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Solid Waste Section
Division of Waste Management

SECTION 5.0

APPROVED DOCUMENT
Division of Waste Management
Solid Waste Section
Date May 1, 2019 By

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OPERATION PLAN

5.0 Overview

The Iredell County Solid Waste Facility located at 354 Twin Oaks Road consists of an administration/scale house office, tipping floor with baling area, public access and recycling area, maintenance shop, white goods area, swap shop, tire collection area, chipping and grinding area, and a MSW landfill. A leachate collection lagoon, gas flare and electrical generation plant are also located on site. Materials delivered to this site originate from within Iredell County and may be delivered by the public, private haulers, contractors, municipalities or by the county.

All commercial and municipal waste is weighed at the scale as it enters the facility. Trucks may be issued ID numbers that allow them to bypass weighing out empty. Those without numbers must return to the scale after unloading. Non chargeable materials delivered to the public access area are not weighed when delivered but are loaded on county trucks and weighed before disposal. Haulers are directed to the proper disposal area by the weigh master. The equipment operators and traffic controllers verify that the loads are in the correct areas. Commercial MSW and C&D materials are sent to their disposal sites on the landfill to unload. Several pieces of heavy equipment are available to be used in these areas, including compactors, dozers, loaders, scraper pans, articulating trucks and a track hoe.

Waste material from the public access area is dumped by means of gates and chutes onto the tipping floor and is loaded into 40 yard roll off boxes using a rubber tired loader. This is primarily done as a safety issue to avoid having small trucks and trailers in the landfill where they are more at risk of an accident. It is also done during periods of extended bad weather to avoid having vehicles stuck in the landfill. Recyclable materials are stored in bunkers along the tipping floor walls. The loader operator moves them to the conveyor belts where they are processed by balers into shippable bales. The bales are stacked for storage in the lower level of the facility until shipping to market is arranged. There is a loading dock located on the back of this building to allow recyclable bales to be loaded into trucks. All materials in this area except aluminum cans are baled for marketing. The aluminum cans are processed via a separator and crusher and then blown into a trailer.

Brush and clean pallets are routed to a separate processing area where they are stockpiled until sufficient quantities are accumulated to warrant the contracted grinding service visiting to process on site. Brush is ground into landscape mulch and removed by the contractor. Pallets are ground and may be left on site to be used as wet weather turn around or in landfill road bases. Leaves are collected in this area but are not processed. They are allowed to compost by the layer method and are eventually used as a soil amendment on landfill slopes.

5.1 Introduction

The County Landfill will only accept Municipal Solid Wastes (MSW) from within the geographical boundaries of the County. The County will construct a 39.98 acre Municipal Solid Waste Landfill (Phase 6) according to Subtitle D requirements. The facility will be constructed with 24 inches of cohesive soil (permeability of 1.0×10^{-7} cm/sec), or 18 inches of cohesive soil (permeability of 1.0×10^{-5} cm/sec) with reinforced geosynthetic clay liner (GCL), 60 mil High Density Polyethylene liner (HDPE), 36 inches of protective cover over the liner and a leachate collection system which flows to the existing leachate lagoon.

The perimeter of the lined area will be marked off by 2 inch PVC pipe at 100' intervals that will be placed in the anchor trenches. Solid waste will not be placed within four (4) feet of this boundary to assure that it is being placed directly above the liner system so that no leachate can flow outside of this area.

All storm water that comes in contact with solid waste will be handled as leachate. The leachate is collected in the sump area, where it is pumped by force main to the lagoon.

Storm water that has not come in contact with waste can be removed from the landfill by pumping thru a sump pump over the berm prior to waste being placed in the sump basin. A mobile pump can also be used to pump storm water over the berm.

Leachate will be treated at the City of Statesville Waste Water Treatment Plant. The leachate will have to be tested according to the pretreatment conditions outlined in the pre-treatment agreement

The leachate lagoon will be inspected on a monthly basis and a report generated and placed in the landfill records. The report will include the date the liner was inspected, the inspector, general observations since the last inspection, visible abrasions, possible stress cracks, or obvious punctures. Stress cracks can occur in wrinkles that are generated from heat expansion or contraction due to freezing. Also, the HDPE liner may deteriorate due to ultra violet light and this can appear as an abrasion where material can be scraped away with a hard object. If any damage or possible weak spots due to ultra violet exposure has been detected, a qualified HDPE installation company shall be notified immediately so that a repair patch can be installed. The leachate level shall not be allowed to exceed the depth of the damaged liner until it has been repaired and tested by the liner installation company. Once this has been accomplished all testing documentation shall be placed in the operating records.

Daily cover is the combination of soil and/or approved Alternate Cover Material (ACM)(See Section 5.2 for cover requirements and see Section 5.4 for approved ACM's).

The County will implement a program at the landfill for detecting and preventing the disposal of hazardous and liquid wastes. The program consists of random inspection of incoming loads at a minimum of 1% of the weekly traffic. Landfill personnel will be trained to recognize hazardous and liquid wastes. Records will be kept on the training and the inspections. (See Section 5.3 Waste Screening).

The County will monitor for explosive gases at landfill structures and the perimeter of the landfill. For detailed explosive gas monitoring plan see document submitted under separate cover entitled "*Landfill Gas Monitoring Plan - Iredell County Landfill Phase 6*".

The concentration of gases generated by the landfill cannot exceed 25 percent of the lower explosive limit for the gases in the structures, and it cannot exceed 100 percent of the lower explosive limit for gases at the landfill property boundary. If gas is found to exceed the acceptable limits at either the property boundary or landfill structures, it is the County's responsibility to do the following:

1. Immediately take all necessary steps to ensure protection of human health, temporarily abandon the structure and notify the Division of Waste Management.
2. Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and
3. Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Division of Waste Management that the plan has been implemented. The plan will describe the nature and extent of the problem and the proposed remedy.

Off and on site erosion will be controlled through erosion control structures and devices. Provisions for a vegetative ground cover sufficient to restrain erosion will be accomplished according to the NPDES Stormwater Discharge Permit for Construction Activities (NCG01) "Stabilization Timeframes" chart upon completion of any phase of landfill development.

The County will record and retain at the landfill an operating record of the following information:

- (1) Inspection records, waste determination records, and training procedures;
- (2) Amounts by weight of solid waste received at the landfill;
- (3) Waste determination, Leachate sampling data, leachate levels, meteorological data ;
- (4) Gas monitoring results and any remediation plans;
- (5) Any demonstration, certification, findings, monitoring, testing or analytical data required for surface and groundwater monitoring;
- (6) Any monitoring, testing or analytical data required for closure or post-closure;
- (7) Any cost estimates and financial assurance documentation.

All information contained in the operating record will be furnished upon request to the Division of Waste Management or be made available at all reasonable times for inspection by the Division.

Ground and surface water will be sampled and analyzed according to Subtitle D Appendix I detection monitoring requirements. The monitoring frequency for all Appendix I detection monitoring constituents will be at least semiannual during the life of the facility (including closure) and the post-closure period. A minimum of four independent samples from each well (background and down gradient) will be collected and analyzed for the Appendix I constituents during the first semiannual sampling event. At least one sample from each well (background and down gradient) will be collected and analyzed during subsequent semiannual sampling events.

If the County determines that there is a statistically significant increase over background for one or more of the constituents listed in Appendix I at any monitoring well at the relevant point of compliance, the County will, within 14 days of the finding, report to the Division of Waste Management and place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels. The County will establish an assessment monitoring program within 90 days. The County may demonstrate that a source other than the landfill caused the contamination or that the statistically significant increase resulted from an error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting these demonstrations will be certified by a Licensed Geologist or Professional Engineer and approved by the Division of Waste Management. A copy of this report will be placed in the operating record. If a successful demonstration is made, documented, and approved by the Division, the County may continue detection monitoring. If after 90 days, a successful demonstration is not made, the County will initiate an assessment monitoring program.

Groundwater, surface waters and leachate will be sampled and analyzed according to those specified by the NC Solid Waste Section which have generally been adopted from Federal Subtitle D Requirements. The monitoring frequency shall be at least semi-annually during the life of the facility (including closure) and post-closure period. At least one sample from each location designated in the current site specific NC SWS approved *Water Quality Monitoring Plan* (WQMP) shall be collected and tested at least semi-annually. The target constituent list and frequencies will be outlined in the WQMP and followed unless approved by the NC SWS.

All groundwater quality monitoring data shall be compared to the North Carolina Standards 15A NCAC 2L .0202 and or other regulatory compliance Standards adopted by the SWS such as Groundwater Protection Standards (GWP) or Interim Maximum Allowable Concentrations (IMACs) where applicable. Statistical analysis of the data is not required per Rule 15ANCAC 13B .1632 revised January 1, 2011.

All analytical reports shall be completed and submitted to the appropriate State agency within 120 days of the event per Rule or sooner if stipulated in the Permit to Operate. The report package, as described, shall provide field observations relating to the condition of the monitoring wells, field data, lab data, tables of detections compared to regulatory Standards, statistical analysis (if chosen to use), sampling methodologies, quality assurance and quality control data, a groundwater surface map, information on ground-water flow direction, calculations of ground-water flow rate for each well that contain any constituents that exceed ground-water standards as defined in Rule .1634(g) through (h) and any other pertinent information related to the sampling event. Additionally, laboratory Electronic Data Delivery (EDD) spreadsheets must be submitted to the SWS in the formats specified by the SWS. Generally if a constituent is detected above an applicable regulatory compliance Standard for the first time the County shall notify the NC SWS of the exceedance within 14 days. The 14 day notice requirement is applicable to certain circumstances which should be referenced in NC SWS issued memorandum(s). Water quality monitoring reports should include the SWS issued Environmental Monitoring Report Form which includes the notifications and signed certifications as instructed.

