



April 17, 2014

**ELECTRONIC SUBMITTAL**  
[jaclynnedrummond@ncdenr.gov](mailto:jaclynnedrummond@ncdenr.gov)

Jaclynn Drummond  
Compliance Hydrogeologist  
Solid Waste Section  
Division of Waste Management  
North Carolina Department of Environment  
and Natural Resources  
1646 Mail Service Center  
Raleigh, NC 27699-1646

Dear Ms. Drummond:

**Subject:** Requested Additional Documentation  
Second 2013 Semiannual Monitoring Report  
North Mecklenburg C&D Landfill – Closed Phase I  
Solid Waste Permit Number 60-13  
DIN 20237  
CEC Project 111-370.001

On behalf of Greenway Waste Solutions, LLC. (GWS) Civil & Environmental Consultants, Inc. (CEC) has provided additional documentation and information in response to the Solid Waste Section's request dated December 3, 2013. The requested information was requested due to a confirmed vinyl chloride exceedance within the groundwater wells at the facility, as stated in the *Second 2013 Semiannual Monitoring Report* dated November 30, 2013 (DIN 20232), and submitted by Enviro-Pro, P.C.

The following information has been provided in response to the Solid Waste Section's request:

1. Protection of Human Health
  - a. Please provide a timeline and schedule regarding the protection of human health.

*A potable water line will be constructed to serve those residences along the southern boundary of the Closed Phase I cell. The water line will allow for the disconnection of the residences from the private drinking water wells in close proximity to Phase 1/2. The water line design has been completed by Charlotte Mecklenburg Utilities Department (CMUD). North Carolina Department of Transportation easements have been approved. Individual private property easements have been developed and submitted to CMUD's Real Estate group for execution. It is anticipated that construction will commence within ten to fourteen days with an expected construction schedule to be approximately eight weeks. As with most constructions schedules, this is tentative and updates will be provided periodically.*

- b. Please provide any additional information regarding routine monitoring of the adjacent private water wells.

*Routine monitoring is occurring on a monthly basis with results submitted to the effected residences and the Solid Waste Section.*

2. Landfill Gas Monitoring

- a. Landfill gas monitoring is not currently being conducted within this area of the facility, and is required during the post closure care period pursuant to 15A NCAC 0503(2)(a). Please submit a Revised Landfill Gas Monitoring Plan for Solid Waste Section approval as indicated by the Solid Waste Section's letter dated November 22, 2013 from Mr. Brian Wootton (DIN 20185).

*New landfill gas monitoring wells were installed in March 2014, and the methane gas monitoring results were submitted in accordance with the approved Landfill Gas Monitoring Plan dated January 29, 2014 (DIN 20487 and 20490). The approximate location of these wells is shown on the enclosed Monitoring Well Location Map, Drawing 1.*

*Based upon the methane gas monitoring results that were initially provided in a March 28, 2014 notification email, methane gas exceedances have been documented at landfill gas monitoring wells GW-3, GW-4, GW-5, and GW-6. All four of these landfill gas monitoring wells are located near the property boundary.*

*The adjacent property owners have been notified in writing of the methane gas exceedances documented near the facility's property boundary. Due to the close proximity of homes and adjacent enclosed structures, GWS has offered to install indoor continuous natural gas detectors in these residences to detect methane gas above normal levels and to prevent harm to the residents. GWS will be responsible for purchasing, installing, and maintaining (routine testing and routine battery replacement) the detectors. Installation of the monitors is scheduled to be completed Friday, April 18, 2014. Documentation of notification and acceptance of the monitors will be provided to the Solid Waste Section. Monthly landfill gas monitoring at the closed Phase I/II Area of the facility has commenced. The monthly landfill gas monitoring results will be submitted via email to the Solid Waste Section (Attention: Jaclynne Drummond) within seven (7) days of monitoring utilizing the approved forms.*

*In addition to the above actions, GWS is initiating a design of an active landfill gas migration system along the property boundary. It is anticipated that the design will be completed by May 16, 2014. A construction schedule will be provided thereafter.*

3. Waste Disposal and Closure

- a. Please provide information on the approximate depth of the waste below ground surface? Please provide the method(s) or documentation indicating how this was determined. If unknown, this may be determined utilizing geophysical methods.

