

DURHAM



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CITY OF MEDICINE

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**CITY OF DURHAM**

DEPARTMENT OF SOLID WASTE MANAGEMENT  
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Mailing Address:  
01 CITY HALL PLAZA • DURHAM, NC 27701

- Administration
- Residential Collections
- Stationary Container Collections
- Waste Reduction Services
- Yard Waste Collections
- Impact Team
- Transfer Station

July 11, 2007

Ed Mussler  
401 Oberlin Rd, Suite 150  
1646 Mail Service Center  
Raleigh, NC 27699



Dear Mr. Mussler:

Per the request of Mary Whaley, Environmental Senior Specialist, DENR, the City of Durham has revised our Transfer Station operations plan. A copy is enclosed for you consideration.

Section 3 of the plan has been revised to include an expanded section on our facility cleaning plan as well as alternative operations if the compactor malfunctions.

If you require any additional information, please contact Josephine Valencia, Solid Waste Disposal Manager at 919-560-4186 ext 253 or via email at Josephine.Valencia@durhamnc.gov.

Sincerely,

Christina Tookes  
Assistant Director – Administrative Services

Enclosure: Revised Transfer Station Operations Plan

# **OPERATIONS PLAN CITY OF DURHAM TRANSFER STATION NO. 2 DURHAM, NORTH CAROLINA**

This document replaces the operations plan that was approved by DENR December 18, 2006. Changes and/or additions were made to sections on:

- the wash water system
- primary contacts
- reference to the LCID were eliminated since DENR has approved the closure plan for that facility
- operations when compactor is inoperable
- facility cleaning and litter control
- waste screening

## **1.0 INTRODUCTION**

### **1.1 PURPOSE**

This Operations Plan for the City of Durham (City) Transfer Station No. 2 (transfer station) presents general guidance for transfer station operations. This Operations Plan has been prepared in accordance with the North Carolina Solid Waste Rules 15A NCAC 13B .0402, Operational Requirements for Transfer Facilities. The Operations Plan addresses pertinent operational requirements outlined in Rule .0505, Operational Requirements for Sanitary Landfills.

The purpose of this Operations Plan is to provide the Owner (City) and Operator with a manual that includes the necessary information and procedures to properly operate the transfer station in accordance with all applicable rules and regulations. This manual will serve as a guide to safely maintain and operate the transfer station. The Operational Plan will address the following issues:

- Waste acceptance criteria;
- Destination of waste;
- Facility operations;
- Drainage control and water protection;
- Disease and vector control;
- Sign and safety requirements;
- Access and security requirements; and
- Handling of non-conforming waste.

All personnel involved with the management or supervision of the operations will be required to review this document and to maintain the facility in conformance with all applicable requirements. A copy of this document shall be kept on file at the transfer station scale house at all times.

## **1.2 FACILITY LOCATION**

The transfer station is located within the Corporate Limits of the City of Durham in Durham County at the intersection of East Club Boulevard and Camden Avenue. The address for the transfer facility is 2115 East Club Boulevard, Durham, North Carolina 27704. Interstate 85, Exit 179, is located approximately 0.3 mile east on East Club Boulevard from the transfer station entrance. The transfer station property has been zoned by the City of Durham as I-2 (light industrial) which is suitable for the development of public facilities, which include solid waste transfer stations.

## **1.3 FACILITY DESCRIPTION**

The Transfer Station is comprised primarily of two inbound scales used to weigh incoming waste, a covered tipping floor and loading bay for transfer of MSW from collection vehicles to transfer vehicles, a Model 4500 Pre-Load Compactor Unit (compactor unit) manufactured by SSI Compaction Systems (SSI) used to compact and place MSW into transfer vehicles, two front-end loaders used to transfer the MSW to the compactor unit and transfer vehicles, and a trailer storage area.

Incoming collection vehicles will pass over the inbound scales where they will be weighed. After weighing, the collection vehicles will proceed to the transfer station apron where they will turn and back into the building. The apron and access ramp are a paved surface impervious to moisture and erosion (Portland cement or asphalt concrete). The collection vehicles deposit their loads on the tipping floor and exit the building. Waste deposited on the tipping floor will be transferred into the compactor unit utilizing a front-end loader. The compactor unit will compact the waste into the compaction chamber. Upon reaching the proper payload weight, the compactor ejects the waste into a waiting transfer vehicle.

The apron provides access to the southern side of the transfer station, which opens to the 7,200 square foot (approximate) tipping floor. The building has four loading bays located along the northern end of the tipping floor approximately 14 feet below the tipping floor elevation. The compactor unit is installed in the western portion of the loading bay. In order to utilize the compactor unit, a ten (10) foot high pushwall and a hopper are installed at the tipping floor elevation. These structures direct waste into the infeed opening on the unit as well as protect the unit from damage.

