

# **Composting and Wood Grinding Registration for Dummies**

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### **October 6, 2006**

## **Introduction**

This document is an aid to permitting engineers, compliance personnel, and the general public involved in the registration or permitting of composting and wood grinding sites in the state of South Carolina. It may also be used as a general best management guide for other states as well.

61-107.4 Yard Trash and Land-clearing Debris; and Composting Regulation became effective April 23, 1993. The spirit of the regulation is to properly manage yard waste and land-clearing debris by recycling wood either as compost or boiler fuel, thus ensuring that only chemically safe wood is processed. No painted or treated wood waste can be used. Only leaf and limb that is naturally occurring can meet this regulatory requirement. Pallets are the only exception. Pallets may be sent to an approved boiler. The rationale for this part of the regulation is to safeguard the public from harmful chemicals that may be ingested either through digestion, the food chain or the inhalation of air born chemicals. Pallets may or may not have harmful chemicals; but as a safeguard, the Department allows pallets only to be ground and burned as boiler fuel.

The regulation also speaks to other legal, environmental and operational concerns such as air quality, zoning, water quality, groundwater quality, vectors, fire control, odor control, and noise control. These concerns are addressed during the registration process by approving of buffers and operational controls.



## **Punch list**

Attached is a punch list that is used in the registration process. It is a distillation of the regulation. By reviewing the commentary of this punch list, a better understanding of the regulation and registration process can be acquired. It is still recommended that the regulation also be read.

## **REGISTRATION APPLICATION**

### **1. Must be completely filled out.**

*Commentary:*

*It is required by the Department that form 1988 be filled out (see attached.) It is a legal document, a contract between the Department and the applicant. Condition seven (7) requires the applicant, prior to operating, to notify the Department and to certify that the site is properly prepared. Condition eight (8) requires the applicant to comply with the regulation and the approved design plans and operational report.*

## **SITE PLAN**

*Commentary:*

*The site plan or site drawing is where the lay out of the site is shown and where the Department sets up buffers and operational controls.*

### **1. Composting windrows**

*Commentary:*

*Composting windrows shown on the site plan must show the height, length, and width. The height and width are required not to exceed 12 feet high or 24 feet wide. The rationale is that composting must be temperature controlled, so as not to exceed 170 degrees. Composting windrows that exceed this temperature are likely to catch on fire. At this time, the longest thermometer is six feet. With the temperature testing needing to be at the core of the windrow, six feet is the limiting factor.*

*Composting windrows must have fire lanes with a minimum spacing of 26 feet. The rationale is that 26 feet is just enough room to efficiently spread a 12 foot high windrow on the ground and pump water on the burning debris. Considering the windrow is 24 feet wide and the fire lane is 26 feet wide, the spreading length is 50 feet. This makes for a burning debris depth of eighteen inches.*

## 2. Incoming wood waste area

*Commentary:*

*Incoming wood waste areas or windrows shown on the site plan must show the height, length, and width. The height and width are required not to exceed 12 feet high or 24 feet wide. The rationale is that incoming wood waste must be temperature controlled, so as not to exceed 170 degrees. Incoming wood waste windrows that exceed this temperature are likely to catch on fire. At this time, the longest thermometer is six feet. With the temperature testing needing to be at the core of the windrow, six feet is the limiting factor.*



## 3. Out going wood product area

*Commentary:*

*Out going wood product area must be shown so as to reduce the financial assurance for incoming wood waste. Stacked logs and firewood could be considered to be incoming wood waste.*

## 4. Wood grinding equipment area.

*Commentary:*

*Wood grinding equipment area must be shown to demonstrate proper processing flow through the site. If the equipment area is too small, grinding of wood waste will be slow and inefficient.*



## 5. Distance from wetlands and other bodies of water

### *Commentary:*

*Composting and wood grinding sites cannot be located in wetlands and other bodies of water because these activities will either destroy or impact wetlands either from the processing of wood or sediment loading from storm water.*



## **6. Distance from the 100-year flood plain**

*Commentary:*

*Placing wood waste in a flood plain is not recommended because the debris cannot be controlled during a flood and could result in an environmental disaster and log jams on rivers.*



## **7. Minimum 50-foot buffer from property line**

*Commentary:*

*Windrows need to have enough buffers from the property line so that they may be turned without going onto the adjacent property.*

