



DIN 9535  
01/29/10  
G. Little

January 29, 2010

PN: 03002C

Mr. Geof Little  
Solid Waste Section  
Division of Waste Management  
North Carolina Department of Environment and Natural Resources  
Mail Service Center 1646  
Raleigh, NC 27699-1646

**RE: Leachate Management and Operational Plan (by EMAIL)  
Dunn-Erwin Landfill  
Permit 43-02  
Harnett County, North Carolina**

Dear Mr. Little:

As a follow-up to your November 17, 2009 letter (SWS ID # 8917) and on behalf of Harnett County, C. T. Clayton, Sr., P.E., Inc. (CTC) is pleased to provide you with a Leachate Management and Operational Plan for the Temporary Pump and Haul Station located at the Dunn-Erwin Landfill (DELF) MSW landfill topped with C&D, Permit 43-02.

Attached you will find the Leachate Management and Operational Plan for the Temporary Pump and Haul Station as well as a site visit report and pictures documenting the geosynthetic installation at the leachate loading station.

As previously described in our August 20, 2009 letter, Phase 1 (pump and haul) is only a temporary solution to the leachate management solution. Phase 2 will be a permanent leachate management solution and will involve installing a pumping station on the DELF facility and running a force main to the nearest gravity sewer that discharges to the Harnett County owned Erwin WWTP. This has been approved as part of the Corrective Action Plan which was submitted on October 7, 2009 (SWS ID #8742) and subsequently approved by letter dated November 18, 2009 (SWS ID #8885).

**P.O. Box 578  
Coats, NC 27521**  
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*Offices located in Coats and New Bern, North Carolina  
[www.ctclayton.com](http://www.ctclayton.com)*

Should you have any questions or comments, please contact me or Ryan Sadler at the telephone numbers below or by e-mail [tyrus@ctclayton.com](mailto:tyrus@ctclayton.com) or [ryan@ctclayton.com](mailto:ryan@ctclayton.com).

Sincerely,



*Tyrus Clayton, Jr.*

01-29-2010

Tyrus Clayton, Jr. PE  
Vice President

attachments: Leachate Management and Operational Plan  
Site Visit report 1-28-10

cc: C. T. Clayton, Sr., P. E., CTC  
Ryan Sadler, CTC  
C. J. Poran, PhD, P. E., (ENSOL)  
Jerry Blanchard  
Dennis Shackleford SWS  
Drew Hammonds SWS

LEACHATE MANAGEMENT AND  
OPERATIONAL PLAN  
FOR  
TEMPORARY PUMP AND HAUL STATION  
  
DUNN-ERWIN LANDFILL  
CONSTRUCTION AND DEMOLITION  
LANDFILL  
SWS PERMIT 43-02  
HARNETT COUNTY, NORTH CAROLINA

**Prepared by:**



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**CTC PN#3002C  
January 2010**

**LEACHATE MANAGEMENT PLAN**  
**FOR**  
**TEMPORARY PUMP AND HAUL STATION**  
  
**DUNN-ERWIN LANDFILL**  
**CONSTRUCTION AND DEMOLITION LANDFILL**  
  
**HARNETT COUNTY, NORTH CAROLINA**

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## **1.0 Temporary Loading Station Construction**

In July of 2009, to control a leachate pop-out, a sump was dug into the side of the landfill (see SWS Doc Id #8910) where a perforated 24" corrugated plastic pipe (CPP) was surrounded with rip-rap. A 4" PVC pipe was inserted into the 24" CPP and exited out the top and down the slope to the temporary truck loading area. The 4" PVC pipe has a valve located at the discharge point. This pipe acts as a suction pipe.

An all-weather road was constructed to the temporary leachate loading station. The temporary leachate loading station has been graded on an 8:1 slope with a clay base and perimeter containment berm. A layer of HDPE geosynthetic liner was installed over the clay base and berm. A cushion layer of sand was placed next to protect the HDPE liner from puncture. Finally, an all-weather road material of mixed stone was placed for vehicular traffic.

A liner penetration was made for a 4" PVC drain pipe with plug valve which was installed on the lower end of the loading station. During normal operation, the valve is to remain open to allow release of storm water. If the hauler has a spill, the driver will immediately close the plug valve to contain the spill within the lined berm.

## **2.0 Leachate Monitoring**

The temporary loading station and leachate sump piping network are checked daily and immediately after any precipitation event. See attached landfill inspection checklist which is filled out by the landfill operator daily and kept on file. Any components found to be not properly functioning shall be promptly repaired or replaced.

The operator also, on a weekly basis, visually observes the landfill sideslopes for leachate pop-outs which are to be documented and promptly repaired.