The compaction chamber of the compactor unit extends outside of the existing building. The closed-top transfer trailer receiving the waste from the compactor unit will also be located outside the building. Curbing is installed which encompasses the compaction chamber and the rear axle of the attached closed-top trailer waiting to be loaded. The curbing will contain any leachate that may leak and direct it to the existing trench drain in the loading bay. There will be

proper clearance under the compactor unit to allow maintenance of the trench drain.

Both the tipping floor and loading bay are equipped with trench drains to capture any leachate or wash water generated in the transfer station. The compaction chamber of the compactor unit extends outside of the existing building. The closed-top transfer trailer receiving the waste from the compactor unit will also be located outside the building.

The wash water/leachate storage and handling system include trench and floor drains for collection of leachate and wash water. These drains are located along the entrances to the tipping floor and in the lower level loading bay floor. There will be proper clearance under the compactor unit to allow maintenance of the trench drain. Leachate and wash water are collected in tanks that connect to the drains. The tanks are periodically pumped clean by a contractor and disposed of appropriately.

The Permit Drawings contain a complete set of site plan drawings including architectural, structural, and plumbing drawings. These drawings provide plan and sectional views of the tipping floor and transfer vehicle loading areas.

The City is the owner and permit holder of the transfer station and currently contracts with BFI Waste Services, LLC (BFI)/Allied Waste Services to operate the facility. BFI subcontracts the daily operation to MBI. The primary contacts are:

Donald Long, Director  
Solid Waste Management Department  
City of Durham, 101 City Hall Plaza, Durham, North Carolina 27701  
Phone:(919) 560-4186 ext 222 Fax(919) 560-1132  
Email: [Donald.Long@durhamnc.gov](mailto:Donald.Long@durhamnc.gov)

Josephine Valencia, Solid Waste Disposal Manager  
Solid Waste Management Department  
City of Durham, 101 City Hall Plaza, Durham NC 27701  
Office: (919) 560-4186 ext 253 Cell (919) 730-6820 Fax: (919)560-1228  
Email: [Josephine.Valencia@durhamnc.gov](mailto:Josephine.Valencia@durhamnc.gov)

Eric Spencer, General Manager  
Allied Waste Services, 2001 Charles City Rd, Richmond VA 23231  
Phone: (804) 479-0198

Donald Brown  
MBI  
Phone: (919) 812-4403

## **2.0 WASTE ACCEPTANCE CRITERIA**

In accordance with 15A NCAC 13B .0402(1), a transfer facility shall only accept those wastes which it is permitted to receive. The Waste Disposal Facility will accept municipal solid waste (MSW) (i.e., residential, commercial, and industrial waste), construction and demolition (C&D) materials, white goods, yard waste, brush and land clearing debris generated in the City of Durham and Durham County.

In addition, the Waste Disposal Facility may accept MSW generated in the following counties:

- Chatham
- Granville
- Orange
- Person
- Wake

Vehicles lacking an automated dumping capability and containing only yard waste materials will be directed by scale house personnel to the temporary yard waste transfer area adjacent to the transfer station, or to an off-site properly permitted facility. Yard waste will be transported by City staff from this temporary location to the tipping floor on a daily basis.

Passenger vehicles and light trucks will be directed by scale house personnel to the recycling center for unloading. White goods, tires, and other special wastes are also handled at the recycling center.

The transfer station is expected to handle approximately 194,000 tons per year of MSW, however, the daily tonnage rate is subject to change due to fluctuations in the amount of waste delivered to the facility on any given day and seasonal fluctuations. Therefore, the transfer station has been designed to handle an average tonnage rate of 650 tons per day and a peak rate of 1,100 tons per day.

Raw yard waste tonnage delivered to the Waste Disposal Facility waste is expected to average 15,000 tons per year, or approximately 41 tons per day, unless all or part is delivered elsewhere. The City may also deliver mulch and compost material, which may contain MSW, to the transfer station from the City yard waste compost facility.

All incoming waste will be transported to the transfer facility by public and private collection vehicles, passenger vehicles, and light trucks. The public and private waste collection vehicles consist of rear, front, and side loader truck types, as well as dump body vehicles. Industrial waste will be transported to the facility by private waste haulers. Commercial waste is transported by both municipal vehicles and private waste haulers.

## **2.1 PROHIBITED WASTES**

In accordance with Rule .0505(10)(e), the transfer station will not accept barrels and drums unless they are empty and perforated sufficiently to ensure that no liquid or hazardous waste is contained in them.