## **8. Minimum 200-foot buffer from residences**

*Commentary:*

*Windrows need to have enough buffer from residences for noise control and for reducing the migration of mold spores like *Trichoderma* and *Aspergillus*. These molds can cause asthma attacks.*

## **9. Minimum 200-foot buffer from streams or rivers**

*Commentary:*

*Windrows need to have enough buffers from streams or rivers because the debris can result in a fish kill in streams or rivers.*

## 10. Minimum 100-foot buffer from all drinking water wells

*Commentary:*

*Windrows need to have enough buffers from all drinking water wells because the leachate from the wood, which contains tannin, can affect the quality of the drinking water.*



## 11. Must show approach, access roads, gates, fences, natural barriers, or other Department approved means of restricting public access

*Commentary:*

*The Department needs to know how the site is laid out. Restricting public access is very important for safety reasons.*

### **REGISTRATION REPORT**

#### **1. Procedure for prevention and control of fires**

*Commentary:*

*The location of the closest Fire Station needs to be in the report. On site equipment is usually not large enough to handle a windrow fire. Also, there must be “no smoking” signs posted. All composting and wood-grinding sites still need some kind of water source.*





## 2. Procedure for control of vectors

*Commentary:*

*Rodents can be a problem; however, gnats and flies are the real vectors. Putting out poison will do the job. If not, turning the windrows always works.*



## 3. Procedure for odor control

*Commentary:*

*There are two causes of odor in windrows.*

*One, There is too much water. Have them stop watering the piles.*

*Two, There is too little oxygen in the piles. Have them turn the windrows.*

#### **4. Procedure for control and inspection of incoming waste**

*Commentary:*

*Inspection of wood waste is very important. Treated wood cannot be composted well and what is composted leaches out heavy metals. This can get into the food chain. The grinding and burning of treated wood is an air pollution problem.*



#### **5. Method for measuring incoming waste**

*Commentary:*

*This is only needed for record keeping purposes. Trucks are usually measured for volume. The volume is converted to weight at a density of 500 pounds per cubic yard.*

#### **6. Storm water permit (call Ann Clark @ (803) 898- 4028)**

#### **7. Description of anticipated type, source, and composition of waste to be received**

*Commentary:*

*Only leaves and limbs can be composted. No C&D waste! Pallets can be used for wood grinding only. When composting, the pile should have a ratio of one part of green waste (leaves) to thirty parts wood waste (limbs) by weight.*

#### **8. Financial assurance (does not apply to local governments)**

*Commentary:*

*Financial assurance is calculated on tons of unground waste. As of 10/11/2006, the cost of disposal is six dollars a ton. However, for more detailed estimates, review the attached work sheet.*

## 9. Proof of proper zoning

### *Commentary:*

*Companies coming into the state, piling up debris and leaving a mess have trashed counties! A lot of counties have zoned out composting and wood grinding sites. When permitting a site, have the permittee get a current (90 days old or less) letter from the Zoning Board that states the site is in accord with the zoning. Make sure the letter states composting or wood grinding operations are in accordance with their zoning code.*

## 10. Proof of ownership or control of the property

### *Commentary:*

*A name on the tax map or rental agreement will do.*

## 11. Proof of minimum 2-foot separation from groundwater

### *Commentary:*

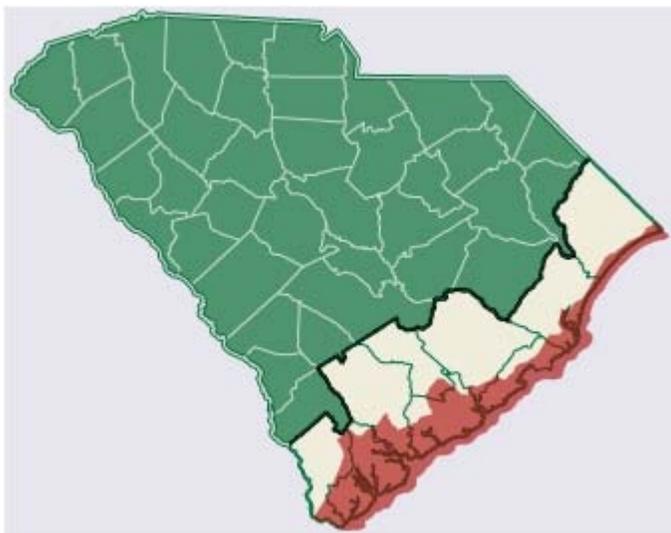
*Separation from groundwater is needed to protect the groundwater from wood waste leachate.*