Per [15A NCAC 13B .1633](#) If during detection monitoring the “owner or operator determines that there is an exceedance of the ground-water protection standards, as defined in Paragraph (g) or (h) of Rule [15A NCAC 13B .1634](#) for one or more of the constituents listed in Appendix I of this Rule at any monitoring well at the relevant point of compliance, the owner or operator:

- (1) Shall, within 14 days of this finding, report to the Division and place a notice in the operating record indicating which constituents have exceeded ground-water protection standards;
- (2) Shall establish an assessment monitoring program meeting the requirements of this Section within 90 days except as provided for in Subparagraph (3) of this Paragraph; and
- (3) May demonstrate that a source other than a MSWLF unit caused the exceedance, or the exceedance resulted from an error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration shall be approved by the Division. If required by G.S. 89C or G.S. 89E, a professional engineer or licensed geologist shall prepare these documents. [Note: The North Carolina Board of Examiners for Engineers and Surveyors and the Board of Licensing of Geologist has determined, via letters dated July 16, 2010 and November 30, 2010 respectively, that preparation of documents pursuant to this Paragraph constitutes practicing engineering or geology under G.S. 89C and G.S. 89E.]A copy of this report shall also be placed in the operating record. If a successful demonstration is made, documented, and approved by the Division, the owner or operator may continue detection monitoring. If after 90 days, a successful demonstration is not made, the owner or operator shall initiate an assessment monitoring program as required by this Section.”

History Note: Authority G.S. 130A-294; Eff. October 9, 1993; Amended Eff. April 1, 2011

If conditions warrant the end of detection monitoring 15A NCAC 13B.1633(c) an assessment monitoring program must be established and self implemented per Rule [15A NCAC 13B .1634](#). If “Within 90 days of finding that any of the constituents listed in Appendix II exceeded the ground-water protection standards, the owner or operator shall initiate assessment of corrective action measures. Such an assessment must be completed within 120 days”. Requirements of the assessment of corrective measures program are contained in Rule [15A NCAC 13B .1635](#).

If Rules referenced in Section 1.9 are amended the new Rules take precedence over those stated in this plan.

5.2 Operational Requirements

1. Waste Acceptance and Disposal Requirements
 - a. The Municipal Solid Waste Landfill (MSWLF) will only accept those solid wastes which it is permitted to receive. The County will notify the Division within 24 hours of attempted disposal of any waste the landfill is not permitted to receive. Signs are placed at the entrance to the Landfill stating that Hazardous and Liquid wastes are not accepted and that random waste screening is performed.
 - b. The following wastes are prohibited from disposal at the MSWLF:
 - i. Hazardous waste as defined within 15A NCAC 13A, to also include hazardous waste from conditionally exempt small quantity generators.
 - ii. Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761.
 - iii. Bulk or non-containerized liquid waste will not be placed in the landfill unless:
 - (i) The waste is household waste other than septic waste and waste oil,
 - (ii) The waste is leachate or gas condensate derived from the landfill.
 - iv. White Goods, Yard Waste, Tires.
 - v. Containers holding liquid wastes will not be placed in the landfill unless:
 - (i) The container is a small container similar in size to that normally found in household waste;
 - (ii) The container is designed to hold liquids for use other than storage; or
 - (iii) The waste is household waste.
 - vi. For the purpose of this paragraph:
 - (i) Liquid waste means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), S. W. 846.
 - c. Spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site will be covered immediately.
 - d. The following are items that are banned from the landfill:
 - i. Used oil.
 - ii. Yard trash, except in landfills approved for the disposal of yard trash under rules adopted by the Commission. Yard trash that is source separated from solid waste may be accepted at a solid waste disposal area where the area provides and maintains separate yard trash composting facilities.
 - iii. White goods.
 - iv. Antifreeze (ethylene glycol).
 - v. Aluminum cans.
 - vi. Whole scrap tires, as provided in G.S. 130A-309.58(b). The prohibition against landfilling whole tires applies to all whole pneumatic rubber coverings, but does not apply to whole solid rubber coverings.
 - vii. Lead-acid batteries, as provided in G.S. 130A-309.70.

- viii. Beverage containers that are required to be recycled under G.S. 18B-1006.1.
- ix. Motor vehicle oil filters.
- x. Recyclable rigid plastic containers that are required to be labeled as provided BELOW, that have a neck smaller than the body of the container, and that accept a screw top, snap cap, or other closure. The prohibition on disposal of recyclable rigid plastic containers in landfills does not apply to rigid plastic containers that are intended for use in the sale or distribution of motor oil or pesticides.
 - a) For polyethylene terephthalate, the letters "PETE" and the number 1.
 - b) For high density polyethylene, the letters "HDPE" and the number 2.
 - c) For vinyl, the letter "V" and the number 3.
 - d) For low density polyethylene, the letters "LDPE" and the number 4.
 - e) For polypropylene, the letters "PP" and the number 5.
 - f) For polystyrene, the letters "PS" and the number 6.
 - g) For any other, the letters "OTHER" and the number 7.
- xi. Wooden pallets, except that wooden pallets (mixed into construction waste) may be disposed of in a landfill that is permitted to only accept construction and demolition debris.
- xii. Oyster shells.
- xiii. Discarded computer equipment (includes laptops, desktops, monitors, video displays, printers, scanners, and printer-scanner-fax combos. As of March 16, 2015, mice and keyboards are no longer covered devices and are not covered by the landfill ban).
- xiv. Discarded televisions.
- xv. Fluorescent lights and thermostats that contain mercury are banned from unlined landfills.
- e. Asbestos waste will be accepted and managed in accordance with 40 CFR 61. The waste will 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:
 - i. At the bottom of the working face or;
 - ii. In an area not contiguous with other disposal areas. Separate areas will be clearly designated so that asbestos is not exposed by future land disturbing activities.
- f. Wastewater treatment sludges may be accepted either as a soil conditioner incorporated into or applied onto vegetative growth layer but in no case greater than six inches in depth. Or wastewater treatment sludges may be co-disposed in the lined area.
- g. The County will continue a program at the Landfill for detecting and preventing the disposal of hazardous and liquid wastes. (Section 5.3-Appendix I) This program will include, at a minimum:
 - i. Random inspections of incoming loads or other comparable procedures;
 - ii. Records of any inspections;
 - iii. Training of facility personnel to recognize hazardous and liquid wastes.

- iv. If hazardous wastes are identified by facility personnel, Emergency Management or personnel trained, shall be notified to identify the waste and address removal, storage and final deposition of the waste.
- h. Waste placement will be within the areal limits of the base liner system and in a manner consistent with the effective permit.
- i. **Special Wastes**
 The Landfill has handling capabilities and recycling/disposal options in place for all non-hazardous and non-regulated special wastes currently banned from landfill disposal by the State. These materials include whole tires, white goods, used oil, oil filters and lead-acid batteries.
 - i. Tires are accepted at the landfill and stored in tractor trailers until they are transported to a tire recycler.
 - ii. White goods & Scrap Metals are collected at the landfill and are managed on a concrete pad with push walls. Freon is removed as needed, and materials are then transported to a metals recycler.
 - iii. Used oil is collected at the landfill. All oil collected is recycled either as refined lubrication oil or as fuel.
 - iv. Oil filters also have a designated collection area at the convenience center. These are collected and recycled by a contracted oil recycler.
 - v. Lead-acid batteries are accepted for recycling at the household trash and recycling convenience center at the landfill.
 - vi. Antifreeze has a designated collection container for recycling. This material is handled by the contracted oil recycler.
 - vii. Electronic waste is staged on concrete pad inside of trailers at the White Goods Area. The material is recycled by a certified e-recycler.
- 2. **Cover material requirements.**
 - a. Except as stated in Sub-item (b), The County must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary to control disease vectors, fires, odors, blowing litter, and scavenging.
 - b. The County may also use Division approved Alternate Cover Material's (ACM's), see Section 5.4 for Division approved ACM's.
 - c. Alternative cover materials of an alternative thickness (other than at least six inches of earthen material) or those approved by the division, may be approved by the Division if the County demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.
 - d. Areas which will not have additional wastes placed on them for 12 months or more, but where final termination of disposal operations has not occurred, will be covered with a minimum of one foot of intermediate cover.
- 3. **Disease vector control**
 - a. The County will prevent or control on-site populations of disease vectors using techniques appropriate for protection of human health and the environment. At the end of every day,

waste will be covered by 6" of soil cover or an approved ACM. Any waste that requires immediate cover will be covered immediately with soil.