In accordance with Rule .0505(11)(b), no hazardous or liquid waste shall be accepted at the transfer station.

In addition, the transfer station will not accept infectious waste, medical waste, animal waste, large quantities of animal carcasses, sludge, or radioactive/hazardous waste.

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

Department of Environmental and Natural Resources  
Solid Waste Division  
P.O. Box 27687  
Raleigh, North Carolina 27611-7687  
(919) 733-0692

Loads containing this prohibited waste will be directed to the appropriate disposal facilities. In the event prohibited waste is inadvertently discharged at the transfer station, operating personnel will isolate the waste within the transfer station building. Site operators will receive periodic training on the identification and handling of prohibited wastes. A licensed waste disposal contractor will be brought in to remove and properly dispose of the prohibited waste.

### **3.0 TRANSFER STATION OPERATIONS**

#### **3.1 OPERATING HOURS**

The transfer station will operate Monday through Friday from 7:30 am to 4:30 pm and Saturday between 7:30 am and 12:00 pm. The recycling center will operate Monday through Friday from 7:30 am to 4:00 pm and Saturday between 7:30 am and 12:00 pm. The transfer station and recycling center will be closed on Sundays and the following holidays:

- New Year's Day
- Good Friday
- Memorial Day
- Fourth of July
- Labor Day
- Thanksgiving
- Christmas

A sign will be posted at the entrance to the transfer station identifying the hours of operation.

### **3.2 EQUIPMENT**

The transfer station will be operated as a tipping floor and compactor facility. The equipment required for safe and effective operation of the facility is :

- Front-end loaders;
- Excavator with claw attachment;
- SSI Model 4500 Pre-Load Compactor Unit;
- Closed-top transfer trailers;
- Open-top transfer trailers; and
- Semi tractors.

A contractor working for the City (Operator) will provide primary equipment, backup equipment, and equipment maintenance. The Operator will also provide transfer vehicles, transport the waste, and provide the maintenance of the transfer vehicles and all operation equipment connected with the transfer station.

### **3.3 WASTE HANDLING**

Waste collection vehicles delivering waste for transfer will enter the facility from East Club Boulevard and proceed along the entrance road to the scale(s) to be inspected and weighed. Identification information with tare weights recorded on user vehicles will be maintained in the scale house for City vehicles, commercial collection vehicles, charge account customers and regular customers. Trucks without identification information on file will be re-weighed for tare weight prior to exiting the facility. Authorized vehicles, after being weighed, will proceed along the access road to the transfer station building apron.

The transfer station attendant directs vehicles, waiting to unload, to back into the facility through the southern entrance. The vehicles back onto the tipping floor to an area designated by the attendant. Once the vehicle is in position, the waste load is discharged directly onto the tipping floor and an employee conducts a visual screening of the waste materials. After the collection vehicles exit the transfer station building, a front-end loader is utilized to push the waste into the hopper located above the compactor unit. During peak hours, an additional front-end loader can be utilized to manage the waste and keep all traffic areas clear.

Waste is funneled through the hopper into the infeed opening of the compactor unit which is 10 feet long by 6 feet wide. The waste is then pushed from the infeed opening into the compaction chamber which is 7 feet wide by 7 feet high by 31 feet long. Load cells at the base of the compactor unit measure the weight of the waste that enters it and feeds this information to a display mounted on the interior of the transfer stations northern wall. Upon arriving at the proper weight (approximately 26 tons), the

compacted waste is displaced through the chamber into an awaiting closed-top trailer connected to the end of the chamber. Once the trailer has been filled, it disconnects from the chamber, is staged in the gravel area to the northwest of the transfer station building (see Permit Drawings), and is then transported the waste to an off-site permitted disposal facility.

After the trailer has been properly loaded, it will pull out into the staging area where it will be covered by the driver to minimize wind blown debris.

Each loaded trailer will be transported to a permitted waste disposal facility . The weight of the trailers will be recorded at the permitted facility and may be recorded at the transfer station. All data from the permitted facility will be provided to the City for its records. The data will then be compiled into an annual written report by the City to be submitted to NC DENR.

Yard waste delivered to the transfer station will be deposited on the tipping floor, commingled with solid waste, and handled in the same manner as solid waste pursuant to this Operations Plan. This will cease once the City secures a new yard waste facility permit or identifies another permitted facility that can process our yard waste.