*Check the ditches at the site for water levels. If there are no ditches, have the permittee dig a five foot hole and take a water depth reading two days later. Be sure and have the permittee cover the hole when finished.*

## 12. Letter of approval from (OCRM)

### *Commentary:*

*In the counties on or near the coast, sites must get an approval letter or concordance letter from OCRM. The letter must state that the site is in accord with the coastal management plan.*



### **13. Facility Operational Plan and Maintenance Plan**

*Commentary:*

*The O&M plan must address the following:*

*How the waste will enter the site.*

*Where it will be stored.*

*Where it will be ground.*

*Where the ground waste will be stored for composting or loaded out for boilers.*

*Where the composted product will be processed.*

*Where the composted product will be loaded out or for sale.*

*How the equipment will be maintained.*

*How the storm water ditches and pond will be maintained*

# ***COMPOSTING OR WOOD GRINDING REGISTRATION PUNCH LIST***

## **REGISTRATION APPLICATION**

1. Must be completely filled out.

## **SITE PLAN**

1. A detail of the facility must show the following:
  - a) The composting or wood grinding operational area should show the dimensions of the following:
    1. Composting windrows
    2. Incoming wood waste area
    3. Out going wood product area
    4. Wood grinding equipment area.
  - b) Must show the distances between the composting or wood grinding operational area and the following:
    1. Distance from wetlands and other bodies of water
    2. Distance from the 100-year flood plain
    3. Minimum 50-foot buffer from property line
    4. Minimum 200-foot buffer from residences
    5. Minimum 200-foot buffer from streams or rivers
    6. Minimum 100-foot buffer from all drinking water wells
  - c) Must show approach, access roads, gates, fences, natural barriers, or other department approved means of restricting public access

## **REGISTRATION REPORT**

1. The report should contain the following:
  - a) Procedure for prevention and control of fires
  - b) Procedure for control of vectors
  - c) Procedure for odor control
  - d) Procedure for control and inspection of incoming waste
  - e) Method for measuring incoming waste
  - f) Storm water permit (call Ann Clark @ (803) 898- 4028)
  - g) Description of anticipated type, source, and composition of waste to be received
  - h) Financial assurance (does not apply to local governments)
  - i) Proof of proper zoning
  - j) Proof of ownership or control of the property
  - k) Proof of minimum 2-foot separation from groundwater
  - l) Letter of approval from (OCRM)
  - m) Facility Operational Plan and Maintenance Plan (see attached)

## Site Visit

The site visit is one of the most important activities in the registration process! **The site and the site plan must match.** Walking the site is the best way to confirm this. Always meet the permittee at the site. Never visit a site alone. Anything can happen in the woods.

Before going to a site, review the site plan and registration. If the site has no building, be sure to bring water and have a bathroom break before walking the site. Try not to walk through high brush during the summer. Snakes are everywhere!

When walking the site, first orientate the site plan to the site. The hood of a truck is the best field desktop. If the site is heavily wooded, have the permittee have lines cut through the woods so that the site can be inspected. First, check the buffers. The property lines should be staked or marked. From the property line, look for residences. They should be at least 150 feet away and drinking water wells 50 feet away. Next, look at the slope of the land and the direction of the windrows. The windrows must follow the slope of the land for proper drainage of storm water. Next, review the drainage and the area that will be the storm water pond. A windrow must not be located in a storm water pond or ponding water. Next, look for streams or wetlands. If the soil is black and the ground looks like it gets flooded during the year, a wetlands delineation is needed. If there are no streams at the site, still look for signs of the 100-year flood plain. A map search may be the only way to confirm this.

## Project Review

When a submittal is received by the state, it is logged in. There should be a date received on the document. Review the submittal for administrative completeness. If a current proof of proper zoning letter, proof of ownership or control of the property, site plan, registration report, and complete application form is found, an administratively complete letter is sent to the permittee. If any of those items are missing, an administratively incomplete letter is sent to the permittee.

With an administratively complete submittal, first review the application form. It is required by the Department that form 1988 be filled out (see attached). It is a legal document, a contract between the Department and the applicant. Condition seven (7) requires the applicant, prior to operating, to notify the Department and to certify that the site is properly prepared. Condition eight (8) requires the applicant to comply with the regulation, the approved design plans and operational report.