*The depth of waste below ground surface is expected to vary in the closed Phase 1/2 cell. A visual inspection of the landfill cap did not indicate any areas of exposed waste. The vegetation on the landfill cap indicates adequate top soil cover was installed over the waste. However, some ponding was observed. A more detailed evaluation is planned within the next 45 days.*

*A pilot scale evaluation of a geophysical (GPR) investigation was attempted on December 16, 2013. The investigation was unsuccessful due to the terrain and existing vegetation on the closure surface. The vegetation consists of natural grassed areas, understory brush and small trees. It was extremely difficult to maintain adequate contact with the ground because of terrain and vegetative cover.*

*GWS has concerns that excavating of the landfill cap to determine the depth of waste will result excessive clearing of vegetation for equipment access and potential damage to the cap surface due to erosion.*

- b. Please provide any information regarding final closure of this area including a copy of a closure plan if one is available.

*A Closure Report for Phase I/II was submitted to Mecklenburg County on October 31, 2002 and is attached. The report documents a final cap consisting of a minimum of two feet of soil material was achieved on all slopes and final elevations.*

4. Edge of Waste

- a. Please confirm the edge of waste at the facility and if not installed, please install permanent markers to clearly delineate the waste disposal area in accordance with the May 29, 2009 Solid Waste Section Memorandum titled "Permanent Edge of Waste Markers at Construction and Demolition Debris Landfills, Industrial Solid Waste Landfills, and Municipal Solid Waste Landfills."

*The approximate edge of waste has been depicted on the enclosed Limits of Waste Map, Drawing 1. The limits of waste are based upon historic information provided by the site operators, combined with a study of the slope topography along the edges of the cell. It is reported that a wedge of Land Clearing and Inert Debris (LCID) material was placed along the southern and eastern edges of Phase 1/2. The estimated limit of the LCID is also depicted on the Drawing 1. At*

*this time no additional investigation of the edge of waste has been completed.*

- b. Please provide the GPS coordinates using NAD83 of the permanent edge of waste markers.

*Due to the estimated nature of the edge of waste, permanent markers have not been installed.*

- c. Please provide the method(s) indicating how the edge of waste was confirmed. If the edge of waste has not been previously confirmed in the field, please determine and confirm utilizing geophysical methods. Test pits and historical information may also be utilized in conjunction with geophysical methods. Please note that excavation of waste may be required to create the required buffer needed.

*The limits of waste are based upon historic information provided by the site operators, combined with a study of the slope topography along the edges of the cell. Please see item 3.a. for information regarding waste location.*

- d. Please provide a site map including the confirmed edge of waste, the property boundary, surface water features, any structures, sumps, septic systems, and any underground utilities and stormwater conduits.

*Please see enclosed Limits of Waste Map, Drawing 1. Additionally, the approximate location of the groundwater monitoring wells and adjacent private drinking water wells are shown in Drawing 1.*

5. Topographic Map

- a. Please provide the most current USGS Topographical Map showing coverage within 1,000 feet from the confirmed edge of waste.

*Please see enclosed USGS Topographic Map, Figure 1.*

6. Current Landfill Cap (Cover) Integrity

- a. Please determine in the field the type and thickness of the current final landfill cap.

*A Closure Report for Phase I/II was submitted to Mecklenburg County on October 31, 2002 and is attached. The report documents a final cap consisting of a minimum of two feet of soil material was achieved on all slopes and final elevations. A more detailed evaluation is planned within the next 45 days.*

- b. Please provide the current soil conditions.

*Please see 6.a above.*

- c. Please provide the current storm waste management approach, if any.

*The denuding activities in Phase 1/2 have been completed and the site is stabilized. The erosion control basins have been removed. Stormwater run-off from the northern limits of Phase 1/2 drains north to the creek that separates Phase 1/2 from the landfill expansions. Stormwater run-off from the southern limits of Phase 1/2 drains to Cane Creek, south of Phase 1/2.*

- d. Please provide the types of existing vegetation established on the final landfill cap, if any.

*The mix of vegetation on the landfill includes grassed areas, understory brush and small trees.*

- e. Please identify any existing leachate seeps, any exposed waste, and any other types of damage.

*Currently there are no observed leachate seeps, exposed waste or other types of damage to the landfill cap. A more detailed evaluation is planned within the next 45 days.*

Greenway Waste Solutions, LLC will continue to further characterize the nature and extent of the groundwater contamination at the closed facility. Characterization is proposed to include the following: (1) a baseline risk assessment; (2) installation and sampling of two additional deep groundwater monitoring wells; (3) bedrock studies utilizing a downhole camera to obtain video of the geology and provide a better understanding of the drawdown and recharge characteristics of the aquifer; (4) developing the site conceptual model; and (5) utilizing the Hydraulic Evaluation of Landfill Performance (HELP) Model to predict infiltration of precipitation and leachate production. A contaminant delineation report is anticipated to be submitted by May 13, 2014.

