

Permit No.	Scan Date	DIN
<b>3424-TRANSFER-2010</b>	<b>August 7, 2013</b>	<b>19456</b>

RECEIVED  
**August 7, 2013**  
Solid Waste Section  
Asheville Regional Office



APPROVED DOCUMENT  
Division of Waste Management  
Solid Waste Section  
Date **September 5, 2013** By **LY Frost**

August 7, 2013

North Carolina Department of Environment and Natural Resources  
Division of Waste Management  
Solid Waste Section

Asheville Regional Office  
2090 US Highway 70  
Swannanoa, NC 28778

Attention: Mr. Larry Frost  
Environmental Engineer

Subject: Abbey Green, Inc.  
Transfer, Recycle, Resource Recovery and Processing Facility  
Permit 34-24  
Request for Permit Modification

Dear Mr. Frost,

Thank you for your review of our permit modification. I have attached what I believe to be the agreed language dated August 7, 2013. I have also attached a red-line copy so you might easily confirm all changes.

Abbey Green has made the following changes:

1. That we add procedures to strengthen our waste screening program in the event debris is received from a transfer station in our service area that is approved to take C&D debris.
2. That we add the following disposal facilities to our Operating Plan and to our Permit for our residual C&D:
  - Waste Industries Landfill, Jamestown, NC. Permit 41-16.
  - Rowan County Landfill, Woodleaf NC. Permit 80-03.
  - Surry County Landfill, Mt. Airy, NC. Permit 86-03.
  - Davidson County Landfill, Lexington, NC. Permit 29-06.
  - Republic Uwharrie Landfill, Mount Gilead, NC. Permit 62-04
3. That we define in the Operations Plan and in our Permit the amount of debris left on the tipping floor under the protection of our canopy shed overnight as 128 ton. This is equivalent to four hours of production. We will continue to cover the debris with a tarp in the case the character of the debris would lend itself to after-hours wind blow. This statement regarding tarping only during windy conditions was added to our Operations

Plan and approved in the last permit modification, but the statement also needs to be added to our Permit to match our Operations Plan.

4. That we better define the language in the Operations Plan and in our Permit that containers with unsorted debris need to be tarped and that sorted products are excluded from this requirement; specifically metals, clean wood, cardboard, recovered soils and fines, inerts such as concrete, brick, and block. This has never been an issue with your department or during inspection, but we would like the Permit to reflect this practice.

Additionally, we will keep our sorted, but not yet processed sheetrock, uncovered for a period of not to exceed 14 calendar days. This is a change in our operations.

I have attached a copy that shows the changes from our last revision. I have also attached a clean copy which can be used to update our permit.

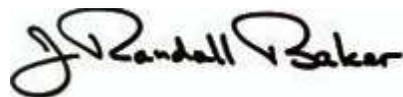
Once we have the invoice we will send the \$500.00 modification fee to:

Division of Waste Management  
Solid Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

Attn: Ellen Lorscheider

I can be reached on my cell at 215 962 0353 or at the office at 336 785 2130.

Sincerely,



J.R. Baker  
Vice President & General Manager  
Abbey Green, Inc.

# **OPERATIONS MANUAL**

ABBEY GREEN RECYCLING CENTER  
5030 OVERDALE ROAD  
WINSTON-SALEM, NORTH CAROLINA

ABBEY GREEN, INC.  
Permit 34-24  
August 7, 2013



**ABBAY GREEN RECYCLING CENTER**  
**OPERATIONS MANUAL**

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Figure 1 Site Plan

Appendix A Letter of Approval for Asbestos Screening Plan

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## **1.0 GENERAL FACILITY OPERATIONS**

### **1.1 Overview**

This Operations Manual was prepared for operations of the Abbey Green Recycling Center facility (Permit No. 34-24) located at 5030 Overdale Road in Winston-Salem, North Carolina. This document discusses the operation of the recycling facility and other solid waste management activities. The facility has been designed to accept construction and demolition (C&D) materials as well as new construction debris. Refer to the attached site plan for the general layout of the facility.

All personnel involved with the management or supervision of the facility shall review and update the documents as needed. A copy of this Operations Manual will be maintained at the facility and will be available for use at all times.

### **1.2 Contact Information**

All correspondence and questions concerning the operation of the Abbey Green Recycling Center should be directed to the contact listed below. For fire or police emergencies, dial 911.