Second, review the site plan. Look for a scale on the drawing (ten feet = one inch). If no scale is found, all dimensions must be shown. The width, height, and lengths of windrows must be shown. The lengths of all buffers must be shown. Read everything on the drawing. If something is not labeled, make the permittee label it. At a minimum, the site plan should show the following:

- Incoming windrow
- Outgoing windrow
- Grinder
- Office
- Water supplies (including fire fighting equipment)
- Signs
- Fences
- Ditches
- Storm water pond
- Distance from wetlands and other bodies of water
- 100-year flood plain
- Property line
- Residences
- Streams or rivers
- Drinking water wells

Use the attached punch list as a guide or make your own punch list and go over the drawing item for item. I use a red pen with the following code:

- Check mark = OK
- Question Mark = incomplete
- NA = non-applicable

The site plan should have arrows showing the storm water flow over the site. The windrows should run parallel to the arrows. Also, the storm water pond or any other control should be shown.

Next, review the registration report. The report may or may not be stamped by a professional engineer. The stamp is not required. The report should, at a minimum, contain the following:

- Procedure for prevention and control of fires
- Procedure for control of vectors
- Procedure for odor control
- Procedure for control and inspection of incoming waste
- Method for measuring incoming waste
- Storm water permit
- Description of anticipated type, source, and composition of waste to be received
- Financial assurance (does not apply to local governments)
- Proof of proper zoning
- Proof of ownership or control of the property
- Proof of minimum 2-foot separation from groundwater
- Letter of approval from (OCRM)
- Facility Operational Plan and Maintenance Plan (see attached)

All of the above items are important. However, the Facility Operational Plan and Maintenance Plan is the heart of the process. It must contain the following:

- Inspection and measuring of incoming waste
- Off loading and windrowing of incoming wood waste
- Temperature control of incoming waste
- Grinding of incoming waste
- Loading and windrowing of ground wood waste
- Temperature control of ground wood waste
- Load out of ground wood waste for boilers
- Turning of composting windrows
- Temperature control of composting windrows
- Processing of composting windrows
- Load out of composting windrows

Facility Operational Plan and Maintenance Plan should outline the whole process including maintaining the equipment for fire fighting.

## **Project Approval**

Once all the items are reviewed and found to meet all the necessary requirements of the regulation, an approval letter is sent to the permittee stating the site is now registered with the Department as a wood grinding or composting site. Attached to the letter is one set of approved plans and a registration ID number for the operation at the site. This approval letter approves the plans and registration only. In the body of the letter is a statement, "No waste may be received at the site until it is inspected and approval given by the Department."

## **Second Site Visit Approval**

**The site and the site plan must match.** When walking the site, first orientate the site plan to the site. Windrows and property lines should be staked or marked. The ditches and pond must be in place. Water supply, signs, fences, and fire fighting equipment must be in place. If all items are present, a final approval is given.

# **SAMPLES**

## MINIMUM COST ESTIMATE WORK SHEET FOR CLOSURE OF A COMPOSTING OR WOOD GRINDING FACILITY

- 1 Calculate the maximum permitted capacity in cubic yards of land clearing debris by multiplying the height of the wind row by the base by the length and dividing it by 54.

$$\frac{\text{HEIGHT X BASE X LENGTH}}{54} = \text{CUBIC YARDS}$$

$$\frac{\quad \text{X} \quad \quad \text{X} \quad \quad}{54} = \quad \quad \quad \text{CUBIC YARDS}$$

- 2 Calculate the maximum permitted capacity in tons by multiplying the cubic yards by the waste density ( 1000lb. to 2000lb. per cubic yard) and dividing it by 2000.

$$\frac{\text{CUBIC YARDS X WASTE DENSITY}}{2000} = \text{TONS}$$

$$\frac{\quad \quad \quad \text{X} \quad \quad \quad}{2000} = \quad \quad \quad \text{TONS}$$

- 3 Calculate the disposal cost by multiplying the tons by the tipping fee of the local landfill.

$$\text{TONS X TIPPING FEE} = \text{DISPOSAL COST}$$

$$\quad \quad \quad \text{X} \quad \quad \quad = \quad \quad \quad \text{DISPOSAL COST}$$

- 4 Calculate the hauling cost by multiplying the tons by the round trip miles to the local landfill by the haul cost factor.

$$\text{TONS X TRIP MILES X HAUL COST FACTOR} = \text{HAUL COST}$$

$$\quad \quad \quad \text{X} \quad \quad \quad \text{X} \quad \quad \quad = \quad \quad \quad \text{HAUL COST}$$