Hopefully this information addresses your concerns. Should you have any questions or need any additional information, please feel free to contact me at 704-773-6465 or by email at [sbrown@cecinc.com](mailto:sbrown@cecinc.com) or Tom Bolyard 803-547-4955 or by email at [enviropro@comporium.net](mailto:enviropro@comporium.net).

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Scott L. Brown, PE  
Vice President

Ms. Jaclynne Drummond  
CEC Project 111-370.001  
Page 6  
April 17, 2014

Cc sent via email: Mike Griffin, GWS  
Michael Scott, Solid Waste Section Chief  
Ellie Allen, GWS  
Jason Watkins, Western District Supervisor  
Teresa Bradford, Environmental Senior Specialist  
John Murray, Permitting Engineer  
Brian Wooten, Permitting Hydrogeologist  
Tom Bolyard, Enviro-Pro, P.C.

#### ATTACHMENTS

List of Drawings:

Drawing 1 – Limits of Waste Map

List of Figures

Figure 1 – USGS Topographic Map

Additional Information:

Closure Report, October 2002

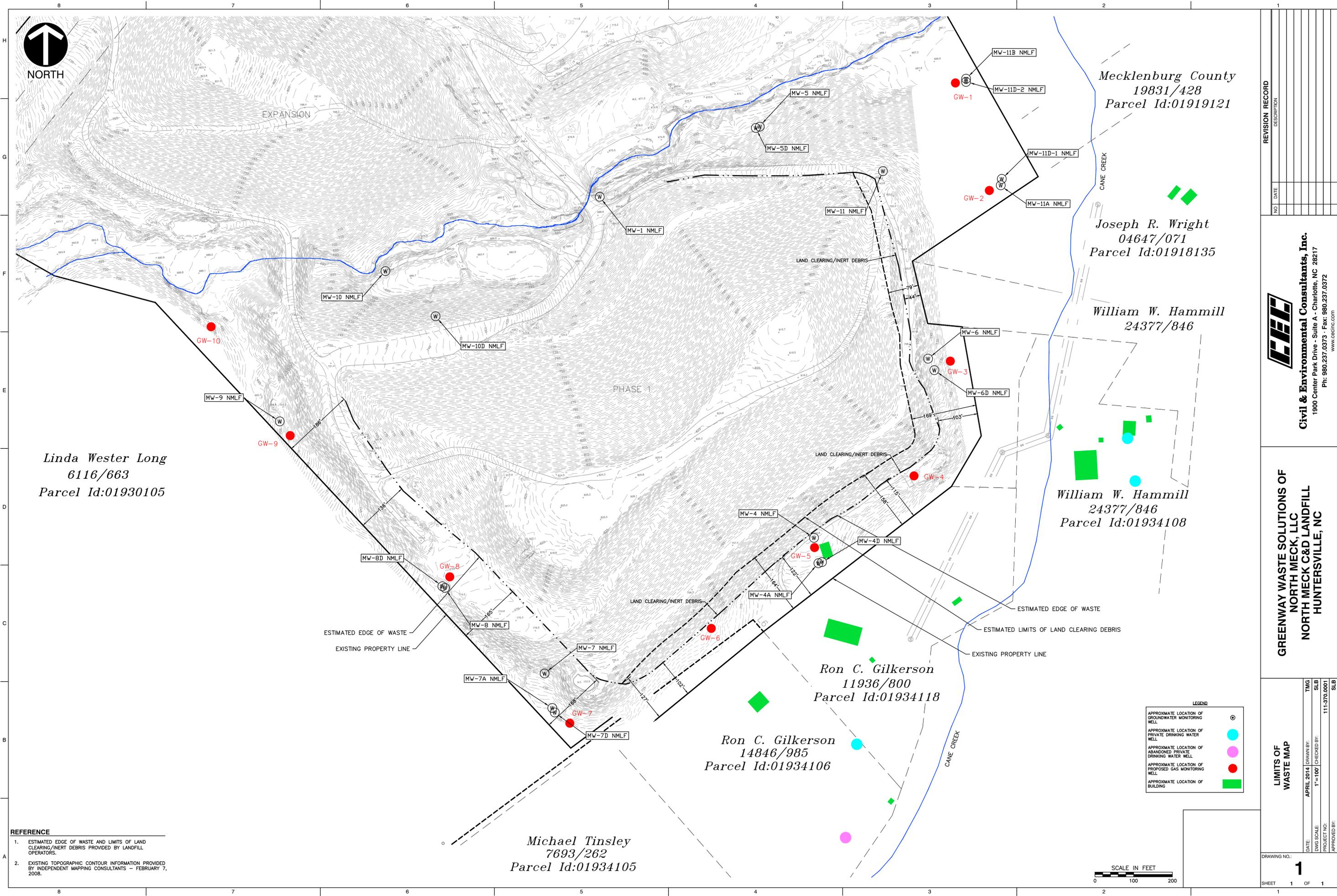
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**DRAWING 1 – LIMITS OF WASTE MAP**