- b. "Disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.
4. Explosive gases control
- a. The County must ensure that:
 - i. The concentration of methane gas generated by the landfill does not exceed 25 percent of the lower explosive limit for methane in landfill structures (excluding gas control or recovery system components); and
 - ii. The concentration of methane gas does not exceed 100 percent of the lower explosive limit for methane at the landfill property boundary.
 - b. The County will implement a routine methane monitoring program to ensure that the standards of 4 (a) are met. (Section 5.4-Appendix II)
 - i. The type and frequency of monitoring must be determined based on the following factors:
 - (i) Soil conditions;
 - (ii) The hydrogeologic conditions surrounding the facility;
 - (iii) The hydraulic conditions surrounding the facility;
 - (iv) The location of facility structures and property boundaries.
 - ii. The minimum frequency of monitoring will be quarterly.
 - c. If methane gas levels exceeding the limits specified in 4 (a) are detected, the owner or operator will:
 - i. Immediately take all necessary steps to ensure protection of human health, temporarily abandon the structure and notify the Division of Waste Management.
 - ii. Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and
 - iii. Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Division of Waste Management that the plan has been implemented. The plan will describe the nature and extent of the problem and the proposed remedy.
 - d. "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25° C and atmospheric pressure.
5. Air Criteria
- a. The County will ensure that the landfill does not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the US EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended.
 - b. Open burning of solid waste, except for the infrequent burning of land clearing debris generated on site or debris from emergency clean-up operations, is prohibited. Any such infrequent burning will be approved by the Division of Waste Management, Division of Air Quality and the local Fire Marshall.
 - c. Earth moving equipment will be provided to control accidental fires and leachate tank trucks used for water or leachate that would be recirculated can also be used. Arrangements have

been made with the local fire department, Wayside, to provide actual fire protection. This Fire department has access at all times to the landfill to provide fire fighting services when needed.

Wayside Fire Department has access at all times to the landfill to provide fire fighting services when needed. Key personnel with the Wayside Department have conducted walk through exercises to familiarize firefighters with the location of various materials and areas of the landfill. Landfill personnel can use soil to isolate the fire so it will not spread any further but actual fighting of the fire should be the responsibility of the trained fire department.

1. Employees of the department are trained yearly in fire prevention and the proper use of extinguishers. All trucks and equipment have been equipped with extinguishers. A tanker truck equipped with fire hose and a water cannon is on site and maintained on "ready status" at all times.
 2. All trucks and equipment are equipped with portable extinguishers which are inspected regularly.
 3. The compactors have factory installed fire control systems.
- d. Fires that occur at the landfill will be reported to the Division of Waste Management within 24 hours and written notification will be submitted within 15 days.
6. Access and safety requirements
- a. The landfill will be adequately secured by means of gates, chains, beams, fences and other security measures approved by the Division of Waste Management to prevent unauthorized entry.
 - b. An attendant will be on duty at the site at all times while it is open for public use to ensure compliance with operational requirements.
 - c. The access road to the site will be of all-weather construction and maintained in good condition.
 - d. Dust control measures will be implemented when necessary. If dust problems should arise, the County will use any reasonable means necessary to reduce it. At a minimum the County will spray water on necessary areas.
 - e. Signs providing information on tipping or disposal procedures, the hours during which the site is open for public use, the permit number and other pertinent information will be posted at the site entrance.
 - f. Signs will be posted stating that no hazardous or liquid waste can be received.
 - g. Traffic signs or markers will be provided as necessary to promote an orderly traffic pattern to and from the discharge area and to maintain efficient operating conditions.
 - h. The removal of solid waste from the landfill will be prohibited unless the County approves and the removal is not performed on the working face.
 - i. Barrels and drums will not be disposed of unless they are empty and perforated sufficiently to ensure that no liquid or hazardous waste is contained therein, except fiber drums containing asbestos.
7. Erosion and Sedimentation Control Requirements
- a. Adequate sediment control measures (structures or devices), will be utilized to prevent silt from leaving the landfill.

- b. Adequate sediment control measures (structures or devices), will be utilized to prevent excessive on-site erosion.
 - c. Provisions for a vegetative ground cover sufficient to restrain erosion will be accomplished according to the NPDES Stormwater Discharge Permit for Construction Activities (NCG01) "Stabilization Timeframes" chart, upon completion of any phase of landfill development.
8. Drainage Control and Water Protection Requirements
- a. Surface water will be diverted from the operational area and will not be impounded over waste..
 - b. Solid waste will not be disposed of in water.
 - c. Leachate will be contained on site and properly treated prior to discharge.
 - d. The landfill will not:
 - (i) Cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements pursuant to Section 402.
 - (ii) Cause the discharge of a nonpoint source of pollution to waters of the United States, including wetlands, that violates any requirements of an area-wide or state-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.
9. Liquids Restriction
- a. Bulk or non-containerized liquid waste will not be placed in the landfill unless:
 - (i) The waste is household waste other than septic waste and waste oil,
 - (ii) The waste is leachate or gas condensate derived from the landfill.
 - b. Containers holding liquid wastes will not be placed in the landfill unless:
 - (i) The container is a small container similar in size to that normally found in household waste;
 - (ii) The container is designed to hold liquids for use other than storage; or
 - (iii) The waste is household waste.
 - c. For the purpose of this paragraph:
 - (i) Liquid waste means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), S. W. 846.
 - (ii) Gas Condensate means liquid generated as a result of gas recovery processes at the MSWLF unit.
 - d. Test for free liquids:

Sludges or other wastes may be tested for free liquids after previous screening tests have shown that the waste is not hazardous and does not contain PCB's. The specified test to determine whether or not a material is considered to be a liquid is the Paint Filter Test method 9095. The procedure for conducting this test is as follows:

- (i) Obtain standard 400- micron paint filter;
- (ii) Place a properly-sized, clean, dry funnel in a ring stand or similar device;
- (iii) Fold the filter and line the funnel with it;
- (iv) Place a 100 ml sample of waste into the funnel;
- (v) Place a clean, dry container under the funnel; and,
- (vi) Check in exactly 5 minutes to see if any liquid is in the container.
- (vii) If any liquid passes through the filter in 5 minutes or less, the waste is considered to be a liquid. The filtrate can be water, oil or any combination of any non-hazardous liquids.

10. Record keeping Requirements

- a. The County's MSWLF will record and retain at the facility, or an alternative location near the facility approved by the Division of Waste Management, in an operating record the following information as it becomes available.
 - (i) Inspection records, waste determination records, and training procedures;
 - (ii) Amounts by weight of solid waste received at the landfill to include source of generation.
 - (iii) Waste determination, Leachate sampling data, leachate levels, meteorological data ;
 - (iv) Gas monitoring results and any remediation plans;
 - (v) Any demonstration, certification, findings, monitoring, testing or analytical data required for surface and groundwater monitoring;
 - (vi) Any monitoring, testing or analytical data required for closure or post-closure; and,
 - (vii) Any cost estimates and financial assurance documentation.
- b. All information contained in the operating record will be furnished upon request to the Division of Waste Management or be made available at all reasonable times for inspection by the Division.
- c. The County will maintain a copy of the operation plan at the landfill.

11. Spreading and Compacting Requirements

- a. The initial lift of solid waste will be placed over the drainage area of the sump. This lift will be covered with six (6) inches of daily cover and intermediate cover where necessary. This lift will absorb the rain water and allow some of it to evaporate prior to reaching the leachate collection system. When a heavy rain does occur, the impact on the leachate collection system will not be immediate. Prior to placement of solid waste over any leachate pipe, the geotextile fabric that is covering the stone will be folded back so that solid waste will be in direct contact with the stone. This method will not allow biological growth to develop on the geotextile which could eventually clog the system.
- b. The initial lift of solid waste will be placed loosely at a depth of 4 feet. As this lift is being placed, a spotter should be placed in the landfill to assure that the compactor does not drive any long, sharp objects through the protective cover into the liner system. If an object were to penetrate the liner system, the protective cover must be removed and the penetration repaired. The subsequent lifts can be placed up to final grades. Heavy landfill equipment including articulating dump trucks, and compactor will only be allowed on areas that have a minimum of

4' of solid waste. Only low pressure equipment such as a D6 LGP Caterpillar will be allowed on the protective cover.

- c. The landfill will restrict solid waste into the smallest area feasible, typically 75' x 100' area.
- d. Solid waste will be compacted as densely as practical into cells. In the areas of solid waste, the compactor will make 3 to 5 passes.
- e. Appropriate methods such as fencing and diking will be provided within the area to confine solid waste subject to be blown by the wind. At the conclusion of each day of operation, all windblown material resulting from the operation will be collected and returned to the area.

12. Leachate Management Plan

- a. The County will maintain the leachate collection system utilizing the Leachate Collection System Inspection Log (Section 5.5). The County will:
 - (i) Record the rainfall after every occurrence;
 - (ii) Record pump readings monthly; and
 - (iii) Inspect Leachate Lagoons monthly
- b. The County will maintain records for the amount of leachate pumped to the lagoon from the sumps and the amount pumped to the Waste Water Treatment Plant. Records of the visual inspections and any repairs made will also become part of the operating record.
- c. The County will sample its leachate in accordance with the facility's approved Water Quality Monitoring Plan.
- d. The leachate is being treated by the City of Statesville Waste Water Treatment Plant.
- e. Under extreme operational conditions, the County has the option of shutting down the flow of leachate to the lagoon by shutting off the pump. The leachate will be temporarily stored within the MSWLF units until such a time the flow of leachate can continue to the lagoon. If any rain or other event requires storage of leachate or storm water in the cell, the Division of Waste Management will be notified immediately followed by written communication.
- f. Remote camera inspections of the accessible leachate collection lines will occur at least once every five (5) years. Cleaning of leachate collection lines found necessary for proper functioning and to address buildup of leachate over the liner shall occur. A statement/document certifying that the inspection has been completed will be submitted to the Division of Waste Management upon completion.