- 5 Calculate the grading cost by multiplying the width by the length of the composting pad by the grading cost factor.

$$\text{WIDTH X LENGTH X GRADING COST FACTOR} = \text{GRADING COST}$$

$$\quad \quad \quad \text{X} \quad \quad \quad \text{X} \quad \quad \quad = \quad \quad \quad \text{GRADING COST}$$

6 Calculate the seeding cost by multiplying the width by the length of the composting pad by the seeding cost factor.

WIDTH X LENGTH X SEEDING COST FACTOR = SEEDING COST

\_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_ SEEDING COST

7 Cost to secure facility. \_\_\_\_\_

8 Cost for signage. \_\_\_\_\_

9 Cost to solicit third party bids. \_\_\_\_\_

MINIMUM COST ESTIMATE FOR CLOSURE OF A COMPOSTING FACILITY

1	Maximum permitted capacity in cubic yards of land clearing debris _____	
2	Maximum permitted capacity in tons _____	
3	Name of local landfill _____	
	Cost per ton for disposal _____	
	Disposal cost _____	
4	Round trip miles to local landfill _____	
	Hauling cost _____	
5	Grading cost _____	
6	Seeding cost _____	
7	Cost to secure facility _____	
8	Cost for signage _____	
9	Cost to solicit third party bids _____	
	Total Cost _____	

# **S & T GRADING AND EXCAVATION WOOD PROCESSING FACILITY**

## **OPERATION AND MAINTENANCE PLAN**

### **1. Site and Project Description**

- *Define project objective* - This facility will process land-clearing debris and yard waste into reusable end products. The material will be chipped into boiler fuel and mulch. The material will be graded using a power screen. The chipped materials will be temporarily stored on-site in stockpiles with the following dimensions: 25' X 250' X 12'. In addition, a portion of the mulch material will be colored and stockpiled separately.
- *Define project scope* – The proposed wood chipping facility will be located on property currently used as a Construction, Demolition and Land-Clearing Debris (C&D) Landfill and a Land-Clearing and Yard Trash Landfill. The property is leased by S&T Grading from Mr. Dwight Corley and Mr. Sam Corley. A copy of the lease agreement is included in Appendix A. The property has been approved for use related to landfill activities. A copy of the Zoning Permit and associated Zoning Waivers is included as Appendix A. The stormwater runoff from the wood processing facility will be controlled through the existing stormwater control system for the C&D Landfill. The existing stormwater basin was designed to control the stormwater runoff from a 25-Year, 24-Hour storm event for Lexington County. The processing and stockpile areas will be graded to provide positive drainage.
- *Site location and layout drawing* – The facility is located off U.S. Highway 378 (Sunset Boulevard) approximately two (2) miles northeast of the Town of Lexington on Lexington County TMS #03500. The site location map and tax map are included in Appendix B. The proposed location of the chipping facility is shown on the tax map. A drawing of the facility layout is also included showing the unprocessed (feedstock) areas, chipping area, finished product areas (boiler fuel and mulch) and colored mulch area.

- *Site access routes for employees, feed stock suppliers, site and equipment service providers, product customers, emergency service access, parking and on-site non-operating traffic flow patterns.* The facility layout drawing shows the access routes for the facility.

- *Site, building and equipment specifications* – The facility layout drawing shows the location of facility buildings. The facility will utilize the following equipment to process the materials: Peterson HC 2400-A Portable Heavy Duty Waste Recycler (horizontal grinder), Chieftan 400 Power Screen and Morbark Coloring Unit Model 3000-P. The manufactures specifications of the equipment to be used in the operation of the facility are included in Appendix C.

## **2. Process Management**

- *Identify feedstock that may be used* - The facility will process only Land-Clearing Debris and Yard Waste. During initial operation, the incoming feedstock will be from the operation of the owners land-clearing business. Once the facility is fully operational, the owner may accept land-clearing debris and yard trash from other companies.