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NORTH



Linda Wester Long  
6116/663  
Parcel Id:01930105

Mecklenburg County  
19831/428  
Parcel Id:01919121

Joseph R. Wright  
04647/071  
Parcel Id:01918135

William W. Hammill  
24377/846

William W. Hammill  
24377/846  
Parcel Id:01934108

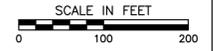
Ron C. Gilkerson  
11936/800  
Parcel Id:01934118

Ron C. Gilkerson  
14846/985  
Parcel Id:01934106

Michael Tinsley  
7693/262  
Parcel Id:01934105

LEGEND

APPROXIMATE LOCATION OF GROUNDWATER MONITORING WELL	⊙
APPROXIMATE LOCATION OF PRIVATE DRINKING WATER WELL	●
APPROXIMATE LOCATION OF ABANDONED PRIVATE DRINKING WATER WELL	●
APPROXIMATE LOCATION OF PROPOSED GAS MONITORING WELL	●
APPROXIMATE LOCATION OF BUILDING	■



- REFERENCE
- ESTIMATED EDGE OF WASTE AND LIMITS OF LAND CLEARING/INERT DEBRIS PROVIDED BY LANDFILL OPERATORS.
  - EXISTING TOPOGRAPHIC CONTOUR INFORMATION PROVIDED BY INDEPENDENT MAPPING CONSULTANTS - FEBRUARY 7, 2008.

NO	DATE	DESCRIPTION

**C&E**  
**Civil & Environmental Consultants, Inc.**  
 1900 Center Park Drive - Suite A - Charlotte, NC 28217  
 Ph: 980.237.0373 - Fax: 980.237.0372  
 www.ceinc.com