Records of all videoing and cleaning will become part of the operating record.
- g. Leachate will not be recirculated.
- h. The pumps are to be operated manually to assure that they are operating properly.

13. Storm Water Management Plan

- a. A 2 foot diversion berm will be installed within the landfill to divert storm water away from the working area and keep leachate within the same working area;
- b. Storm water that does not come in contact with waste can and will be diverted to the storm water side of the berm;

- c. The berm will be moved as necessary to continue diverting storm water away from the working area;
- d. The storm water will be diverted to the drain that is installed at the lower end of the Phase;
- e. The storm water will then be channeled thru a sediment basin and ultimately discharged into the adjoining creek;
- f. Erosion control measures outside of the working area but inside the storm water diversion area must be maintained to insure that there is no excessive erosion of the protective cover;
- g. The drain is equipped with a valve that can be opened or closed when ever necessary; and,
- h. Once the storm water diversion area is no longer needed, the diversion drain will be removed and the disturbed liner system replaced, repaired and tested. The valve and at least one twenty foot joint of pipe will be removed. The cohesive soil will be replaced with a mixture of 50% bentonite and the soil that was displaced by removing the pipe. The soil bentonite mixture will be hard tamped in 6 inch lifts. The HDPE Liner will be patched and the seams will be non-destructively tested. Three feet of protective cover will be placed over the HDPE Liner. All work done on the replacement of the composite liner system will be certified by a N.C. Professional Engineer with all documentation placed in the operating record.

5.3 Appendix I - Waste Screening

A. INTRODUCTION

The municipal solid waste stream is made up of wastes from all sectors of society. The waste is often categorized by its source or its characteristics. Terms used include commercial, industrial, residential, biomedical, hazardous, household, solid, liquid, demolition/construction, sludge, etc. Regardless of how one classifies wastes, the bottom line is that wastes are delivered to the landfill and a management decision must be made to either reject or accept them. This responsibility rests with the manager of the landfill. Wastes which are not authorized to be accepted at the landfill create a number of potential problems including:

- (1) liability due to future releases of contaminants;
- (2) bad publicity if media learns of unacceptable waste entering the landfill;
- (3) potential for worker injury;
- (4) exposure to civil or criminal penalties; and
- (5) damage to landfill environmental control systems

B. HAZARDOUS WASTE REGULATIONS AND MANAGEMENT

In the United States, hazardous waste is regulated under RCRA, Subtitle C. A waste is hazardous if it is listed as a hazardous waste by the Administrator of the Environmental Protection Agency (EPA) in the Code of Federal Regulations, Title 40, Part 261, or if it meets one or more of the hazardous waste criteria as defined by EPA. These criteria are:

1. Ignitability

Ignitable waste is a waste that burns readily, causes a fire by friction under normal circumstances, or is an oxidizer. Any waste having a flash point of <140F falls in this category. Flash point is that temperature at which a liquid gives off vapors that will ignite when an open flame is applied. Under Department of Transportation (DOT) definitions, a flammable liquid has a flash point of >100 F. A combustible liquid has a flash point between 100 and 200 F. Therefore, a flammable liquid is always hazardous while a combustible liquid may or may not be hazardous depending upon its flash point.

2. Corrosivity

A corrosive waste is one having a very high or a very low pH. The pH of a liquid is a measure of how acidic or basic (alkaline) the material is. The pH scale ranges from 0 to 14. High numbers are basic and low numbers are acidic. A substance having a pH ≤ 2.0 or ≥ 12.5 is defined as hazardous under RCRA.

3. Reactivity

A waste is reactive if it is normally unstable: reacts violently with water; forms an explosive mixture with water; contains quantities of cyanide or sulfur that could be released to the air; or can easily be detonated or exploded. These wastes may fall into any one of several DOT categories.

4. Toxicity Characteristic Leaching Procedure (TCLP)

A waste is TCLP toxic if the concentration of any constituent in Table 1 exceeds the standard assigned to that substance. The TCLP is a methodology which attempts to simulate the conditions within a landfill. An acidic solution is passed through a sample of waste and the resultant "leachate" is analyzed for contaminants. The TCLP is designed to detect heavy metals, pesticides and a few other organic and inorganic compounds. The purpose of the test is to prevent groundwater contamination by highly toxic materials. TCLP tests the mobility of 40 different elements and compounds.

Except in certain specified circumstances, regulated quantities of hazardous waste must be disposed of at a permitted hazardous waste disposal facility. In accordance with 40 CFR Part 261.3, **any material contaminated by a hazardous waste is also deemed to be a hazardous waste and must be**

managed as such. Hazardous waste from conditionally exempt small quantity generators are to be disposed of in a Hazardous waste disposal facility. RCRA permits are also required to store, transport, and treat hazardous waste.

C. POLYCHLORINATED BIPHENYL'S (PCBs)

1. Introduction

PCBs are nonflammable and conduct heat without conducting electricity. These compounds were most frequently used as an additive to oil or other liquids in situations where heat was involved. The PCBs enhance the heat conducting properties of the liquid and thereby increase the heat dissipation or cooling effect obtained. They have also been used in lubricants and paint. In the United States one of the most common applications was in electric transformers. The only effective method for destroying PCBs is high Temperature incineration which is relatively expensive due to a shortage of PCB incineration capacity.

TABLE 1

T.C.L.P. CONSTITUENTS & REGULATORY LEVELS (mg/L)			
CONSTITUENT	REG LEVEL	CONSTITUENT	REG LEVEL
Arsenic	5.0	Hexachlorobenzene	0.13
Barium	100	Hexachloro-1,3-butadiene	0.5
Benzene	0.5	Hexachloroethane	3.0
Cadmium	1.0	Lead	5.0
Carbon Tetrachloride	0.5	Lindane	0.4
Chlordane	0.03	Mercury	0.2
Chlorobenzene	100	Methoxychlor	10.0
Chloroform	6.0	Methyl ethyl ketone	200
Chromium	5.0	Nitrobenzene	2.0
m-Cresol	200	Pentachlorophenol	100
o-Cresol	200	Pyridine	5.0
p-Cresol	200	Selenium	1.0
Cresol	200	Silver	5.0
1,4-Dichlorobenzene	10.0	Tetrachloroethylene	0.7
1,2-Dichloroethane	0.7	Toxaphene	0.5
1,1-Dichloroethylene	0.5	Trichloroethylene	0.5
2,4-Dichlorophenoxyacetic acid	0.7	2,4,5-Trichlorophenol	400
2,4-Dinitrotoluene	0.13	2,4,6-Trichlorophenol	2.0
Endrin	0.02	2,4,5-TP (Silvex)	1.0
Heptachlor (and its hydroxide)	0.008	Vinyl Chloride	0.2

By law PCB's are no longer used as dielectrics in transformers and capacitors manufactured after 1979. There are many millions of pounds of PCBs still in use or in storage. One example is the ballasts used in fluorescent light fixtures. It has been estimated that there are between 0.5 million and 1.5 billion ballasts currently in use in this country. Due to the long life of these units, about half of these may be of pre-1979 manufacture and contain PCBs. Since each ballast contains about one ounce of nearly pure PCB fluid, there are about **20 to 30 million pounds** of PCBs in existing lighting fixtures. These items are not the subject to RCRA Subtitle D Waste Screening!

Commercial or industrial sources of PCB wastes that should be addressed by the program include:

- Mineral oil and dielectric fluids containing PCBs;
- Contaminated soil, dredged material, sewage sludge, rags, and other debris from a release of PCBs;
- Transformers and other electrical equipment containing dielectric fluids; and
- Hydraulic machines.

2. PCB Regulatory Requirements

As contrasted to hazardous wastes, the Toxic Substance Control Act regulates PCBs based on the concentration of PCBs in the waste rather than the source or characteristic of the waste. The regulations concerning PCB disposal are spelled out in 40 CFR Part 761. Subtitle D of RCRA merely requires that PCB waste not be disposed in a MSW landfill. PCB management requirements include:

Waste containing more than 500 ppm of PCBs must be incinerated. Waste containing from 50 to 500 ppm must be disposed of by incineration, approved burning, or in chemical waste landfill permitted to receive such wastes. The regulations are silent concerning wastes containing less than 50 ppm of PCBs; however, the regulations cannot be circumvented by diluting stronger wastes.

D. FUNDAMENTALS OF WASTE SCREENING

1. Know Your Generators and Haulers

Since the level of sophistication of your waste screening program will be a reflection of the likelihood of hazardous waste and PCB waste being in your incoming waste, **knowledge of the commercial industrial base of your service area is critical.** Some examples are the automotive industry, which generates solvents, paint wastes, lead acid batteries, grease and oil; the dry cleaning industry, which may generate filters containing dry cleaning solvents; metal platers which generate heavy metal wastes; and other industries which generate a variety of undesirable wastes; e.g. chemical and related products, petroleum refining, primary metals, electrical and electronic machinery, etc.

Landfill managers should also know the haulers and trucks serving the businesses in their community which are likely to carry unacceptable wastes.

Some local governments and solid waste management agencies have enacted legislation requiring haulers to provide a manifest showing the customers whose wastes make up that particular load. Such a manifest is an extremely useful tool when a load is found to contain prohibited wastes. It is unwise to accept wastes from unknown, unlicensed, or otherwise questionable haulers.