**Abbey Green, Inc.** (Operator)  
5030 Overdale Road  
Post Office Box 12339  
Winston-Salem, North Carolina 27117  
Phone: 336.785 2130  
Contact: Mr. John Randall Baker, Jr., VP & General Manager  
Email: [RBaker@AbbeyGreen.com](mailto:RBaker@AbbeyGreen.com)

### **1.3 Facility Operating Hours**

Proposed hours of operation will be 5:00 AM to 11:00 PM Monday through Friday and Saturday 7:00 AM to 4:00 PM. The facility will normally receive C&D debris from haulers and construction sites from 7:00 AM to 6:00 PM Monday through Friday and 8:00 AM to 12:00 PM on Saturday. The facility will typically be closed on for normal operation on Sundays. Maintenance and other activities may be performed on any day or time. In the event of disaster or other

emergency situations, the supervisor may request approval from the DWM regional office to allow additional temporary operating hours.

## **1.4 Access Control**

Access to process and storage areas of the facility will be controlled by a combination of fences, gates, and natural barriers and strictly enforced operating hours. An attendant will be on duty at all times when the facility is open for public use to enforce access restrictions.

### **1.4.1 Physical Restraints**

The site will be accessed by an entrance from the private road to the northwest of Overdale Road. Waste will be screened at the scales by the scale house operator. All waste will have been weighed prior to being processed on the site. The entrance will have a gate which will be securely locked during non-operating hours.

### **1.4.2 Security**

Haulers will be stopped at the scale house for scanning and photographic documentation of open loads. Drivers will be required to identify the contents of the load and origin. Incoming loads on closed trailers or trucks will be inspected upon unloading at the tipping floor. Unacceptable materials will leave the facility in the vehicle that brought them. Frequent inspections of gates and fences will be performed by facility personnel. Evidence of trespassing, vandalism, or illegal activities will be reported to the Owner. The facility will be securely locked during non-operating hours.

## **1.5 Signage**

Prominent signage containing the information required by the North Carolina Division of Waste Management (DWM) and Health Hazards Control Unit will be placed at the main facility entrance. The signs will provide information as follows;

- operating hours
- emergency contact information
- permit number

- operating procedures for customers and, or visitors
- list of acceptable debris
- list of unacceptable wastes
- traffic directional signs for vehicles which are tipping and are picking up recycled products

Service and maintenance roads for use by operations personnel will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required.

### 1.6 Personnel Requirements

The anticipated personnel requirements for operation and maintenance of the facility are listed in the following table:

DESCRIPTION	PRIMARY FUNCTION (ALLOCATION)
1) General Manager & Office Staff (5)	Overall management of the facility
2) Scale house attendant (1)	Receiving and weight for incoming loads, identification of load content and screening for prohibited waste
3) Operators (4)	Management of tipping floor and recycling areas and screening for prohibited waste
4) Commercial Drivers (4) *	Transfer of processed C&D material
5) Labor (12)	General labor and operational staff around the site

\* Commercial drivers subject to change in response to actual volume of debris received.

One member of the supervisory staff or a lead operator, trained and certified in facility operations, will be on site at all times during all operating hours of the facility in accordance with G.S. 130 A-309.25 of the North Carolina Code. Each facility employee will participate in an annual training course (led by supervisory staff). As part of this training, personnel learn to recognize loads which may contain prohibited wastes. All personnel will receive a minimum of two-hour asbestos awareness training. A minimum number of personnel will be required to operate the facility efficiently. A scale house attendant, laborers to work on the

tipping floor and processing line(s), equipment operators, and a site supervisor are anticipated to be employed for the daily operation of the facility.

## **1.7 Health and Safety**

All aspects of the operation of the facility were developed with the health and safety of operations staff, customers, and neighbors in mind. Prior to commencement of operation of the facility, a member of the operating staff will be designated as the site safety officer. This individual, together with the facility's management will modify the site safety and emergency response program to remain consistent with National Solid Waste Management Association and Occupational Safety and Health Administration (OSHA) guidance. All personnel will receive a minimum of two-hour asbestos awareness training.

