



**IREDELL COUNTY SOLID WASTE**

354 TWIN OAKS ROAD  
Statesville, NC 28625  
704-878-5430

**RECEIVED**

**February 17, 2012**

Solid Waste Section

Mooreville Regional Office

Teresa Bradford  
Waste Management Specialist  
Solid Waste Section, DWM  
Mooreville Regional Office

**DIN 16547 4903-CDLF-1993**

610 East Center Avenue, Suite 301  
Mooreville, NC 28115

**APPROVED 5/2/2012**

Dear Ms. Bradford;

I am writing you to inform you of Iredell County's desire to start an asphalt shingle recycling program and to seek your approval of an operations plan detailing our intent. Asphalt shingles contain a large amount of petroleum oils and aggregates that are desirable for adding to hot asphalt mixtures. NCDENR's DEAO group has indicated a high level of interest in establishing shingle recycling programs throughout the state. Pitt County has operated a highly successful program for several years now. We would like to establish a program here in the western part of the state to serve as a model for other counties in our region to do so as well.

We have applied for a NCDENR Community Waste Reduction Grant and feel we have a good opportunity to be awarded startup funding. We have also found a large well established paving company to partner with. We would like to begin a small trial phase at the Twin Oaks Facility, permit #49-03 to further assess the feasibility of this project immediately. During the trial we would only accept pickup size loads for hand unloading at our public access area. If the trial is successful we will proceed with the full scale as detailed in the Shingle Recycling Operations Plan dependent of course upon being awarded grant funds.

Please feel free to contact me with any questions or comments. I will be looking forward to hearing from you regarding approval of our plan.

Sincerely,

David Lambert  
Director of Solid Waste Management  
Iredell County

cc: John Murray

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# **Iredell County Solid Waste**

Twin Oaks Solid Waste Management Facility

Permit No. 49-03

354 Twin Oaks Road  
Statesville, NC 28625

## Operation Plan for Sorting Tear-off Asphalt Shingles for Recycling



Prepared by: David Lambert  
with the assistance of  
Municipal Engineering Services Company, P.A.



February 17 2012

## **I. Introduction**

This operation plan describes how tear-off asphalt shingles will be collected, sorted, stored, and managed at this facility in order to provide a material that can be used for asphalt production. Our facility uses best practices for acceptance and sorting to remove the tear-off shingles from the waste stream and divert the “clean” shingles to other facilities. Our facility staff will properly train roofers on what is and is not recyclable in addition to providing them with our list of acceptable/unacceptable materials.

## **II. Waste Acceptance**

Asphalt roofing shingles contain asphalt cement, mineral aggregate, and mineral filler that are raw materials used in asphalt production. Asbestos was used in shingle manufacture until the mid- 1970’s and in other roofing materials such as roof felt, roof putty, surface coating, and mastic until the mid 1980’s.

Our facility provides roofers with a list of acceptable and unacceptable items for tear-off shingle recycling and requires source separation at the job site by the roofer. Materials from flat and built-up roofing systems are disposed of rather than accepted for recycling due to the higher use of asbestos roofing materials in those systems. Roofers are instructed to separate tear-off shingles into either a dedicated trailer or to layer their waste when loading so that the shingles can be easily separated from the unacceptable debris. Please see Attachment I for our list of acceptable and unacceptable materials for tear-off asphalt shingles.

All shingle suppliers are required to complete a supplier certification form. The handling and disposal of asbestos during demolition and renovation is regulated

under the National Emissions Standards for Hazardous Air Pollution (NESHAP). Shingles from single-family homes or residential buildings containing four or fewer dwelling units are generally not regulated under NESHAP. Only the source of these shingles is required for reporting purposes. NESHAP-regulated facilities are required to submit a notification of demolition and renovation prior to starting work. The notification includes an inspection by a North Carolina accredited asbestos inspector or roofing supervisor and analysis for asbestos. The supplier of shingles from a NESHAP-regulated facility must present documentation that the shingles do not contain greater than 1% asbestos. The documentation is a letter from the accredited asbestos inspector or roofing supervisor that sampled the shingles and the analytical test results. A copy of the documentation is kept with the supplier certification form. Shingles from a NESHAP-regulated facility that do not have the required documentation or that is documented to contain greater than 1% asbestos are disposed in the landfill.

Our supplier certification form is shown in Attachment II of this Plan. These practices will help ensure that only recyclable tear-off shingles are sent for asphalt production. Doing so will also reduce sorting of shingles within our facility.