2. Inspections

An inspection is typically a visual observation of the incoming waste loads by an individual who is trained to identify regulated hazardous or PCB wastes that would not be acceptable for disposal at the MSWLF unit. The training of landfill personnel will be conducted by a local EMS official or a SWANA certification. An inspection is considered satisfactory if the inspector knows the nature of all materials received in the load and is able to discern whether the materials are potentially regulated hazardous wastes or PCB wastes.

Ideally, all loads should be screened; however, it is generally not practical to inspect in detail all incoming loads. Random inspections, therefore, can be used to provide a reasonable means to adequately control the receipt of inappropriate wastes. Random inspections are simply inspections made on less than every load. At a minimum the inspection frequency will not be less than one percent of the waste stream.

The frequency of random inspections may be based on the type and quantity of wastes received daily, and the accuracy and confidence desired in conclusions drawn from inspection observations. Because statistical parameters are not provided in the regulation, a reasoned, knowledge-based approach may be taken. A random inspection program may take many forms such as inspecting every incoming load one day out of every month or inspecting one or more loads from transporters of wastes of unidentifiable nature each day. If these inspections indicate that unauthorized wastes are being brought to the MSWLF site, the random inspection program should be modified to increase the frequency of inspections.

Inspection priority also can be given to haulers with unknown service areas, to loads brought to the facility in vehicles not typically used for disposal of municipal solid waste, and to loads transported by previous would-be offenders. For wastes of unidentifiable nature, received from sources other than households (e.g., industrial or commercial establishments), the inspector should question the transporter about the source/composition of the materials.

An inspection flow chart to identify, accept, or refuse solid waste is provided as Figure 1.

Inspections of materials may be accomplished by discharging the vehicle load in an area designed to contain potentially hazardous wastes that may arrive at the facility. The waste should be carefully spread for observation using a front end loader or other piece of equipment. The Division of Waste Management recommends that waste should be hand raked to spread the load. Personnel should be trained to identify suspicious wastes. Some indications of suspicious wastes are:

- Hazardous placards or markings;
- Liquids;
- Powders or dusts;
- Sludges;
- Bright or unusual colors;
- Drums or commercial size containers; or
- Chemical odors.

The County will follow these procedures when suspicious wastes are discovered.

- Segregate the wastes;
- Question the driver;
- Review the manifest (if applicable);
- Contact possible source;
- Call the State Solid Waste Management Department;
- Use appropriate protective equipment;
- Contact laboratory support if required; and
- Notify the local Hazardous Material Response Team.

Containers with contents that are not easily identifiable, such as unmarked 55-gallon drums, should be opened only by properly trained personnel. Because these drums could contain hazardous waste, they should be refused whenever possible. Upon verifying that the solid waste is acceptable, it may then be transferred to the working face for disposal.

Testing typically would include the Toxicity Characteristic Leaching Procedure (TCLP) and other tests for characteristics of hazardous wastes including corrosivity, ignitability, and reactivity. Wastes that are suspected of being hazardous should be handled and stored as a hazardous waste until a determination is made.

If the wastes temporarily stored at the site are determined to be hazardous, Iredell County is responsible for the management of the waste. If the wastes are to be transported from the facility, the waste must be: (1) stored at the MSWLF facility in accordance with requirements of a hazardous waste generator, (2) manifested, (3) transported by a licensed Treatment, Storage, or Disposal (TSD) facility for disposal.

E. RECORD KEEPING AND NOTIFICATION REQUIREMENTS

Records must be kept pursuant to an incident where regulated hazardous waste or prohibited waste is found at the landfill. It is also recommended that records be kept of all screening activities and incidents, whether or not, regulated or prohibited wastes are found. This will help prove that the landfill owner/operator has acted in a prudent and reasonable manner.

The best way to prove compliance with this requirement is to document each inspection including:

- Date and time of waste detection
- Hauler name (company and driver)
- Waste(s) detected
- Waste generator(s) if able to identify
- Action(s) taken to manage or return material(s)
- Efforts taken if extreme toxicity or hazard was discovered
- Landfill employee in responsible charge

40 CFR Part 258 requires that records should be maintained at or near the landfill site during its active life and as long after as may be required by the appropriate state or local regulations.

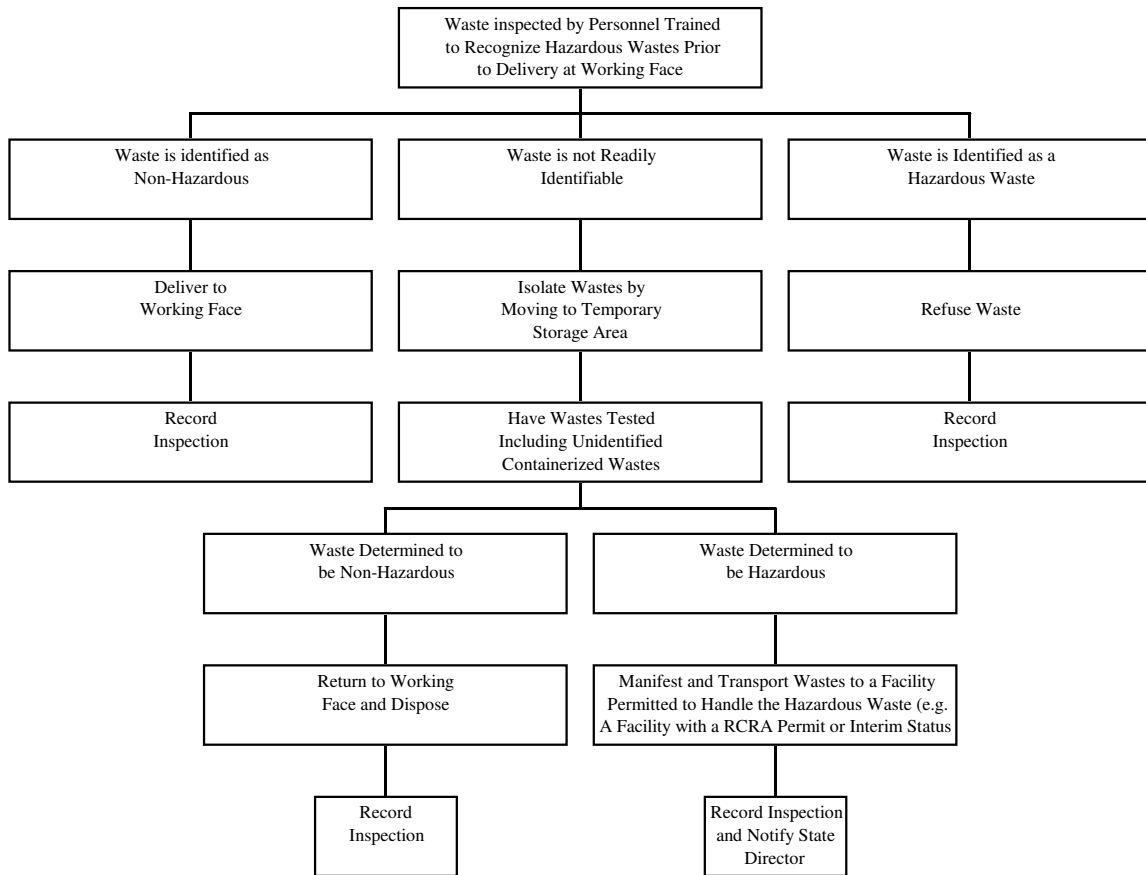


FIGURE 1
Hazardous Waste Inspection Decision Tree
Inspection Prior to Working Face

WASTE SCREENING CHECK LIST
(CHECK ALL THAT APPLY)

CONTAINERS

YES

NO

FULL.....

PARTIALLY FULL.....

EMPTY.....

CRUSHED.....

PUNCTURED.....

POWDERS/DUSTS

IDENTIFIED.....

UNKNOWN.....

SATURATION.....

LABEL/HAZARDOUS.....

ODOR/FUMES

STRONG.....

FAINT.....

HEAT.....

ITEMS FOUND

BATTERIES.....

OIL.....

BIOMEDICAL.....

RADIOACTIVE.....

ASHES/RESIDUE.....

SOD/SOIL.....

LIQUID.....

HAZARDOUS.....

PCB'S.....

OTHER.....

DETAILED SCREENING REPORT

WASTE SOURCE _____
ADDRESS _____

PROBABLE [] SUSPECTED [] CONFIRMED []

WASTE HAULER _____
ADDRESS _____

DRIVER'S NAME _____
DETAIL _____

NOTIFIED:

WASTE SOURCE [] HAULING MANAGEMENT [] SITE MANAGEMENT []

STATE [] FEDERAL []

NAME _____
WITNESS (IF ANY) _____
DATE _____ TIME _____ AM / PM

ACTION REQUIRED:

PRE-ACCEPTANCE AGREEMENT

DATE _____ TIME _____ WEIGH BILL _____

CLERK OR RECEIVING AGENT _____

CUSTOMER NAME/NUMBER OR IDENTIFICATION _____

VEHICLE LICENSE _____ STATE _____

WASTE DESCRIPTION (CHECK ALL THAT APPLY):

RESIDENTIAL [] COMMERCIAL [] INDUSTRIAL []

INSTITUTIONAL [] YARD TRIMMING [] SPECIAL []

SPECIAL DESCRIPTION: _____

TOTAL WEIGHT _____

WEIGHT OF VEHICLE (TARE WEIGHT) _____

WEIGHT OF WASTE DELIVERED _____

HAULER AGREES AND WARRANTS THAT HE/SHE IS DELIVERING SOILD WASTE ONLY FOR THIS LOAD AND ANY SUBSEQUENT LOADS TO THIS FACILITY. HAULER DOES HEARBY INDEMNIFY THE FACILITY OPERATOR FOR DAMAGES CAUSED BY THE DELIVERY OF ANY HAZARDOUS/TOXIC OR OTHERWISE UNACCEPTABLE MATERIAL.