Processing equipment will be appointed with protection from moving parts, pinching, electrical connections, and sharp objects. Automated and/or manual emergency shut-off controls will also be provided. Safety devices for mobile equipment will include equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Equipment exhaust should be vented at an appropriate height in excess of the breathing zone. Other personal protective equipment (gloves, hearing protection, coveralls, or boots) will be required based on an employee's duties. Management and lead personnel will be encouraged to complete the American Red Cross Basic First Aid course to aid on site in case of an emergency. All personnel should be familiar with the equipment and duties of their position such that they will be able to identify potential hazards.

Each facility employee will participate in monthly safety meetings with topics relevant to worker safety at the Abbey Green facility. Each facility employee will participate in an annual training course in health and safety (led by supervisory staff). All training shall be documented and attested to by signatures of the trainer and trainee.

Each employee of Abbey Green will be required to submit to random drug and alcohol tests by a third party testing company.

The following are some general requirements for the health and safety of workers at the Abbey Green Recycling Center.

### 1.7.1 Personal Hygiene

The following items are recommended as a minimum of practice:

- ◆ Wash hands before eating, drinking, or smoking.
- ◆ Wear appropriate personal protective equipment.
- ◆ Wash, disinfect, and bandage any cuts, no matter how small. Any break in the skin can become a source of infection.
- ◆ Maintain fingernails closely trimmed and clean (dirty nails can harbor pathogens).

### 1.7.2 Personal Protective Equipment

Prior to the issuance of personal protective equipment (PPE) a job hazard analysis will be performed by a qualified industrial hygienist. PPE must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes PPE typically used and/or required in a solid waste management facility workplace.

- ◆ Safety shoes with steel toes.
- ◆ Safety glasses
- ◆ Hearing protection should be used in areas where exposure to high decibel noise levels is expected.
- ◆ Hard hat.
- ◆ Gloves.
- ◆ High-visibility vest and/or other clothing.

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

### 1.7.3 Mechanical Equipment Hazard Prevention

The loaders and other equipment should be operated with care and caution. All safety equipment such as horns, backup alarms, and lights shall be functional or taken out of service until repaired. A Lockout-Tagout program shall be used to identify equipment in need of or under repair and ensure that operation is “off-limits” prior to maintenance or repair. All operators shall be trained in the proper operation of equipment.

#### 1.7.4 Employee Health and Safety

Review the following periodically with each employee:

- ◆ Consider safety first when planning and conducting activities.
- ◆ Post emergency contact phone numbers.
- ◆ Post route to nearest emergency medical facility.
- ◆ Post evacuation plan.
- ◆ Provide easy and visible access to the Right to Know materials.
- ◆ Provide easy and visible access to the first aid kits and fire extinguishers.

#### 1.7.5 Physical Exposure

Facility personnel may come in contact with fluids, solids, and airborne constituents found at the recycling center. Routine training should be conducted regarding the individual and collective materials used in the recycling process and their associated hazards. Training concerning safe work practices around these potential exposures should include use of PPE and proper disposal procedures. All personnel will receive a minimum of two-hour asbestos awareness training.

The tipping floor, sorting areas, and unloading areas must be maintained in a clean, sanitary condition.

### **1.8 Communications**

The scale house, office and sort line have telephones in case of emergency and to conduct day-to-day business. The scale house and office will communicate with equipment operators and supervisors at the facility by radio.

In an emergency the facility will make an announcement over the loud-speaker system and employees will be trained to congregate at a rally point. Emergency telephone numbers will be displayed in the scale house and office.

Fires and non-conforming waste incidents shall be reported to the Regional Waste Management Specialist within twenty-four hours followed by a written notification to be submitted within fifteen days.

## **1.9 Utilities**

Electrical power, water, and telephone will be provided at the scale house and office. Water will also be available at the tipping floor and processing equipment in the event that asbestos containing materials are identified. Restrooms will be provided at the site.

## **1.10 Litter Control**

The perimeter fence will act as a barrier to keep litter contained within the site. Facility operators will inspect materials entering the facility. If unacceptable materials are delivered to the facility, the operators will deny the load or unacceptable materials will be returned on the same truck. De minimus litter sorted out during processing will be contained in an appropriate receptacle for delivery to an approved disposal facility. Windblown materials must be collected by the end of the day and reasonable effort will be made so that no windblown material may be allowed to leave the facility boundary, The material will be collected in the event that this happens

## **1.11 Fire Prevention and Control**

Due to the risk of fire and health and safety of personnel, incentives will be in place to discourage smoking on the premises. However, smoking is limited to personnel breaks and only in designated areas screened and located well away from the tipping floor, the processing line, and the storage of processed materials. Fire lanes will be maintained and passable at all times.