The leachate sump has been outfitted with a visual level indicator on a float system. When the leachate in the sump reaches a certain level, a visible colored rod rises out of the sump which informs the landfill staff that it is time to pump the leachate. A rain gauge has also been installed at this location.

### **3.0 Leachate Disposal**

A permitted septic hauler is contracted to pump from the temporary loading station into trucks and transport the leachate to the Harnett County Wastewater Treatment Plant (WWTP) in Lillington, NC which has a septic receiving station at the facility. There is no pre-treatment required at this time. If in the future Harnett County Public Utilities requires a pre-treatment process, this Leachate Management Plan will be updated to include those items.

### **4.0 Loading Station Spill Response Plan**

In the event of a spill in the temporary loading station, the driver of the contracted hauler is instructed to immediately close the valve on the stormwater bypass pipe exiting the containment area. If this valve is properly closed and the leachate is contained within the temporary loading station, the contaminated soils on top of the geosynthetic liner shall be carefully removed and taken to the on-site Dunn Erwin Transfer Station for disposal at a lined MSW landfill. The cushion layer and all-weather layer will be replaced with new materials.

If the driver of the contracted hauler is unable to close the valve on the stormwater bypass pipe in time to prevent a release beyond the liner limits, the following actions will occur:

- A) Should the leachate collect in a sediment pond or other surface waters:
  - 1. The County will notify SWS of the release within 24-hours.
  - 2. The County will analyze the contaminated water for Appendix I list of constituents and BOD<sub>5</sub>, COD, phosphate, nitrate and sulfate. The sample results will be forwarded to SWS and used to determine whether the pond or surface waters are impacted by the release. At that time, the County will respond as the SWS deems necessary.
  
- B) If the leachate release is contained to a soil covered area and does not impact the sediment pond or other surface waters:
  - 1. The County will remove the contaminated soils within 24-hours of release and take the soils to the on-site Dunn Erwin Transfer Station for disposal at a lined MSW landfill.
  - 2. Document the leachate release and cleanup activities.

## HARNETT COUNTY LANDFILL DAILY/WEEKLY CHECK LIST

Inspector: \_\_\_\_\_

Facility: **DELF** **ACLF**

Inspection Dates: / /20 to / /20

Landfill Cell:  Active C&D  Active LCID  Closed MSW/C&D(Weekly)

	DAILY OPERATION REQUIREMENTS	Mon	Tue	Wed	Thu	Fri	Sat	COMMENTS/NOTES <small>(utilize back of form for more description as necessary)</small>
Daily Inspection Items for Active Cells	Trucks using designated roads/approved parking areas per permit							
	Operations conducted during permitted operating hours							
	Access controlled per plan							
	Access road(s) maintained (erosion, dust, litter, mud, etc) per plan							
	Vehicles directed promptly to unloading area							
	Vehicles promptly unloaded							
	Inspection procedures implemented for prohibited wastes per plan							
	No unapproved wastes							
	Solid waste spread and compacted into layers per plan							
	No waste <15 ft. from edge of liner, berm, edge marked, etc.							
	Procedures followed for special handling and residual wastes							
	No open burning							
	Vectors minimized and controlled per plan							
	Odors minimized and controlled per plan							
	Other nuisances minimized and controlled per plan							
Daily & Weekly Inspection Items- All Cells	Litter minimized and controlled per plan							
	Approved weekly cover placed							
	Vegetation established and maintained per plan							
	Surface and groundwater pollution discharges prevented/controlled							
	Soil and erosion control BMPs are maintained per plan							
	Leachate popouts detected							
	Leachate popouts repaired							
	Flow from leachate management system monitored daily							
	Leachate management facilities operated and maintained							
	Landfill gas controlled per plan/ LFG Flare Operational							
	Daily operational records being made and maintained							
Salvaged materials are stored in an approved area								
Recyclable materials collection center maintained								
No immediate threats to public health and safety								

Inspector Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Key = Yes, No, NA (not applicable), ND (not determined)



Project No.: 30 34  
Harnett County DELF Leachate Problem

Page 1 of 1  
Date: 1-28-2010

Summary of Problems and Resolutions:

Worked with Randy Smith and crew to install a liner in the leachate loading station. Berms were prepared to confine the leachate if a spill was to take place. The pit was smoothed and all objects that might penetrate the liner were removed. The storm drain pipe was installed with a 4" valve at the low point in the pit. The specified liner was sized to fit and made water tight. A layer of sand was then installed over the liner and capped with a sandy clay material for the truck to run on.

Summary of Activities and Test Results:

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

Other Items: Photo's are attached.

Copies: Jerry Blanchard  
Tyrus Clayton

Signature: C.T. Clayton