**GREENWAY WASTE SOLUTIONS OF NORTH MECK, LLC**  
**NORTH MECK C&D LANDFILL**  
**HUNTERSVILLE, NC**

**LIMITS OF WASTE MAP**

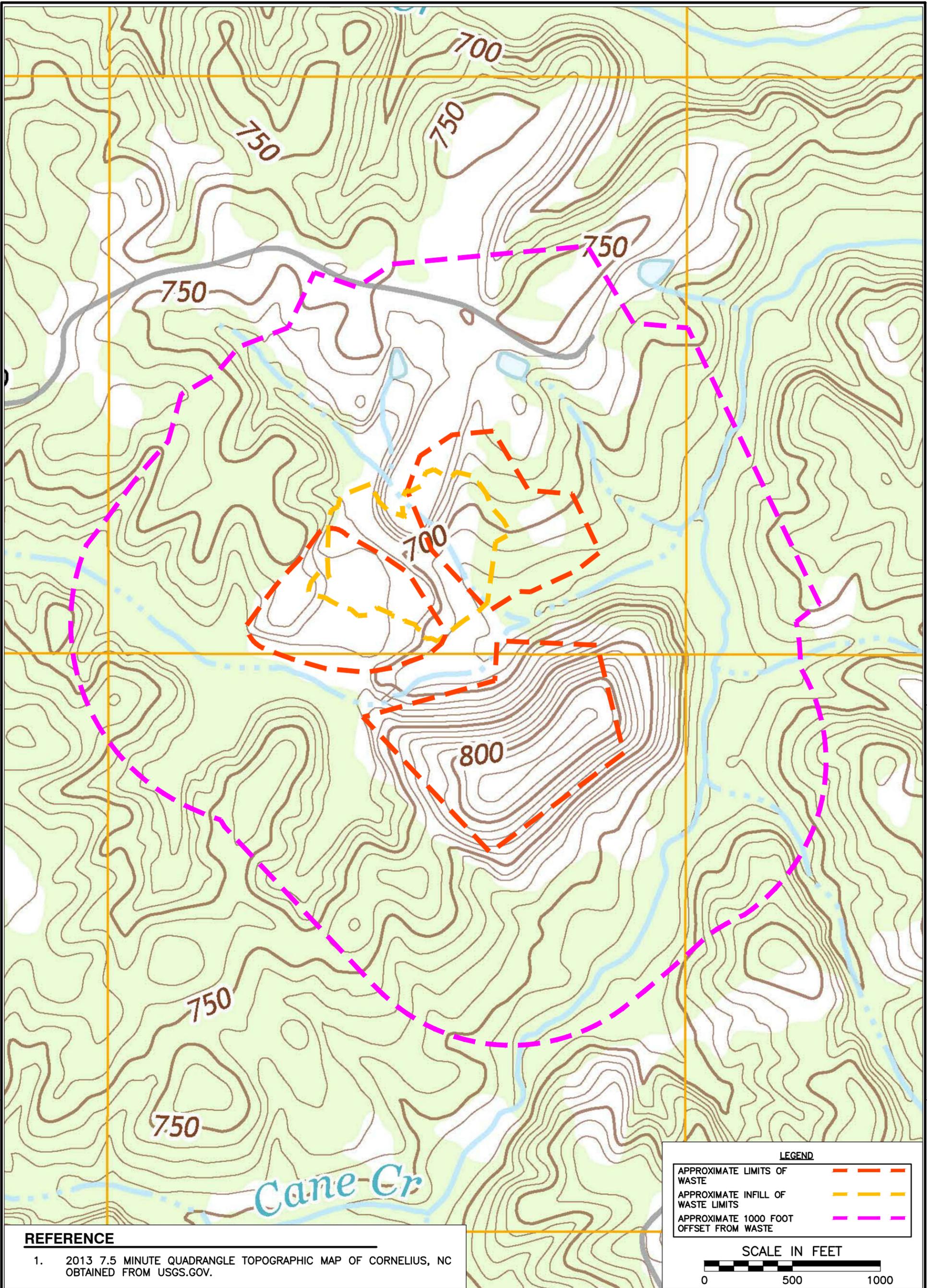
DATE: APRIL 2014  
 DRAWN BY: TMG  
 DWG SCALE: 1"=100'  
 PROJECT NO: 111-370-0001  
 CHECKED BY: SLEB  
 APPROVED BY: SLEB

A:\2011\111-370-0001\DWG\111-370-0001 Limits of Waste Map.dwg  
 User: mikeroy  
 Date: 4/15/2014 2:47 PM

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**FIGURE 1 – USGS TOPOGRAPHIC MAP**

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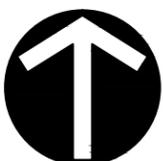
**REFERENCE**

- 2013 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAP OF CORNELIUS, NC OBTAINED FROM USGS.GOV.

**LEGEND**

APPROXIMATE LIMITS OF WASTE	
APPROXIMATE INFILL OF WASTE LIMITS	
APPROXIMATE 1000 FOOT OFFSET FROM WASTE	

**SCALE IN FEET**



**NORTH**



**Civil & Environmental Consultants, Inc.**

1900 Center Park Drive - Suite A - Charlotte, NC 28217  
 Ph: 980.237.0373 · Fax: 980.237.0372  
 www.cecinc.com

GREENWAY WASTE SOLUTIONS OF  
 NORTH MECK, LLC.  
 NORTH MECKLENBURG LANDFILL  
 HUNTERSVILLE, NC

USGS TOPOGRAPHIC MAP

DRAWN BY:	MTB	CHECKED BY:	TMG	APPROVED BY:	SLB	FIGURE NO.:	1
DATE:	APRIL 2014	DWG SCALE:	1" = 500'	PROJECT NO.:	111-370.001		

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**CLOSURE REPORT – OCTOBER 2002**

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# **CLOSURE REPORT**

## **MECKLENBURG, NORTH CAROLINA**

# **OCTOBER 2002**



October 31, 2002

Mr. Mike Stilwell  
Mecklenburg County  
Land Use and Environmental Services Agency  
Solid Waste Section  
700 N. Tryon Street, Suite 205  
Charlotte, N.C. 27202-2236

RE: Closure Report  
North Mecklenburg C&D Landfill  
15300 Holbrooks Road  
Huntersville, North Carolina

Dear Mr. Stilwell,

As required per NCDENR regulations, we have completed and attached our Closure Report for North Mecklenburg C&D Landfill. This report is for Phase I and II of our existing landfill, Permit No. 60-13.

If you have any questions, please do not hesitate to contact me at 704-895-0329.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Gilkerson", is written over a light blue horizontal line.