The possibility of fire within the facility or a piece of equipment must be anticipated in the daily operation of the facility. Fire suppression equipment shall be provided to control accidental fires and arrangements have been made with the local fire protection agency to ensure any incident at the facility will be handled with the appropriate equipment. A combination of factory installed fire suppression systems and/or portable fire extinguishers will be operational on all heavy pieces of equipment at all times. For larger or more serious outbreaks, local fire and emergency agencies will be called (dial 911).

Abbey Green, Inc will verbally notify the DWM within 24 hours of discovery of a fire within the recycling area. Additionally, written documentation describing the fire, the actions carried out to extinguish the fire, and a strategy for preventing

future occurrences will be provided to the DWM within fifteen days following any such occurrence.

## **1.12 Severe Weather Conditions**

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

### **1.12.1 Ice Storms**

An ice storm can make access to the facility dangerous, prevent movement and, thus, may require closure of the facility until any ice deemed unsafe is removed or has melted.

### **1.12.2 Electrical Storms**

The open recycling areas of the facility are susceptible to the hazards associated with lightning. If necessary, recycling activities will be temporarily suspended during severe lightning. All personnel will be removed to a safe area

### **1.12.3 Windy Conditions**

Facility operations during a particularly windy period may require that the active tipping area and sorting operations be temporarily suspended.

### **1.12.4 Violent Storms**

In the event of hurricane, tornado, or severe summer and/or winter storm warning issued by the National Weather Service, facility operations may be temporarily suspended.

## **1.13 Record Keeping Program**

The Owner will maintain the following information in an operating record at the site:

- 1) Debris inspection records;
- 2) Tonnage records including source of generation and scale certifications;

- 3) List of generators and haulers that have attempted to dispose of restricted wastes;
- 4) Employee training procedures and records of training completed;
- 5) Annual facility reports (to be submitted by August 1 of each year for the previous July 1 through June 30); and
- 6) Reports of asbestos testing, sampling data, analytical results, and acceptance or refusal of the materials.

Operating records will be presented, upon request, to the DWM for inspection. A copy of the current Operations Manual will be available at the facility for use at all times.

## 1.14 Financial Assurance

A closure cost estimate equal to the cost to hire a third party to remove and clean up a week's worth of waste from the facility has been provided below. A bond in this amount is held for financial assurance.

### Closure Cost Estimate:

#### Assumptions

- 110,000 tons per year potential
- Closure based on 110,000 tons or 2,115 tons per week
- 2115 divided by 20.5 tons/load = 103 loads
- \$102.5 /load cost to load and haul
- 24 man-hours @ \$15/hr cleanup = \$360
- 24 man-hours @ \$30/hr broom tip floor = \$720

#### Summary of Costs

Disposal costs	2,115 tons x \$30/ton = \$63,450.00
Load and Hauling costs	103 loads x \$102.5/load = \$10,557.50
Clean up and broom floor costs	\$360 + \$720 = <u>\$1,080.00</u>
<b>Total Estimated Cost of Closure</b>	<b>= \$75,087.50</b>

## **2.0 DEBRIS HANDLING OPERATIONS**

### **2.1 Overview**

This section describes the required debris handling operations for the Abbey Green Recycling Center facility. In addition to the C&D debris received at this facility, the facility also processes new construction debris such as lumber, ferrous and non-ferrous metals, etc. These materials are stored at the facility until there are sufficient quantities for pick up or delivery to various recycling contractors or end-users. The list of acceptable debris is shown below. Debris may be received from industrial sources if the material is 100% recyclable or the unrecyclable residual from industrial sources is kept physically separated from residual to be taken to approved C&D landfills

### **2.2 Acceptable Debris**

The following debris may be recycled at the facility:

- ◆ clean wood (treated, untreated, and engineered wood products);
- ◆ aggregates and inerts (clean concrete, asphalt pavement, brick, block, stones and soil);
- ◆ drywall;
- ◆ roofing shingles;
- ◆ clean metals;
- ◆ white goods;
- ◆ plastics
- ◆ cardboard and paper;
- ◆ carpet and padding
- ◆ Modular buildings, mobile home buildings, trailer campers and
- ◆ other wastes as approved by the Solid Waste Section of the Division of Waste Management.