### **III. Flow and Management of Tear-off Shingles**

Loads are visually inspected when entering the facility to determine whether the shingles have been separated or if it is a mixed load. The roofer is asked to complete a supplier certification form. Mixed loads, shingles from a NESHAP-regulated facility that contain greater than 1 percent asbestos, and shingles from a NESHAP-regulated facility without the proper documentation are directed to the landfill for disposal. Loads that were source-separated into dedicated containers are sent directly to the sorting area and unloaded. Loads that were separated into layers usually have the asphalt shingles on the bottom and other material on the top allowing for ease of unloading. These loads are first directed to the landfill or tipping floor to remove the non-shingle roofing waste and then to the collection area for unloading the shingles. **Figure 1** shows the unloading, sorting, and storage areas. Shingles are not unloaded into areas with standing water and sorted and unsorted materials are kept separate.

Source-separation by the roofer eliminates most of the unacceptable materials that cannot be used in tear-off shingle recycling. The unloaded tear-off shingles are examined for unacceptable materials and any unacceptable materials are removed. The remaining sorted shingles are accumulated (in the designated area or in a roll off box or in a container) until there is a sufficient amount to transport to a facility that will grind and use or sell the ground shingles for asphalt production. (A copy of the supplier certification form accompanies each sorted load to the receiving

facility.) At least 75% of the tear-off shingles that are sorted leave the facility during the same year.

#### **IV. Record Keeping**

Records are kept for shingle waste entering the facility, sorted shingles leaving the facility for recycling, and waste that is disposed or sent for disposal. These records are kept for use in the facility's monthly and annual reports. Supplier certification forms and any other supporting documents are also kept.

#### **V. (Additional Operations/Requirements)**

Iredell County Solid Waste has partnered with Maymeade Corporation to recycle their tear-off asphalt shingles. Asbestos sampling and testing is required prior to grinding shingles and is the responsibility of the shingle recycler/asphalt producer. The testing frequency and protocols are set by NCDENR-DAQ and NCDOT. The current testing requirement is to sample each 100 tons of shingles but the county expects to test more frequently. Maymeade has agreed to provide the county with records of all testing.

## **Attachment I**

### **TEAR-OFF ASPHALT SHINGLE RECYCLING**

#### List of Acceptable and Unacceptable Materials

##### **“YES”**

Include these items:

- Shingles
- Nails

##### **“NO”**

Do **NOT** include these items:

- Wood
- Metal flashings, gutters, etc.
- Rolls or sheets of felt paper
- Plastic wrap, buckets
- Paper Waste
- No garbage, trash, or other waste materials
- Built-up asphalt roofing
- Asbestos-containing materials
- Shingles containing mastics

Attachment II  
**Iredell County Solid Waste**

**SHINGLE SUPPLIER CERTIFICATION FORM**

**Supplier of Whole Tear-off Asphalt Shingles**

Supplier Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Phone: \_\_\_\_\_

**We the undersigned certify that (check appropriate boxes):**

- The tear-off shingles are from a NESHAP regulated facility and documentation stating that the shingles do not contain >1% asbestos is attached. (Documentation is a letter from the North Carolina accredited asbestos inspector or roofing supervisor that collected the samples with the analytical results attached.)
  
- The tear-off shingles are from a single family home or residential building having for or fewer dwelling units that is not regulated under NESHAP.

**Tear-off shingles were removed from the following addresses:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Please attach additional sheets as needed to record each building address.)

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Shingle Supplier (signature)

---

Date

**Figure 1**



The maps prepared for this website are generated from recorded deeds, plats, and other public records. Users of these maps are hereby notified that the

information provided herein should be verified. Iredell County assumes no legal responsibilities for any of the information contained on this site. Users are advised that the use of any of this information is at their own risk. All maps on this site were prepared using a 10000' Grid based upon the North Carolina State Plane Coordinate System from the 1983 North American Datum. The delinquent real property tax overlay is updated monthly. The information presented is not intended to be used or relied upon as official notice of tax liens. For additional information regarding delinquent taxes, contact the Iredell County Tax Collector's Office.



**Addresses**

- ▲ Infrastructure
- NonResidential Use
- Residential Use

**Hooks**



**Streets3\_new**

- Interstate
- Ramp
- US Hwy
- State Hwy
- Main Road
- Local Road
- Residential
- Private
- Inactive

**Countyline**



**City Limits**



**Lake Norman**



**Parcels**



**NC Counties**



1 : 20 Feet