A private contractor is removing mulch and compost materials from the city's closed yard waste facility and transporting to an alternative disposal site. Any mulch or compost materials that may be contaminated with MSW may be brought to the tipping floor. This disposal option has not yet been utilized but if it becomes necessary, preventive measures will be utilized to ensure that mulch and compost from the City yard waste compost facility does not pose risk of fire during transfer station operations, transport, or disposal in Virginia. Material will be visually inspected as it is loaded at the compost facility. In addition, temperature readings will be taken of representative samples of material. If the temperature of any representative sample exceeds 150 degrees Fahrenheit, the overall material temperature will be reduced to below 150 degrees by spreading and turning, grinding, or other measures. Material that exceeds 150 degrees will not be delivered to the transfer station. Temperature readings will be maintained at the scale house.

It is difficult for the compactor to handle certain types of wastes that may be delivered to the facility. Therefore, an open-top trailer located in the eastern end of the transfer station loading bay will be utilized to handle these types of waste. Several open-top trailers will be staged at the facility for this purpose. The following wastes will typically be loaded into the open-top trailers:

- Items greater than 8 to 10 feet in length;
- Fencing materials on rolls or with concrete;
- Big, bulky loads of demolition debris;
- Large loads of asphalt shingles; and
- Any other items that may hinder the safe operation of the compactor.

The front-end loader operator will attempt to mix the waste loads to distribute the various types of wastes received throughout the loads to achieve better compaction of the material and to prevent jamming of the compactor.

### **3.4 BACK-UP OPERATIONS**

In the event the compactor malfunctions or there is a power failure, a front-end loader will be utilized to move waste from the tipping floor into an open-top trailer located in the eastern end of the transfer station loading bay. Several open top trailers will always be stored at the facility. Additional open top trailers may be brought from Virginia within about 3 hours of being requested. MBI's staff will work over time as necessary to ensure the facility is clean and that no waste remains on the tipping floor overnight in cases of delayed operations.

### **3.5 INSPECTION OF WASTES**

Access to the transfer station is controlled by the scale operator(s) located along the entranceway to the facility. All waste entering the facility must pass the scale house prior to entering the building. Scale house operators ask customers what type of materials they are bringing. Any unacceptable loads are documented and alternative disposal centers are suggested.

Passenger vehicles and light trucks are directed to the recycling center at the front of the facility or to the temporary yard waste transfer area adjacent to the transfer station. City staff will make a visual inspection of waste to ensure that no improper materials are being disposed of.

Vehicles with automated dumping capabilities are directed to the tipping floor. As waste is deposited onto the tipping floor, the operator will conduct a visual screening of the waste materials. Should unacceptable waste be found, the driver of the vehicle will be instructed to terminate dumping and the unacceptable material will be segregated from the acceptable material and managed as specified in Section 2.1 of this Operations Plan.

Should a hauler consistently deliver unacceptable material, they will be denied further access to the transfer station, and the local office of NC DENR will be notified so that appropriate investigations can occur. In addition, all actions as specified in Section 2.0 will be strictly adhered to by the facility operator and its employees.

Random waste screening will also be practiced by the operator. 1% of all loads are to be screened. City staff may supplement the operator in performing waste screenings during peak times. A sample of the waste screening form being used is attached. Records of all waste screening loads are maintained.

### **3.6 TRAFFIC CONTROL**

Access to the transfer station is controlled by the scale operator. All collection vehicles arriving at the facility are directed to the tipping floor or recycling center by the scale operator after their weight is recorded. After unloading their waste, those vehicles that do not have tare weights previously recorded are required to re-enter the scales and be re-weighed to establish a tare weight. At no time will incoming vehicles waiting in line be allowed to queue onto public roadways.

During heavy traffic periods, to alleviate congestion, the second scale will be used to calculate the empty weight of vehicles.

### **3.7 SANITATION PLAN**

The tipping floor is currently in physically poor condition. The floor is not smooth and this makes cleaning difficult. The City has appropriated \$440,000 as part of its 2005-06 capital improvement budget to make repairs to the apron, tipping floor and address other maintenance issues at the transfer station.

In the meantime, the floor will be washed with water every evening and a mini street sweeper/scrubber will be used on the floor and the surrounding loading area every evening as well. The walls will be hosed down every other day. The area around the fans will be manually cleaned every three months. The Operator collects trash from around the tipping floor daily. City staff will supplement the contractor in litter collection efforts. The entire facility will be cleaned and disinfected by a contractor using a high water pressure cleaning system every four months (currently twice a year).

The area outside the compaction chamber will be cleaned on a daily basis at the close of operations. The compactor and the area immediately adjacent to the compactor will be cleaned every morning around 6:30 am, prior to the facility opening. Due to the heat build-up around the compactor, it is not possible to safely clean the compactor immediately after operations cease.