### **2.3 Prohibited Wastes**

Only wastes, as defined in Section 2.2 above or approved by the DWM may be accepted. No other wastes may be accepted. Asbestos containing materials will

not be accepted. Suspect asbestos-containing materials found to contain greater than 1 percent asbestos will not be accepted.

## **2.4 Debris Screening Program**

In order to assure that prohibited wastes are not entering the facility, a screening program will be implemented. Debris entering the facility will be screened by trained personnel. These individuals have been trained to recognize indications of suspicious wastes, including: hazardous placards or markings; liquids, powders, or dusts; asbestos containing materials; sludge; bright or unusual colors; drums or commercial size containers; and “chemical” odors. The screening program for visual and olfactory characteristics of prohibited wastes is an ongoing part of the facility operation.

All vehicles must stop at the scale house located at the entrance of the facility and visitors are required to sign-in. All debris transportation vehicles are weighed and the content of the load assessed by the scale attendant’s inquiry, photographic equipment, and scanners. The scale attendant requests from the driver of the vehicle a description of the debris it is carrying to ensure that unacceptable waste is not allowed into the facility. The attendant then visually checks the vehicle as it crosses the scale. Signs informing users of the acceptable and unacceptable types of waste are posted at the scale house. Once passing the scales, the vehicles are routed to the tipping floor.

Facility staff trained to identify wastes that are unacceptable will inspect the debris discharged at the tipping floor. If unacceptable waste (other than asbestos) is found upon unloading on the tipping floor, the load will be isolated, reloaded, and the generator/hauler will be logged and escorted out of the facility. Periodically, minor wastes may be encountered while sorting and processing (i.e. random bag of household waste, litter, etc.). Containers will be staged on-site such that these minor wastes will be placed in a container to be disposed at an appropriate licensed facility.

In accordance with the requirements from the State of North Carolina, Division of Epidemiology, a facility representative who has successfully completed an approved asbestos contractor/supervisor training class will be present at, or readily available to, the facility during hours of operation. Any incoming waste

including recognizable suspect asbestos containing material must be accompanied by a report from an accredited asbestos inspector indicating the materials do not contain asbestos. Recognizable suspect asbestos-containing materials will not be unloaded without proper documentation. If unacceptable waste is found upon unloading on the tipping floor, the load will be isolated, wetted, and covered until it can be determined whether the material contains asbestos. Water will be available throughout the facility to eliminate dust production and migration. Sampling suspect material will be completed by a North Carolina accredited asbestos inspector. If asbestos-containing material is found to have entered the waste stream, the area around the material should be properly marked and the material wetted and covered. North Carolina accredited personnel will be required to clean-up the contaminated site in accordance with applicable regulations and transport the asbestos-containing waste to a proper disposal facility. The facility will have an accredited inspector and abatement contractor respond should a suspect load be received. If asbestos containing materials have contaminated the staging area or pick line, all work will stop and the Health Hazards Control Unit will be notified. A letter from Pat Wylie of the Division of Epidemiology has been included in Appendix A indicating the division's approval of the asbestos screening plan.

If the debris received comes from a transfer station, which is also permitted to receive C&D debris, Abbey Green will work with the personnel at that transfer station to assure that the incoming inspection criteria is substantially equivalent to that used at Abbey Green.

#### 2.5 Facility Operations

##### 2.5.1 Operating Capacity

The Operating Capacity for the recycling facility is estimated to be approximately 450 tons per day of C&D debris. Summarized below is the design capacity which is projected to be attained in 2015. This shows the proportions of recycled materials received as mixed debris. Data was taken from nationally published figures on C&D debris and adjusted based on specific studies completed at the Old Salisbury Road Landfill and our conservative expectation that source separation over time will affect the debris stream reducing the amounts of metal and aggregates.

The first column (% Total) is our projected expectation of the percentages of the material we will find in the debris stream measured by weight. The second column (2015 Diversion Rate) is the percentage of that stream that we project we will recover for sale by presorting or on the picking line.