Ron Gilkerson  
Senior Geologist

Attachment





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## CLOSURE ASSESSMENT REPORT

North Mecklenburg C&D Landfill  
15300 Holbrooks Road  
Huntersville, North Carolina

Prepared for:

Mr. Ron Gilkerson  
Griffin Brothers Companies  
19109 W. Catawba Avenue  
Suite 118  
Cornelius, North Carolina 28031-5613

Prepared by:

Enviro-Pro, P.C  
15101 Regena Lane  
Charlotte, North Carolina 28278

Project No. EP-1217  
October 17, 2002

A handwritten signature in black ink, reading "Thomas H. Bolyard". The signature is written in a cursive style with a large, stylized initial 'T'.

## **Project Information**

The North Mecklenburg Landfill (NML) is an active construction and demolition (C&D) landfill located at 15300 Holbrooks Road in Huntersville, North Carolina (Figure 1). The original sections of the C&D Landfill permitted as Phase I and Phase II reached capacity in October of 2001. The C&D permit to operate (Permit #60-13) for Phase I was issued on June 24, 1993 by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management. The solid waste permit was amended (Amendment I of permit #60-13) to include Phase II of the C&D Landfill site on March 7, 1995.

The new active C&D expansion area located just northwest of Phases I and II of the original landfill site (Figure 1) includes a total of 25.00 acres of adjacent land, of which 14.9 acres is useable for landfilling operations. This expansion area was permitted by the NCDENR Division of Waste Management as Amendment II (Permit to Construct) of Solid Waste permit #60-13 on October 19, 2001. The final permit to operate was issued on October 26, 2001 and was recorded as Amendment III of Permit #60-13. The NML expansion site started receiving C&D materials on October 29, 2001 in a 4.4 acre certified cell.

The final closure of Phases I and II of the original C&D Landfill was initiated after the permit to construct was received for the contiguous expansion site. The intermediate cover was immediately placed over the remaining portion of the landfill at a thickness of six inches in the southwestern section of the cap. The final cap with a minimum two-foot thickness was completed with soil material removed during the initial and on going construction of the NML expansion site. The final cap was completed for NML Phases I and II of the original landfill in June of 2002 as documented in our Notice of Final Closure letter to the NCDENR dated June 14, 2002 (Appendix A).

## **Closure Assessment**

On September 11 and 12, 2002, NML personnel performed 15 hand auger borings (HA-1 through HA-15) at the approximate locations shown on the Closure Assessment Plan (Figure 2). The stainless steel hand auger was manually twisted into the ground at various locations to determine the cap and cover thickness in Phases I and II of the landfill. To confirm that final cover requirements had been achieved, Mecklenburg County Solid Waste personnel Mr. Dennis Tyndall and Mr. Mike Stilwell performed a site visit on September 12, 2002.

Mr. Tyndall and Mr. Stilwell along with Mr. Roger Barnes and Mr. Ron Gilkerson of NML documented the depth of cover. The depth of each boring was measured using a measuring tape with engineering scale. Table 1 indicates the recorded depths for each of the hand auger borings, with photographs of each boring location included in Appendix B.

To provide additional assessment coverage, Enviro-Pro personnel performed 21 additional hand auger borings (HA-16 through HA-36) on September 18, 2002 at the approximate locations indicated on the attached Figure 2.

### **Conclusions**

Based on the assessment results, all 36 hand auger borings indicated that the minimum final cover thickness of two feet had been achieved on all slopes and final elevations. Mr. Dennis Tyndall of Mecklenburg County confirmed that the initial 15 borings HA-1 through HA-15 met or exceeded the minimum two-foot thickness requirement. Mr. Tyndall and Mr. Stilwell also confirmed that the site slopes evaluated in the field were measured to be 3:1 or less than the 33% maximum slope allowance in Phases I and II. Attached Appendix C contains Mecklenburg County's Construction and Demolition Landfill Final Closure Inspection Report, with additional site photographs of the landfill slopes included in Appendix B.

Enviro-Pro, P.C. has confirmed that all boring locations (HA-1 through HA-36) meet or exceed the minimum requirements of the NCDENR regulation 15ANCAC 13B Rule .0510 entitled "Closure Conditions."