All incoming vehicles with waste are required to have their loads adequately covered upon arrival at the site or be fully enclosed. Penalties are assessed on uncovered loads. Outbound open-top transfer vehicles are also required to cover their loads.

Throughout the day and at the end of each day, facility personnel will police the area for any windblown litter. Since the tipping floor is enclosed on three sides, wind blown trash should not be a major operational concern. Any wind blown trash discovered at the end of an operating day shall be collected and stored in an 8yd dumpster located behind the transfer station bays. No trash will remain on the tipping floor overnight.

### **4.0 DRAINAGE CONTROL AND**

## **WATER PROTECTION REQUIREMENTS**

In accordance with Rule .0505(7)(b)(c), the transfer station will be operated so as to prevent ponded water from coming in contact with discharged waste and to contain and properly discharge collected leachate.

The transfer station building will be emptied and washed down at the end of each operating day as necessary. The upper level and lower level drains of the building shall properly collect any wash water/ leachate generated and minimize areas of ponded water within the transfer station. The drains connect to a conveyance line and tank that is periodically pumped by a contractor.

## **5.0 DISEASE AND VECTOR CONTROL**

In accordance with Rule .0505(12)(a), the transfer station shall provide effective vector control measures for the protection of human health and the environment. Disease vectors are defined as any rodent, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

Control of disease vectors will be maintained by implementation of a cleaning program, which involves removal of waste, leachate, and wash water from all operating areas. The removal of waste at the end of each operating day will protect against migration of vectors into and from the transfer station buildings. The transfer station will use wash water to keep the tipping floor building, compaction building and drive-thru areas clean and free from rodents, flies, and other animals. The transfer station may also use deodorizers and paint as needed to accomplish these goals. Stagnant ponded water shall be prevented from occurring to control mosquito breeding. If problems controlling disease vectors occur, a licensed exterminator shall be utilized to control the vectors.

## **6.0 SIGN AND SAFETY REQUIREMENTS**

### **6.1 SIGN REQUIREMENTS**

In accordance with Rule .0505(9)(a)(b)(c), the transfer station shall post signs at the transfer station entrance indicating operational procedures, hours of operation and the permit number. Signs shall be clearly posted stating that no hazardous or liquid waste can be received. Traffic signs and markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge areas and to maintain efficient operating conditions.

### **6.2 OPEN BURNING OF WASTE**

In accordance with Rule .0505(10)(a), open burning of waste shall be prohibited at the transfer station.

### **6.3 FIRE PROTECTION EQUIPMENT**

In accordance with Rule .0505(10)(b), fire suppression equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to immediately provide fire-fighting services when needed. The transfer station building will be equipped with an appropriate number of fire extinguishers to effectively control small, accidental fires as well as on-site water supply hydrants to control fires until the proper authorities arrive.

Local fire departments will be notified when needed.

### **6.4 NOTIFICATION OF FIRE**

In accordance with Rule .0505(10)(c), fires that occur at the transfer station require verbal notice to the Division of Solid Waste within 24 hours and written notification shall be submitted within 15 days. Verbal and written notification shall be submitted to the Raleigh Regional Waste Management Specialist:

Department of Environmental and Natural Resources  
Solid Waste Division  
P.O. Box 27687  
Raleigh, North Carolina 27611-7687  
(919) 733-0692

## **7.0 ACCESS AND SECURITY REQUIREMENTS**

### **7.1 TRANSFER STATION ACCESS AND SECURITY**

In accordance with Rule .0505(8)(a), the transfer station must be secured by means of gates, chains, berms, fences, and other security measures approved by the Division of Solid Waste Management to prevent unauthorized entry. All vehicles delivering waste to the transfer station will enter and exit through the existing access control gate. Unauthorized vehicle access to the facility is controlled by a chain-link fence surrounding the transfer station property.

### **7.2 ATTENDANT**

In accordance with Rule .0505(8)(b), the transfer station will have a full-time Scale Operator located in the scale house during operating hours. In addition, a Transfer Station Attendant will be at the facility at all times during operating hours. Both the Scale Operator and Transfer Station Attendant will be responsible for verifying that all vehicles comply with the permitted operational requirements.

### **7.3 ACCESS ROAD**

In accordance with Rule .0505(8)(c), the access roads for the transfer station will be constructed of an all-weather surface (asphalt or concrete) and shall be maintained in good condition. Potholes, ruts, and debris on the roads shall receive immediate attention in order to avoid damage to the vehicles. Access roads will be re-graded as necessary to maintain positive slope for adequate drainage.