DRIVER'S SIGNATURE

5.4 Appendix II - Alternate Cover Materials (ACM)

ACM: Automotive Shredder Residuals (ASR)

Approved Landfill Use: MSWLF and C&DLF (lined)

Material Characteristics: Automotive shredder residuals are the fines remaining after scrap cars have passed through a shredder and all recoverable materials have been removed. ASR can consist of glass, synthetic fibers, rubber, plastics, automobile liquids residue, metal fines and dirt. It is possible for the ASR to contain substances considered hazardous such as lead, cadmium and PCB.

Usage Criteria:

1. ASR can be applied, in lieu of soil, to a depth of six inches given calm site (weather) conditions.
2. If site (weather) conditions are, or are forecast to be , windy the ASR must either be:
 - a) Mixed with soil at a ration of 50% soil with 50% ASR prior to application on the working face, or
 - b) Placed on the working face to a minimum depth of 3" and then covered with soil a minimum depth of 3".
3. During use of ASR as an ACM, soil cover to a full depth of six inches shall be applied once per week.
4. ASR shall not be used on any exterior/outside slopes and may not be used for intermediate cover.
5. The ASR must be sourced from within the approved service are of the landfill facility.

*** A CDLF equipped with a liner system may use the ASR as alternate daily cover only. Use of more than six inches equates to disposal. ASR is not a C&D waste. To dispose of ASR in a lined CDLF, contact the Permitting Branch of the solid Waste Section for further clarification.**

ACM: Combustion Residuals (CR)/Ash

Approved Landfill Use: MSWLF and C&DLF (lined)*, IndLF (lined)*

Material Characteristics: Construction Combustion Residuals or Ash are, generally, the residuals remaining from the combustion of coal or the incineration of waste materials. The CR/Ash generally consists of fine particles such as fly-ash as well as larger particles similar to sand, gravel or stone.

Usage Criteria:

1. CR/Ash can be applied, in lieu of soil, to a full depth of six inches given calm site (weather) conditions.
2. If site (weather) conditions are, or are forecast to be , windy the CR/Ash must either be:
 - a). Mixed with soil at a ration of 50% soil with 50% CR/Ash prior to application on the working face if it can become airborne or exhibits dust like properties, or
 - b) Placed on the working face to a minimum depth of 3" and then covered with soil a minimum depth of 3".
3. During use of CR/Ash as an ACM, soil cover to a full depth of six inches shall be applied once per week, unless otherwise approved by the Section*.
4. CR/Ash may not be used for intermediate cover, if it can become airborne or exhibits dust like properties.
5. The CR/Ash must be sourced from within the approved service area of the landfill facility.

Warning: Some materials, such as flue gas desulfurization residue, are destined for recycle and cannot be contaminated with soil. Site Specific handling practices should be discussed with the Solid Waste Section prior to implementation.

*** A CDLF equipped with a liner system may use the CR as alternate daily cover only. Use of more than six inches equates to disposal. CR is not a C&D waste. To dispose of CR in a lined CDLF, or a non-CCB industrial landfill, contact the Permitting Branch of the solid Waste Section for further clarification.**

ACM: Construction and Demolition Debris (C&D) Fines

Approved Landfill Use: MSWLF and C&DLF (lined)

Material Characteristics: Construction and Demolition Debris Fines are, generally, the residuals and fine particles remaining in the bottom of dumpsters, roll-off containers and trucks used in the transportation or processing of C&D debris.

Usage Criteria:

1. C&D Fines can be applied, in lieu of soil, to a full depth of six inches given calm site (weather) conditions.
2. If site (weather) conditions are, or are forecast to be, windy the ASR must either be:
 - a). Mixed with soil at a ratio of 50% soil with 50% C&D Fines prior to application on the working face, or
 - b). Placed on the working face to a minimum depth of 3" and then covered with soil a minimum depth of 3".
3. During use of C&D Fines as an ACM, soil cover to a full depth of six inches shall be applied once per week.
4. C&D Fines shall not be used on any exterior/outside slopes and may not be used for intermediate cover.
5. The C&D Fines must be sourced from within the approved service area of the landfill facility.

* **Warning: C&D fines can contain large percentages of drywall dust or gypsum. These materials may produce significant amounts of hydrogen sulfide, an obnoxious smelling compound. If odor problems develop, the use of the fines should be suspended immediately and the offending area covered with soil.**

ACM: Petroleum Contaminated Soils (PCS)

Approved Landfill Use: MSWLF and C&DLF (lined)*, IndLF (lined)*

Material Characteristics: Petroleum Contaminated Soils are, generally, native soils contaminated with some petroleum liquid. Generally, these soils are to be sourced from environmental cleanup sites, spill sites or sites associated with above ground or underground storage tank (AST or UST) removal. In the case of ACM usage, petroleum is narrowly defined as low to medium boiling point petroleum derived fuels such as gasoline, kerosene, diesel, motor oil, mineral spirits and fuel oils #11 through #6. All other petroleum derived liquids such as solvents, acids, tars and asphalts are excluded. In all cases, the concentration of Total Petroleum Hydrocarbons (TPH) in the PCS cannot exceed 3,000 parts per million (PPM) regardless of type or test method. The material may not contain chlorinated solvents or other hazardous materials or exhibit the hazardous characteristic of flammable.

Usage Criteria:

1. PCS can be applied, in lieu of soil, to a full depth of six inches.
2. The PCS must be stockpiled within the disposal area and shall be managed and applied in such a way that runoff cannot leave the lined landfill area.
3. The PCS shall be managed in such a way to prevent run-off and fugitive emissions (i.e. use of tarps, berms and/or wetting to prevent blowing).
4. PCS is prohibited from disposal. Therefore, the facility may not accept more PCS than can be used in a 45 day period. The amount of PCS accepted should not exceed 20% of the permitted facility average monthly waste stream.
5. PCS shall not be used on any exterior/outside slopes and may not be used for intermediate cover.
6. The PCS must be sourced from within the approved service area of the landfill facility.
7. PCS can only be used at lined landfill facilities.
8. Records must be maintained in the facility operating record indicating the volume of PCS accepted and applied at the facility on a daily basis.

- * **A CDLF or IndLF equipped with a liner system may use the PCS as alternate daily cover only. Use of more than six inches equates to disposal. PCS is neither a C&D nor an Industrial waste. To dispose of PCS in a lined CDLF, or a non-CCB industrial landfill, contact the Permitting Branch of the Solid Waste Section for further clarification.**

ACM: Spray-applied Mortar Coating (SMC)

Approved Landfill Use: MSWLF, C&DLF and IndLF

Material Characteristics: SMC is, generally, a commercially sourced non-flammable, non-toxic product containing proprietary components including mix setting agents, reinforcing materials and cement. Other components, such as latex paint, may also be added to the mixture. All of the components are mixed on site with water and/or leachate to produce a slurry that is then spray applied to the working face.

Usage Criteria:

1. SMC can be applied, in lieu of soil, given appropriate site (weather) conditions.
2. SMC must be applied in accordance with the manufacturer's application guidelines.
3. SMC must be applied in two directions to ensure adequate coverage.
4. During the use of SMC as an ACM, soil cover to a full depth of six inches shall be applied once per week unless otherwise approved by the Section.
5. The use of non-hazardous latex or water based paint in the mixture is approved provided that the paint has been collected for recycling.

ACM: Foam Coating (Foam)

Approved Landfill Use: MSWLF, C&DLF and IndLF

Material Characteristics: Foam Coating is, generally, a commercially sourced non-flammable, non-toxic, non-hardening water based product. The proprietary liquid concentrate is delivered to the site and diluted with water prior to application with proprietary equipment.

Usage Criteria:

1. Foam can be applied, in lieu of soil, given appropriate site (weather) conditions.
2. Foam must be applied in accordance with the manufacturer's application guidelines.
3. During the use of Foam as an ACM, soil cover to a full depth of six inches shall be applied once per week.
4. The use of non-hazardous latex or water based paint in the mixture is approved provided that the paint has been collected for recycling.
5. Foam shall not be used on any exterior/outside slopes and may not be used for intermediate cover.

ACM: Foundry Sand (Sand)

Approved Landfill Use: MSWLF, C&DLF (lined)* and IndLF (lined)*

Material Characteristics: Foundry Sand is, generally, a by-product of the smelting and forging processes for metals fabrication. Metal pieces and particulate may also be found in the sand. Prior to use, a Toxicity Characteristic Leaching Procedure (TCLP) analysis must be performed to ensure no hazardous constituents are found in the sand at the source. The TCLP analysis results must be submitted with the Operation Plan revision.

Usage Criteria:

1. Sand can be applied, in lieu of soil, to a full depth of six inches.
2. The Sand must be stockpiled within the disposal area and shall be managed and applied in such a way that runoff cannot leave the lined landfill area.
3. The Sand shall be managed in such a way to prevent runoff and fugitive emissions (i.e. use of tarps, berms and/or wetting to prevent blowing).