	<b>% Total</b>	<b>2015 Diversion Rate</b>	<b>Tons</b>
TOTAL Annual Tipping Tons			110,000
Product Sales - Metal	5%	90%	4,950
Product Sales – Aggregates&Inerts	38%	60%	38,500
Product Sales - Wood	28%	60%	18,480
Product Sales - Roofing	13%	40%	5,720
Product Sales - Drywall	14%	60%	9,240
Product Sales - Card Board	3%	60%	1,980
Product Sales - Plastic / PVC	2%	40%	880
Other-Lights & difficult to separate	10%	0%	0
<b>Total Recycle Rate</b>			<b>79,750</b>
		<b>72.5%</b>	

It is the intent that processed materials will not be stored on site for more than 90 days, however:

- some materials have lower volume (such as PVC pipe) which may require longer storage time to acquire enough material to sell in bulk
- and some materials (such as brick chips and ball field dust) which are seasonal in their markets may be stored longer to meet a seasonal demand

### 2.5.2 Service Area

The anticipated service area for the facility is generally anticipated to be concentrated in Forsyth County and its surrounding counties. Debris will not be accepted from out-of-state. Specifically, the facility will service the following counties:

Alexander	Guilford	Surry
Alamance	Iredell	
Cabarrus	Mecklenburg	Union
Catawba	Randolph	Yadkin
Davidson		
Davie	Rockingham	Wilkes
Forsyth	Rowan	
	Stokes	

### 2.5.3 Disposal Facilities

The disposal facilities for residual C&D debris will be the Forsyth County facility located at Old Salisbury Road, Winston Salem, NC (Permit 34-12), the Gold Hill Rd. Landfill located at 385 Gold Hill Rd. Asheboro, NC (Permit 76-06), A-1 Sandrock Landfill located at 2091 Bishop Rd, Greensboro, NC (Permit 41-17), the Waste Industries Landfill at 5830 Riverdale Dr, Jamestown, NC (Permit 41-16), the Rowan County Landfill at 789 Campbell Rd, Woodleaf, NC (Permit 80-03), the Surry County Landfill at 237 Landfill Rd., Mt. Airy NC 27030 (Permit 86-03), the Davidson County Landfill at 220 Landfill Rd, Lexington, NC 27292 (Permit 29-06), the Republic Uwharrie Landfill at 500 Landfill Rd, Mount Gilead, NC 27306-8935 (Permit 62-04) and the Republic Service's transfer station on Overdale Road, Winston Salem, NC (Permit 34-16). Residual Municipal Solid Waste generated by the facility will be disposed of at the

Hanes Mill Road MSW Landfill, Winston Salem, NC (Permit 34-02) or Republic Service's transfer station mentioned above.

A portion of the recycled inert and aggregate-like material and soils may be retained on site as beneficial fill to improve the site topography and to build roads.

**2.5.4 Mobile Equipment Requirements**

The Owner will maintain on-site equipment required to perform the necessary recycling activities. Periodic maintenance of all equipment and minor and major repair work will be performed within designated maintenance zones or off-site. Generally, loading, hauling, dumping, mixing, and lift equipment may be used for various tasks at the facility.

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

<b>DESCRIPTION</b>	<b>PRIMARY FUNCTION (ALLOCATION)</b>
1) Excavators	Loading and sorting
2) Front End Loaders	Loading, recycling, storage, and site cleanup
3) Transfer Trucks	Collection and transfer of C&D material and products

\*

**2.6 Recycling Operations**

The facility's recycling area is used to store, separate, and contain co-mingled recyclable materials or pre-sorted materials such as new construction materials. The facility will utilize equipment as defined in Section 2.5.4 to facilitate hand sorting of materials and bins for storage.

**2.6.1 General Procedures**

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

Facility operations are anticipated as follows:

- 1) Collection vehicles delivering debris to the facility will enter through the main entrance;
- 2) Log in, screening for prohibited wastes, and weighed by the scale house attendant;
- 3) Continue along the access road until reaching the tipping floor;
- 4) Facility staff will direct the vehicle to the proper discharge location, and the debris load will be screened for prohibited waste while being discharged;
- 5) The tipping floor and loading areas must be maintained in a clean, sanitary condition at all times and must be cleaned at least daily. Waste will not be stored on the tipping floor after operating hours except for the equivalent of 128 tons of material staged to process the next day. This is the equivalent of four hours of production. This debris will be pushed up and tarped at the end of the day if required to contain wind blow. Unprocessed debris may be stored on-site a maximum of 5 working days. Storage of unprocessed debris will be placed in trucks or containers and stored under a weather proof cover or tarped if exposed to the weather. Storage of waste will be handled in a manner not to cause any nuisance, such as odor or attraction of vectors.
- 6) In the event the sorting process is not operational, then waste may not be deposited on the tipping floor and must be diverted directly to a landfill;
- 7) Except for wood, plastics, concrete, aggregates and other inerts, recoverable materials will be placed in containers;
- 8) Non-recyclable materials to be transported to a landfill or other disposal facilities will be securely placed in containers or trucks, placed under a weather proof cover or tarped if exposed to the weather, and removed within 5 days.
- 9) Inert brick, block, concrete and other separated recyclable materials moved to the LCID landfill from sorting operations or received directly into the LCID (and not on the tipping floor) will be subject to the North Carolina Operational Requirements for Land Clearing and Inert Debris Landfills 15A NCAC 13B and the requirements of Permit # N01044. Materials in the LCID

landfill shall be in accordance with these requirements and not be subject to storage limitations for separated recycled material volumes as mentioned in other areas of this operating plan

### 2.6.2 Recycling/Source Separation

As a means of capturing recyclable materials and/or debris screening, source separation will be conducted as follows:

- 1) The track hoe, loader, or laborers will separate materials to be recycled and/or processed.
- 2) All materials to be recycled and/or processed may stay on the floor until the end of operating hours except for the equivalent of 128 tons of material staged to process the next production day. This debris will be pushed up and tarped at the end of the day if required to contain wind blow.
- 3) Concrete (cement and asphaltic/bituminous): may be delivered and stockpiled at the limits of the recycling area or transported to the LCID landfill area. The concrete debris will be crushed and subsequently stockpiled in this same area until it is removed from the site for sale as fill, aggregate, etc. as markets allow.
- 4) Source separated wood, wood pallets and cardboard may be unloaded directly onto the sorted clean wood pile and cardboard containers, respectively.

### 2.6.3 Containers

Containers (cans), generally 8'x20' or 8'x15', used for holding recyclables and unacceptable waste will be stored in the recycling area. The containers will be removed from the processing area to designated storage areas as they are filled. Cans containing unsorted debris will be tarped at the end of each day or during rain events or windy conditions. Cans with sorted sheetrock will be tarped, if not processed within 14 calendar days. Cans containing sorted metals (ferrous, aluminum, copper, etc), sorted clean and resonated wood, sorted cardboard, recovered soil and fines, sorted inerts such as brick and block may be

stored uncovered before shipment to end markets or moving to storage locations for further processing on site

#### 2.6.4 Markets and Down-stream processing

1) The final destination of the recyclable materials may vary depending upon market demand and prices for such materials. In general, materials which have valid markets will be recycled; however, markets shall fluctuate. In any case, no more than one week design volume of unprocessed debris, sorted recycled materials, and residual material shall be stored at the recycling facility. Should Abbey Green require larger storage capacity based on increased business demand, then Abbey Green will be required to increase its closure bond. Recycled materials sensitive to moisture and/or likely to generate leachate shall be covered with tarpaulins.

Anticipated end markets for the recyclable materials are as follows:

Metals	Delivered to local metals recycling facility. Example Customer: DH Griffin Wrecking Co / 4700 Hilltop / Greensboro, NC
Wood	Facility near site for boiler fuel Customer: Corn Products, 4501 Overdale Rd / Winston Salem, NC
Concrete, Aggregates, and Inerts	Bricks may be banded and palletized for sale to landscaping contractors; concrete, asphalt, broken brick and block will be crushed and stockpiled until it is removed from the site for sale as fill, aggregate, etc. as markets allow Example Customer: LARCO Construction, 4130 North Glenn Ave / Winston-Salem, NC. Soils are recovered and sold to companies who mix soil with compost and sell product to contractors and landscapers. Stone is recovered and sold to contractors.
Drywall	Gypsum is purchased by local farmers who use gypsum to amend soils

Carpeting and Padding	Wellman Plastics Johnsonville, SC
Baled Plastic	Delivered to local recycled plastics company Example Customer: Sonoco Recycling, 3004 Holts Chapel Rd, Greensboro, NC 27401
Baled Cardboard	Sale in local market for recycled paper products Example Customer: Sonoco Recycling, contact and address above
Shingles	If certified as asbestos-free, will be ground on- site for use in asphalt manufacturing.. Example Customer: Boggs Paving, PO Box 1609 / Monroe, NC