**APPENDIX A**

*Closure Letter*

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**APPENDIX B**

*Site Photographs*

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**APPENDIX C**

*Mecklenburg County Closure Report*

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**TABLES**

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**FIGURES**

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**Closure Report  
North Mecklenburg  
Landfill**  
15300 Holbrooks Road  
Huntersville, North Carolina

**October 2002**

**APPENDIX A**

**CLOSURE LETTER DATED, JUNE 14, 2002**



June 14, 2002

Mr. Tim Jewett  
NCDENR  
Division of Waste Management  
585 Waughtown Street  
Winston-Salem, NC 27107-2241

Re: Notice of Final Closure  
North Mecklenburg Landfill  
15300 Holbrooks Road  
Huntersville, NC

Dear Mr. Jewett:

As required, per NCDENR regulations 15ANCAC 13B RULE .0510 entitled "Closure Conditions", North Mecklenburg Landfill (NML) has completed final cap and cover on Phases I and II of our Construction and Demolition Landfill (Amendment I and II of Permit #60-13). We are in the process of scheduling the closure assessment to verify that the final cover requirement has been achieved.

The new C&D expansion area was operational in October of 2001. This recently permitted area includes 14.9 useable acres (Permit # 60-13 Amendment III and IV). Based on our current daily tonnage, the expansion area should provide NML five additional years of space.

The final cap and cover is complete on our LCID Landfill (Permit # 60-AL-LCID). This section of our Landfill is no longer accepting LCID materials for burial in this cell.

We have contacted Mr. Dennis Tyndall of Mecklenburg County Solid Waste to schedule the closure assessment. He indicated to me during our last meeting that he would like to be present during the assessment to document our findings. We would also like for you to be present during this assessment.



If you have any questions, please do not hesitate to contact me at 704-895-0329. I will contact you in a few days to review our schedules.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ronald C. Gilkerson".

Ronald C. Gilkerson  
Geologist

CC: Mr. Dennis Tyndall

**APPENDIX B**  
**SITE PHOTOGRAPHS**



HAND AUGER BORING HA-1



HAND AUGER BORING HA-2



HAND AUGER BORING HA-3



HAND AUGER BORING HA-4



HAND AUGER BORING HA-5



HAND AUGER BORING HA-6



HAND AUGER BORING HA-7



HAND AUGER BORING HA-8



HAND AUGER BORING HA-9



HAND AUGER BORING HA-10



HAND AUGER BORING HA-11



HAND AUGER BORING HA-12



HAND AUGER BORING HA-13



HAND AUGER BORING HA-14



NORTH SIDE OF SLOPE - PHASE I AND II



NORTHWEST SLOPE - PHASE II

**APPENDIX C**

**MECKLENBURG COUNTY CLOSURE REPORT**

**TABLE 1**  
**RESULTS OF HAND AUGER BORING ASSESSMENT**  
**PHASE I AND II**  
**NORTH MECKLENBURG C&D LANDFILL**

<i>HAND AUGER BORING I.D.</i>	<i>DATE OF BORING</i>	<i>HAND AUGER DEPTH</i>
HA-1	9/11/02	3.6'
HA-2	9/11/02	4.0'
HA-3	9/11/02	2.6'
HA-4	9/11/02	2.7'
HA-5	9/11/02	2.6'
HA-6	9/11/02	2.7'
HA-7	9/11/02	2.6'
HA-8	9/12/02	2.4'
HA-9	9/12/02	2.4'
HA-10	9/12/02	2.2'
HA-11	9/12/02	2.6'
HA-12	9/12/02	3.0'
HA-13	9/12/02	2.2'
HA-14	9/12/02	2.4'
HA-15	9/18/02	3.2'
HA-16	9/18/02	3.4'
HA-17	9/18/02	2.9'
HA-18	9/18/02	2.6'
HA-19	9/18/02	2.4'
HA-20	9/18/02	2.8'
HA-21	9/18/02	3.0'
HA-22	9/18/02	3.1'
HA-23	9/18/02	4.3'
HA-24	9/18/02	2.6'
HA-25	9/18/02	2.5'
HA-26	9/18/02	2.8'
HA-27	9/18/02	3.0'
HA-28	9/18/02	3.1'
HA-29	9/18/02	2.8'
HA-30	9/18/02	2.6'
HA-31	9/18/02	2.8'
HA-32	9/18/02	2.9'
HA-33	9/18/02	2.6'
HA-34	9/18/02	2.8'
HA-35	9/18/02	3.0'
HA-36	9/18/02	3.1'



MECKLENBURG COUNTY  
Land Use and Environmental Services Agency

October 22, 2002

Mr. Larry Griffin  
North Mecklenburg Landfill, Inc.  
15300 Holbrooks Road  
Huntersville, North Carolina 28078

RE: Construction and Demolition Landfill Final Closure Inspection  
North Carolina Solid Waste Management Rules  
Rule .0510 "Closure Conditions"  
Solid Waste Permit # 60-13

Dear Mr. Griffin:

The Mecklenburg County Department of Land Use and Environmental Services (LUESA), Solid Waste Section has inspected the Construction and Demolition Landfill located at 15300 Holbrooks Road in Mecklenburg County for compliance with the North Carolina Solid Waste Management Rules relevant to final closure and to determine whether the operator had met the conditions outlined in the June 24, 1993 permit to operate and the March 7, 1995 amendment to operate Phase 1 and Phase 2 of the C&D Landfill.