4. Sand is prohibited from disposal. Therefore, the facility may not accept more Sand than can be used in a 45 day period. The amount of Sand accepted should not exceed 20% of the permitted facility average monthly waste stream.
5. Sand shall not be used on any exterior/outside slopes and may not be used for intermediate cover.
6. The Sand must be sourced from within the approved service area of the landfill facility.
7. Sand can only be used at lined landfill facilities.
8. Records must be maintained in the facility operating record indicating the volume of Sand accepted and applied at the facility on a daily basis.

* **A CDLF or IndLF equipped with a liner system may use the Sand as alternate daily cover only. Use of more than six inches equates to disposal. Sand is not a C&D waste. To dispose of Sand in a lined CDLF, a lined landfill not previously permitted to accept it or a or an non-CCB industrial landfill, contact the Permitting Branch of the Solid Waste Section for further clarification.**

ACM: Soil/Mulch Mixture (S&M)

Approved Landfill Use: MSWLF, C&DLF and IndLF

Material Characteristics: Soil/Mulch Mixture is, generally, a mixture of native soils and wood mulch generated from grinding of yard trash, land clearing debris and pallets constructed of unpainted and untreated natural wood. Additionally, shredded tire chips may be used in addition to, or in lieu of, wood mulch.

Usage Criteria:

1. S&M can be applied, in lieu of soil, to a full depth of six inches.
2. S&M can be mixed at a ratio from 80% soil to 20% mulch up to 50% soil to 50% mulch by volume.
3. During the use of S&M as an ACM, soil cover to a full depth of six inches shall be applied once per week.
4. S&M may not be used for intermediate cover.

ACM: Synthetic Tarps (Tarps)

Approved Landfill Use: MSWLF, C&DLF and IndLF

Material Characteristics: Synthetic Tarps are, generally, a commercially sourced non-flammable, non-toxic, sheet product constructed of an impermeable synthetic polymer typically reinforced with fibers. Acceptable sheet products include, but are not limited to, geotextiles, polyethylene membranes, plastic film, tarps and composite geotextile/plastic membranes. Tarps may be applied by hand, using landfill equipment and/or and Automatic Tarping Machine (ATM).

Usage Criteria:

1. Tarps can be applied, in lieu of soil, given appropriate site (weather) conditions.
2. Tarps must cover the entire working face. Any waste not covered by tarps must be covered by soil.
3. Tarps must be secured in place with the use of soils or other ballast system such as tires or sand bags.
4. During the use of Tarps as an ACM, soil cover to a full depth of six inches shall be applied once per week.
5. Tarps shall not be used on any exterior/outside slopes and may not be used for intermediate cover.

5.5 Appendix III - Leachate Collection System Inspection Log

Leachate Collection System Inspection Log

Rainfall

_____ inches (measured after each occurrence)

Pump Readings

Pump # _____ :

_____ Date

_____ Hrs. Run (total weekly)*

_____ Gallons Pumps (total weekly)**

Manually Operate Pump _____ Date (monthly)

Pump # _____ :

_____ Date

_____ Hrs. Run (total weekly)*

_____ Gallons Pumps (total weekly)**

Manually Operate Pump _____ Date (monthly)

Leachate Lagoon

Inspection of Lagoon _____ Date (Monthly)

Repairs to Lagoon _____ Date

Leachate Lines

Date Videoed _____

Date Flushed _____

Comments

* **Hours Run/Week** = Previous Week's Hours – This Weeks Hours

** **Gallons Pumped/Week** = Previous week's gallons – This week's gallons

5.6 Appendix IV - Solid Waste Management Facility Fire Occurrence Notification Form



SOLID WASTE MANAGEMENT FACILITY FIRE OCCURRENCE NOTIFICATION

NCDEQ 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:

Revised 6/15/2016

5.7 Appendix V - Avian Flu and Natural Disaster Animal Carcass Disposal Plan

Handling of Dead Animals from a Natural Disaster and/or Disease

The landfill should not accept any dead animals without knowing the cause of death. Those killed by natural disaster could be accepted at the landfill but those that die because of any type of disease transmissible to humans cannot be accepted. This is in accordance with Iredell County Code, specifically Sections 12-2 and 12-16. It is strongly recommended by the United States and North Carolina Department of Agriculture that all dead animals that result from either a disaster and/or disease are disposed on the site where they are being raised. It is better not to transport for the safety of public's health and the safety of landfill operations. The producers are required by law to report any diseases to NCSDA&CS, Animal Health Programs at (919) 733-7601, also Veterinary Public Health Office at (919) 707-5900. The West Nile Virus is also to be reported to the Public Health Pest Management Section at (877) 790-1747.

If carcasses are accepted by Iredell County the following protocols should be followed;

1. The landfill should be notified at least one hour prior to delivery.
2. The cause of death should be noted if it was possible to make determination.
3. Carcasses may only be accepted between the hours of 8:00 a.m. and 2:00 p.m.
4. Carcasses must be covered by at least 3 feet of soil or waste or any combination of the two.
5. Equipment used in disposal should be washed and disinfected prior to maintenance activities.

The following is a brief summary of poultry mortality disposal methods in North Carolina. All disposals must occur within 24 hours. (This is a copy of the NC Department of Agriculture and Consumer Services requirements from their website.)

1. Burial: Not closer than 300 feet to a flowing stream or public body of water. Should be at least three (3) feet above water table and covered with three (3) feet of soil. Can be used anywhere soil conditions allow, primarily for emergency situations. Not recommended for disposal of normal daily mortality.
2. Incineration: Any commercial unit that will completely incinerate the birds. Should be sure they meet local and state air quality requirements. Good procedure anywhere in the state.
3. Rendering: Must be done by a licensed renderer or collector. Care must be taken not to spread disease from farm to farm. Freezing mortality prior to rendering is allowed.
4. Disposal Pit: The bottom of the pit should be at least three (3) feet above the water table. Not a satisfactory procedure in most of Eastern North Carolina and other locations with a high water table.
5. Composter: Requires a permit from the North Carolina Department of Agriculture and Consumer Services. Good procedure in any part of the state.
6. Digestion: Requires a permit from the North Carolina Department of Agriculture and Consumer Services. Permits are limited to one (1) year but can be extended. Generally less satisfactory than other methods of disposal. Can be used anywhere in the state.

Other disposal methods require a special permit from the State Veterinarian's office.

The following methods may be used to protect workers from being exposed to avian influenza virus during disposal of poultry carcasses that have died or been destroyed as a result of this disease.

The influenza virus is extremely sensitive to almost any disinfectant. However, it is very difficult to inactivate the virus if it is in organic material, such as feces.

Disinfectants that will kill avian influenza virus

1. One-Stroke Environ^R
2. Any detergent
3. Formaldehyde
4. Bleach
5. Ammonia
6. Acids
7. Heating to 90°F for 3 hours, 100°F for 30 min.
8. Drying
9. Iodine containing solutions

Equipment and Personal Protective Equipment

1. Portable high-pressure sprayers can be useful in washing and disinfecting equipment and poultry houses.
2. Hand-held sprayers are helpful for spraying disinfectants on the floor mats of cars, disinfecting wheel wells, etc. In addition, the same type of sprayer can be used to distribute insecticides in a vector control program.
3. Disposable coveralls, boots, and caps should be worn by all workers involved in the disposal or disinfection of equipment.
4. Signs, gates, pylons, and other indications of barriers can be important in preventing unwanted human traffic.

Emergency Burial Guidelines:

Introduction

Hurricane Floyd on September 15, 1999 combined with the weather conditions before and immediately after this hurricane resulted in the most severe flooding and devastation in North Carolina history. The flooding caused an estimated \$813 million in agricultural losses affecting 32,000 farmers. In addition to crop loss, there was significant loss of livestock including 2,860,827 poultry, 28,000 swine, and 619 cattle. Disposal of dead animals was a significant problem. Proper burial and disposal will prevent potential public health problems resulting from large numbers of dead and decaying animals including the spread of harmful pathogens, ground and surface water contamination, and pest control. In certain situations, burial of dead animals may be the best alternative for immediate disposal. These guidelines are designed to insure burial is done in a safe and effective manner.

Legal Authority

North Carolina General Statute 106-403 (NCGS) Disposition of dead domesticated animals states that it is the responsibility of the owner or person in charge of his domesticated animals to bury dead animals appropriately within 24 hours after knowledge of the death. It is the responsibility of the municipal or county government to designate appropriate persons to dispose of any domestic dead animals whose owner cannot be identified. (See NCGS 106-403 and companion opinion from the Attorney General's Office dated June 8, 1984.)

The NC Department of Agriculture - Veterinary Division is the lead state agency to oversee animal disposal as regulated under existing Administrative Rules, specifically, **Subchapter 52C - Control of Livestock Diseases: Miscellaneous Provisions, Section .0100 - Diseased and Dead Animals**

The State Health Director and by extension the Local Health Director in each county is charged with preventing health risks and disease and promoting a safe and healthful environment according to **NCGS 130A, Articles 1-20**. To the extent that dead animals become a threat to human health, the State and Local Health Director has broad authority to investigate and act on matters to protect health.

The Environmental Management Commission protects the groundwater quality in the State of North Carolina through rules established in **15A NCAC Subchapter 2L - "Classifications and Water Quality Standards**

Applicable to the Groundwaters of North Carolina." These rules establish groundwater quality standards that may not be exceeded without a permit issued under the authority of the Commission. The Groundwater Section of the Division of Water Quality is responsible for the administration and enforcement of these rules. Any surface or subsurface activity that has the potential to cause groundwater standards to be exceeded is subject to the regulatory authority of the Commission.