- *Define daily feedstock receipts plan and temporary storage* – The volume of land-clearing debris and yard trash will be estimated based on the size and type of haul equipment and approximately 500 pounds per cubic yard of waste. The land-clearing debris and yard trash will be stockpiled prior to processing. The material will be separated into yard trash (small limbs, brush, etc.) and logs/stumps. The stockpiles will be limited to the volume of material that can be processed within one (1) day of continuous operation. The proposed horizontal grinder can process approximately 1,320 cubic yards in an one (1) day period (8 Hours at 165 cubic yards per hour). Therefore, a maximum of 1,320 cubic yards of yard trash, logs and stumps will be stockpiles. Debris in excess of this volume will be directed to the facility operators Land-Clearing Debris and Yard Waste Landfill or other approved facility for disposal.

- *Define the procedures for control and inspections of incoming waste and steps to insure* - The facility will have a trained inspector on site, who will be responsible for inspection of all incoming waste to the wood chipping facility. During the initial operation, the incoming waste will be limited to the

material delivered by the facility operator. Once the facility is fully operational, the owner may accept land-clearing debris and yard trash from other companies. Unloading will be limited to the feedstock storage areas. The unloading process will be observed by facility personnel to remove any unacceptable material. Any material that is determined to be unacceptable will be removed from the facility and properly disposed of by the hauler. In the event that the responsible hauler is not known, the proper disposal of any unacceptable material will be the responsibility of S & T Grading. S&T Grading or a private waste disposal firm depending on the nature of the waste will transport the unacceptable waste to the proper disposal facility.

- *Define acceptable bulking materials, and source for each.* – Land-clearing debris and Yard Trash will be ground into two (2) inch or smaller chips.

- *Define chip pile temperature control and steps to insure.* – The ground land-clearing debris and yard trash will be placed in stockpiles to greater than twelve (12) feet in height. A minimum of thirty (30) feet will be maintained between stockpiles to provide fire lanes. Temperature readings will be taken and recorded daily to ensure the temperature does not exceed 170 degrees Fahrenheit. If the temperature exceeds this level the pile will be turned to reduce the fire hazard. The temperature readings and any subsequent turning of the stockpile will be logged by the facility operator and maintained at the facility office.

The processed stockpiles will be measured at approximately half the height and to a depth of three (3) feet into the center of the pile. The measurements will be taken on four (4) sides of each stockpile.

- *Define pile configuration, layout and turning procedures* – The incoming land-clearing debris and yard trash will be stockpiled in windrows approximately 30 feet (width) by 100 feet (length) by 12 feet (height). A 30 feet wide fire lane will be maintained between the windrows. The ground land-clearing debris and yard trash will be stockpiled to a maximum height of twelve (12) feet and a footprint of approximately 25 feet by 25 feet. The stockpiles will include the following three (3) types of material: Boiler fuel, mulch and colored mulch. As stated above, the piles will be turned if the measured temperature exceeds 170 degrees Fahrenheit. A front-end loader or trackhoe will be used to

turn the piles. The overall layout of the facility is indicated on the Facility Layout Drawing included in Appendix B.

- *Define chip material screening and refining procedures* – A portable power screen will be used to segregate the various sizes of wood chips, as required. The primary objective of the power screen will be the separation of boiler fuel and mulch material.

### **3. Odor Management**

The wood chipping material should not present an odor problem due to the limited on-site storage time and the nature of the material, which will be chipped. Steps will be taken to minimize storage time of feedstock and processed material so that the possibility of odor generation from the decomposition process is minimized. In the event that the material produces an unacceptable odor, the material will be turned and/or removed and transported to an approved disposal facility where it will be covered with a soil cover.

### **4. Housekeeping and Nuisance Management**

- *Define procedures for complying with the requirements for control of storm water drainage.* - The storm water runoff from the wood processing facility will be controlled through the existing storm water control system for the C&D Landfill. The existing storm water basin was designed to control the storm water runoff from a 25-Year, 24-Hour storm event for Lexington County. The processing and stockpile areas will be graded to provide positive drainage and minimize inflow of storm water into the processing and stockpile areas.
- *Define procedures for complying with the requirements for vector attraction reduction: including rodents, flies, birds and mosquitoes.* - The facility stockpiles will be monitored daily for vector infestation. Control procedures such as poisons baits and sprays will be used if conditions require. Animal Control will be notified as conditions warrant, or the stockpiled material will be placed in an approved disposal facility and covered with a minimum of six (6) inches of soil. In addition, the site will be properly graded to minimize the potential of ponding water and provide positive drainage.

