made available for inspection by the Division.

The operating record must also include:

- (A) A copy of the approved operation plan required by this Rule and the engineering plan required by Rule .0539;
- (B) A copy of the current Permit to Construct and Permit to Operate; and
- (C) The Monitoring Plan, in accordance with Rule .0544 of this Section, included as appendices to the Operation Plan.

#### 11.2.1 Monitoring Plan

In accordance with Rule .0542(n)(3)(C), a monitoring plan per Rule .0544 shall be included as appendices to the Operation Plan.

The groundwater and surface water monitoring plan was prepared per Rules .0544(b) and (c) and is included as Appendix A.

Rule .0544(d) requires a gas control plan and is included as Appendix B.

Rule .0544(e) requires a waste acceptability program. Currently, this program is in place with the MSW landfill and was approved in the aforementioned Permit submittal. Since both landfills are integral parts of the solid waste management facility, the previously approved waste acceptability plan covers the C&D landfill as well.