2) Down-stream processing and storage. The site drawings show where these activities happen on the Abbey Green site

- ◆ Wood  
Wood will be shredded with a slow speed shredder, a tub grinder, or a horizontal grinder and screened for boiler fuel. Shredded wood will be removed from the site within 15 days
- ◆ Drywall  
Drywall will be broken up by an excavator with a thumb attachment and pulverized with the tracks of a track loader and screened. Moisture will be added to the material while being processed to minimize dust and to improve the gypsum end product. These activities will take place on the main site, the LCID landfill area, or the north or south storage site. Storage on site will not exceed 400 tons of separated drywall and 400 tons of processed drywall. Sorted sheetrock stored in containers awaiting processing will be processed within 14 days. Screened paper will be stored on site until shipped to markets for composting. Plastics will be shredded with a slow speed shredder or granulized. This activity will take place on the main site, the LCID landfill area, or the north or south storage site.
- ◆ Asphalt shingles will be shredded with a slow speed shredder. This activity will take place on the main site, the LCID landfill area, or the north or south storage site.

- ◆ Concrete and other inerts will be pulverized and screened. Soils recovered by screening will be tested periodically for heavy metals and asbestos. Soil will also be screened to recover stone. This activity will take place on the main site, the LCID landfill area, or the north or south storage site.
- ◆ Cardboard will be baled or transported loose in containers. This activity will take place on the main site.
- ◆ Modular buildings, mobile home buildings and trailer campers will be deconstructed on the tipping floor and the debris processed by hand or on the sort line. Abbey Green will have no more than two manufactured buildings on site at any one time.

## **3.0 ENVIRONMENTAL MANAGEMENT**

### **3.1 Overview**

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

### **3.2 Surface Water Control**

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

Proper control of surface water will accomplish the following goals:

- ◆ Prevent run-on of surface water into debris handling areas;
- ◆ Prevent the run-off of surface water that has come into contact with the debris (i.e. leachate);
- ◆ Limit the erosion caused by surface waters; and
- ◆ Limit sediments carried off-site by surface waters.

An erosion and sedimentation control plan has been approved for the site by Forsyth County. This plan describes both short and long term engineered features and practices for preventing erosion and controlling sedimentation at this site. Sedimentation and erosion control activities must be conducted in accordance with the Sedimentation Control Act (NCGS 113A-50, et seq.) and rules promulgated thereunder (15A NCAC 4).

Erosion control measures have been designed/engineered within the drainage channels and at points of stormwater discharge. The erosion control maintenance plan includes the following:

- 1) Inspect all sedimentation and erosion control devices for stability and function each week and following each rainfall event.
- 2) Remove silt/sediment from sediment traps and stormwater pond when accumulated volume has reached 50% of capacity.
- 3) Remove accumulated silt/sediment from behind temporary sediment fence when depth exceeds approximately 0.5 feet. Repair and replace silt fence as necessary.

### **3.3 Leachate Management**

The facility will have a roof covering the tipping floor. All in-coming materials will be unloaded on the tipping floor beneath the roof. The tipping floor will be sloped to a sump. The sump will be plumbed to the sanitary sewer. Pre-sorting activities and staged materials for the picking line will be covered by the roof. The loading/staging area for the sort line will be covered with a tarp system will drain to the main tipping floor. The picking line will also be covered.

Containerized unprocessed waste will be covered at the end of each day and during wet weather and windy conditions.

### **3.4 Vector Control**

Control of insects, rodents, and other vermin will be accomplished by periodic cleaning of the facility. Spilled or wind-blown debris along the access road will be cleaned up daily. The facility will be cleaned, as necessary, each day to maintain a sanitary operation. Effective vector control measures must be applied at all times.

### **3.5 Dust Control**

A letter from the Forsyth County Environmental Affairs Department dated November 19, 2008 indicates that an air quality permit is not required for the facility as planned. A copy of the letter is included in Appendix C.

Dust related to debris hauler traffic on the access roads will be minimized by using a water truck, a sprinkler system or a street sweeper to limit dust on the gravel portion of the road, if necessary. Fugitive dust emissions are prohibited.

Contractors on-site to process concrete, brick, block, and sheetrock are required to comply with all applicable air quality requirements including 40 CFR Part 63, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.