- *Define procedures for complying with the requirements for: Runoff, Dust, Noise and Litter* - Runoff control will be through the existing stormwater management system for the C&D Landfill. As previously discussed, the existing stormwater basin was designed to control the stormwater runoff from a 25-Year, 24-Hour storm event for Lexington County. The processing and stockpile areas will be graded to provide positive drainage and minimize inflow of stormwater into the processing and stockpile areas. Dust control of the site will be maintained with the utilization of a water truck that will spray all roads and work areas during dry periods. In addition, the grinder and power screen will be equipped with water sprays for dust suppression. Noise control will be maintained with the mufflers on all equipment and the utilization of berms. In addition, the facility will be operated only during normal business hours, i.e., between 8 AM and 6 PM, to minimize disturbance to surrounding area. Litter control will be maintained through the requirement that all truck entering the facility must be covered until they are unloaded. In addition, the nature of the operation, i.e., no plastic bags, should minimize the potential for blow litter. However, the facility will be inspected daily and all liter will be removed and disposed of properly.

## **5. Emergency Preparedness**

- *Identify all reasonably foreseeable emergencies including fire and explosions* – As previously discussed, temperature readings will be taken and recorded daily to ensure the temperature does not exceed 170 degrees Fahrenheit. If the temperature exceeds this level the pile will be turned to reduce the fire hazard. The temperature readings and any subsequent turning of the stockpile will be logged by the facility operator and maintained at the facility office.

A minimum of thirty (30) feet will be maintained between stockpiles to provide fire lanes. In the event of a fire, the wood material will be covered with soil, if it is determined that a fire is manageable by facility personnel. If facility personnel deem the fire unmanageable, the fire department will be contacted. In the event of equipment fire, facility personnel will extinguish if manageable otherwise the fire department will be contacted. The facility will be served by the Lexington County Fire Department, which is located approximately three (3) miles from the facility. A copy of the willingness to serve letter from the Lexington County Fire Department is included in Appendix A.

- *Define internal chain-of-command roles and responsibilities, telephone numbers in a case of emergency.* – The owners of S&T Grading and Excavation will be responsible for the operation of the Wood Chipping Facility. Following are the facility owners and subsequent contact numbers:

Mr. Mike Sturkie (803) 513 – 8899 (Mobile)

Mr. Ken Thomas (803) 513 – 8903 (Mobile)

Facility personnel will monitor the incoming material and observe the unloading to ensure that unacceptable material, i.e., other than land-clearing debris and yard trash, are removed and properly disposed of in an approved facility. A sign will be posted at the facility entrance, which identifies the owner, contact person and telephone numbers in case of emergency, types of material accepted and the hours of operation. As previously discussed, during the initial operation, the incoming waste will be limited to the material delivered by the facility operator. Once the facility is fully operational, the owner may accept land-clearing debris and yard trash from other companies.

- *List site emergency equipment and location* – As previously discussed, in the event that a fire in the feedstock and processed material stockpiles is deemed manageable, facility personnel will spread and cover the material with a soil cover utilizing bulldozers, trackhoes and dump trucks. If facility personnel deem the fire unmanageable, the fire department will be contacted. The facility will be served by the Lexington County Fire Department, which is located approximately three (3) miles from the facility.

## **6. Security and Access**

- *Define perimeter and facility security plan* – Access to the facility will be controlled by the use of earthen berms, natural terrain and a lockable gate at the entrance off U.S. Highway 378.

- *Define public access* – Access to the facility will be off U.S. Highway 378 through a lockable gate. All vehicles entering the facility are required to stop at the facility office prior to entrance to the site. The entrance road is asphalt pavement and all other access roads maintained for all weather access.

## **7. Additional Information**

As previously discussed, the proposed wood processing facility will be located over a portion of the existing C&D Landfill and LCD Landfill. An interim cover consisting of six (6) to twelve (12) inches of soil will be placed in the wood processing area including stockpile areas. The facility will be located approximately 700 feet from Fourteen mile Creek. It is estimated that the extent of wetlands associated with Fourteen mile Creek is less than the 100-Year Floodplain. The extent of the 100-Year Flood Plain is approximately 300 feet from the wood chipping facility. The wood processing area will be located a minimum of fifty (50) feet from property lines. The closest residence is located approximately 800 feet northeast of the facility along U.S. Highway 378. There are no know water supply wells located in the area, and the area is severed by a public water system. Based on water level measurements collected from the three (3) temporary piezometers located on the subject property (Appendix D), the water table is at an elevation of approximately 230 feet MSL. The wood processing facility will be located at an elevation of approximate 330 feet MSL.