Scope

While it is recognized that there are multiple types and degrees of emergencies that could create the need for dead animal burial, these guidelines focus on the most common cause and the most recent experience, flooding and electrical outages. For example, guidelines for managing dead animals during a foreign animal disease emergency may differ and would be managed through the State Veterinarian. These guidelines are intended to address dead animal disposal during a declared emergency and therefore do not take the place of the dead animal disposal that occurs under the normal permitted operation of a farm. The Governor can declare a state of emergency in North Carolina with or without a federal declaration of the same.

Emergency Planning

Each farm operation shall make specific plans for animal disposal in the event of an emergency. When burial is determined to be the disposal method of choice, an attempt should be made first to bury the dead animals on the farm according to these guidelines. If proper burial is not possible on the farm then plans should be made for alternative sites.

Burial Standards

1. The bottom of the hole where dead animals are to be buried should be 3 feet above the seasonal high water table wherever possible and at least 12 inches above the seasonal high water table. (Farm owners may contact the local NRCS agency or the local health department for assistance in determining the seasonal high water table.)
2. Standing water in the hole does not preclude animal burial as long as the bottom of the hole is at least 12 inches above the seasonal high water table, not in an area of standing water, and the other conditions for proper burial are met.
3. There must be at least 3 feet of soil covering any buried animal. This can be interpreted to mean soil mounded over the animals above the adjacent ground level.
4. The burial site must be at least 300 feet from any existing stream or public body of water.
5. The burial site must be at least 300 feet from any existing public water supply well.
6. The burial site must be at least 100 feet from any other type of existing well.
7. The burial site cannot include any portion of a waste lagoon or lagoon wall.
8. In the case where the burial site is in a waste disposal spray field, the burial site is not available for subsequent waste spraying until a new viable crop is established on the site.
9. The burial site shall be located so as to minimize the effect of storm water runoff.
10. Burial is not permitted in the tiled area of an under drained field.
11. A record of the location of the approved site (GPS latitude and longitude coordinates if available), the burial history of each burial site to include the date, species, head count and age must be kept by the owner and reported to the Local Health Director who will in turn report this information to the appropriate State agency - DENR Division of Water Quality, Groundwater Section.
12. Farm owners and operators are encouraged to consider measures that could be taken prior to an imminent emergency that could reduce the impact on the farm and the environment.

Collective Burial Site

A collective burial site may be designated to serve one or more counties in the event of a large-scale emergency whereby individual farm sites are not available. The responsibility for disposal of dead animals remains with the owner, lessee, or person in charge of any land upon which any domesticated animals die. The county or municipality should identify an appropriate burial site(s) with the capacity to bury up to 5% of the steady state live weight of livestock in that jurisdiction. The use of an existing county or municipal landfill as a dead animal burial site is legal and preferred.

Burial Site Location

Best farm practices suggest that burial sites with the capacity to handle the type and number of animals most likely to be needed during an emergency for each farm operation be identified prior to the emergency. It is recommended that the emergency burial plan be incorporated into the farm's existing conservation plan.

Contact Information

N.C. Department of Environment Quality
Division of Water Quality/Groundwater Section
Mooresville Regional Office
610 East Center Avenue, Suite 301
Mooresville, NC 28115
Ph: 704-663-1699

N.C. Department of Health and Human Services
Division of Public Health
Communicable Disease Branch/Epidemiology Section
225 N. McDowell Street
Raleigh, North Carolina 27603
Ph: 919-773-3419

http://www.ncagr.gov/oep/Storms/ANIMAL_BURIAL_GUIDELINES_April_2011.pdf (source of information)

<http://www.ncagr.gov/oep/veterinary/VetCorps.htm> (North Carolina Veterinary Response Corps)

5.8 Appendix VI - White Goods Operation Plan

The collection site for white goods is located on the Solid Waste Facility Site at 354 Twin Oaks Site, Statesville, NC. The hours of operation are Monday – Friday 7:30 a.m. – 4:00 p.m. and Saturdays 8:00 a.m. -12:00 noon. In addition white goods are accepted at one transfer station and three convenience sites where refrigerants are recovered and then materials are placed in roll off boxes and are transported to this site. These sites have more extended hours of operation. Staff is available at all sites to assist with unloading. The public is informed about free disposal of appliances through media, pamphlets and educational recycling programs.

White goods are directed to the site. White goods are then processed and placed in containers. Weights are recorded once the containers are full and ready for transport to local scrap metal recycling vendor. Computerized records are on file in with the County.

The collection site is accessible to the public by paved road. The area for collection is a concrete pad and allows for easy access. There is a block building approximately, 70' x 40'. The building has multi purposes. It is the inside work place and is also the equipment and tool storage area for the white goods program. The other third of the building is a paint swap shop. This program has a separate entrance. The white goods section is accessible by two doorways and the automated garage door is used for ventilation. The building is heated and cooled. There is a concrete pad approximately, 140' x 64' feet on three sides of the building. The outside area to the right of the white goods area is for collection and workspace. This area has access to below-grade roll off storage with two slots designated for white goods boxes for transporting to market. The area is equipped with a bobcat for moving appliances, Freon removal machinery, and a variety of tanks, filters and additional tools are available. All safety work gear and other set equipment are stored in this area. The removal procedures and work area have been reviewed by OSHA and found to be compliant.

Two (2) employees are trained and licensed to remove Freon. They are certified under North Carolina law.

The CFC's are removed along with capacitors. Motor oil is removed through the Freon extraction process and compressors are destroyed.

Freon tanks are taken to a local refrigeration dealer. The County pays the company for accepting the material. Generally all the Freon is contaminated and not acceptable for sale. There are approximately two small tanks of R-12, 20 tanks of R-22, one tank of R134 and one tank of Ammonia per year extracted. All Freon-containing devices have been evacuated in accordance with Section 604 of the Clean Air Act of the Environmental Protection Agency.

The white goods are sold as scrap metal to a local dealer.

5.9 Appendix VII - Tire Collection Operation Plan

Tires are collected at all sites including the landfill. They are placed in roll off boxes at each site except the landfill.

ACCEPTANCE

- Homeowners are allowed to bring five (5) per year without charge or question. Additional amounts may be accepted free of charge with information supplied regarding the source and proper identification of responsible party.
- Commercial tires are accepted free of charge if required hauler and generator forms are properly completed with all required information. All other tires will be assessed current tire disposal rates.
- Tires must cross scale and be weighed before being sent to the collection site.

FACILITY

- Collection operation is located on a ¼ acre compacted stone base lot. The lower grade areas are surrounded by concrete barriers.
- Location is at least 500 feet from any property lines.
- Loading dock is a flatbed trailer parked lengthwise.
- Three (3) box trailers are continually on site for storage and are replaced as filled.

- Fire prevention capabilities are supplied by the use of Solid Waste Department Tanker Truck and a non-potable well head located on the White Goods site. Fire prevention training is given yearly to all employees including proper use of extinguishers. Wayside Fire Department is located within five minutes' response time and has been provided with a site plan and access keys.

PHYSICAL OPERATIONS

- A contracted scrap tire recycler operates the collection facility by agreement with Iredell County.
- The contractor's employee is on site Monday through Friday from 8:00 a.m. until 3:00 p.m. to accept tires and load them into the waiting trailers.
- Homeowner tires can be accepted anytime the landfill is open but commercial tires may only be accepted when the contractor employee is present.
- Tires are not stockpiled or stored on the ground or in the open.

FINANCE AND RECORDKEEPING

- Iredell County maintains records from all generators and haulers.
- Generators are periodically visited by solid waste personnel to ensure storage requirements are being met.
- Iredell County Enforcement investigates illegal tire dumping complaints, issues fines as needed, and forces cleanup of sites.
- Iredell County applies for all applicable state reimbursements for tire grants and cleanups and has a good success rate in receiving monies requested.

5.10 Appendix VIII - Mulching/Grinding Operation Plan

MATERIALS ACCEPTED

- Yard waste (brush, leaves and grass clippings) is accepted at all sites including the landfill.
- Materials may be delivered to the grinding area by the public, commercial haulers, municipalities or county trucks.
- All materials will be weighed at the scale with records maintained before being sent to the grinding area.
- Pallets that are free of paint and large metal pieces, or other waste are accepted but stockpiled separately from yard waste. Clean non-painted, non-treated lumber is also acceptable.

FACILITY

- The area is approximately two (2) acres in size. It consists of a compacted stone base for road and drop off pad.
- It is situated between two soil stockpiles making natural buffers.
- Run-on and run-off of storm water is controlled by ditching and vegetative cover.
- Stockpiles are approximately 150 feet from property lines with the actual grinding and unloading areas being approximately 300 feet from property lines.

OPERATIONS

- Iredell County contracts with professional grinding services on a yearly basis for the operation of this area.
- The contractor comes periodically or on an "as-needed" basis to grind materials.
- All mulched or ground materials become property of the contractor for disposal of his choice.
- The contractor is paid on a per-ton basis determined by records of tons received between visits.
- Iredell County employees maintain the area when the grinder is not present.
- Fire prevention is achieved by means of the Solid Waste Department Tanker Truck which is maintained in a state of readiness at all times. Wayside Fire Department is located within a five-minute response time and has full access to the site at all times. The firefighters have had a site tour and have also been provided a site plan.

5.11 Operation Drawings (See Section 2.3 Engineering/Operation Drawings)