The inspection was conducted on September 12, 2002, by Mike Stilwell and Dennis Tyndall and revealed that the operator has met the closure requirements outlined in Rule .0510.

A detailed report of this inspection is included with this letter.

As a reminder please be aware that it is still the operators responsibility to maintain the closed cell in accordance with the NCDENR guidelines.

If you have any questions or if I may be of assistance, please contact me at 336-5500.

Sincerely,

A handwritten signature in black ink that reads "Mike Stilwell".

Mike Stilwell  
Solid Waste Compliance Inspector  
Solid Waste Section

Enclosure:  
Inspection Report

LOG NUMBER: 2002-00473  
TYPE OF ACTIVITY: Inspection  
FILE DESCRIPTOR: WST-C&D-

ACTIVITY DATE:10/21/2002

SITE INFO

SITE: NORTH MECKLENBURG C&D LANDFILL  
ADDRESS: 15300 HOLBROOKS RD  
HUNTERSVILLE NC 28078- -

PARCEL ID:01919108-A

CONTACT: ROGER BARNES  
BUSINESS PHONE NO: (704) 875-3367

ACTIVITY

On Thursday September 12, 2002 Mike Stilwell and Dennis Tyndall inspected the southeast cell of the North Mecklenburg C&D Landfill to see if closure requirements were being met.

Temperature was 75 degrees F. at 1:00 pm

The inspection showed that that the cell has met the requirements for closure, being:

- 15 borings were done to prove a cap cover of at least 2 feet
- All slopes were graded to a 3:1 ratio
- All denuded areas were seeded
- All erosion control measures were in place and being maintained

Observations Made by Dennis Tyndall:

-Slope measurements were made on all final slopes using a factory calibrated, hand held . ALI measurements indicated final slopes were graded to less than the 33% slope maximum allowance(Measurements of slope ranged from 26% to 30%).

-Positive conveyance of precipitation runoff from all slopes via terraces and drop-pipe inlet drains to the existing four sediment detention basins surrounding the landfill was verified. No ponding or evidence of ponding of water over waste disposal areas was apparent.

-All sediment detention basins were in good working condition and needed no repairs or maintenance.

- Thickness of final cover on slopes was measured using a carpenters steel measuring tape. Measurements of cover thickness in 15 soil borings ranged from 2 feet to 3 feet deep with no waste encountered in any of the borings.

-No localized subsidences, sinkholes or other evidence of non-uniform subsidence over fill areas was apparent.

-All nude areas previously identified on slopes had been seeded and mulched as requested.

-Access to the site is controlled and secured via locking gates. Access roads to all closed landfill areas has been preserved in order that equipment may access any area needing maintenance in future.

-All groundwater monitoring wells remain in place and accessible.

Recommendations:

Overseed slopes in early spring with weeping love grass and burmuda grasses. These varieties have proven to be drought resistant and able to colonize the locally nutrient poor soils.

Maintain surface-water conveyance features and sediment detention basins for proper operation after closure to prevent ponding of water over waste disposal areas and minimize infiltration of precipitation into the landfill.

Remove approximately 12, 0.5 to 1.5 foot diameter rocks from the landfill slopes to prevent formation of washouts on the slopes around the rocks and facilitate any future necessary mowing.

END.

\_\_\_\_\_  
**VIOLATIONS**  
\_\_\_\_\_

VIOLATION COMMENTS:

VIOLATION #      DESCRIPTION

\_\_\_\_\_  
**SAMPLES**  
\_\_\_\_\_

\_\_\_\_\_  
**SUMMARY**  
\_\_\_\_\_

STATUS:            OPEN  
DATE CLOSED:  
MISC EXPENSES:    0.00

TIME ON SITE: 2:00  
TRAVEL TIME: 1:00  
ADMIN TIME: 1:00  
MILEAGE:      25

STATE REPORT FORM: ON-SITE DISPOSAL INSPECTION  
SUMMARY:

\_\_\_\_\_  
**SIGNATURES**  
\_\_\_\_\_

ENVIRONMENTALIST: \_\_\_\_\_  
                         Mike Stillwell

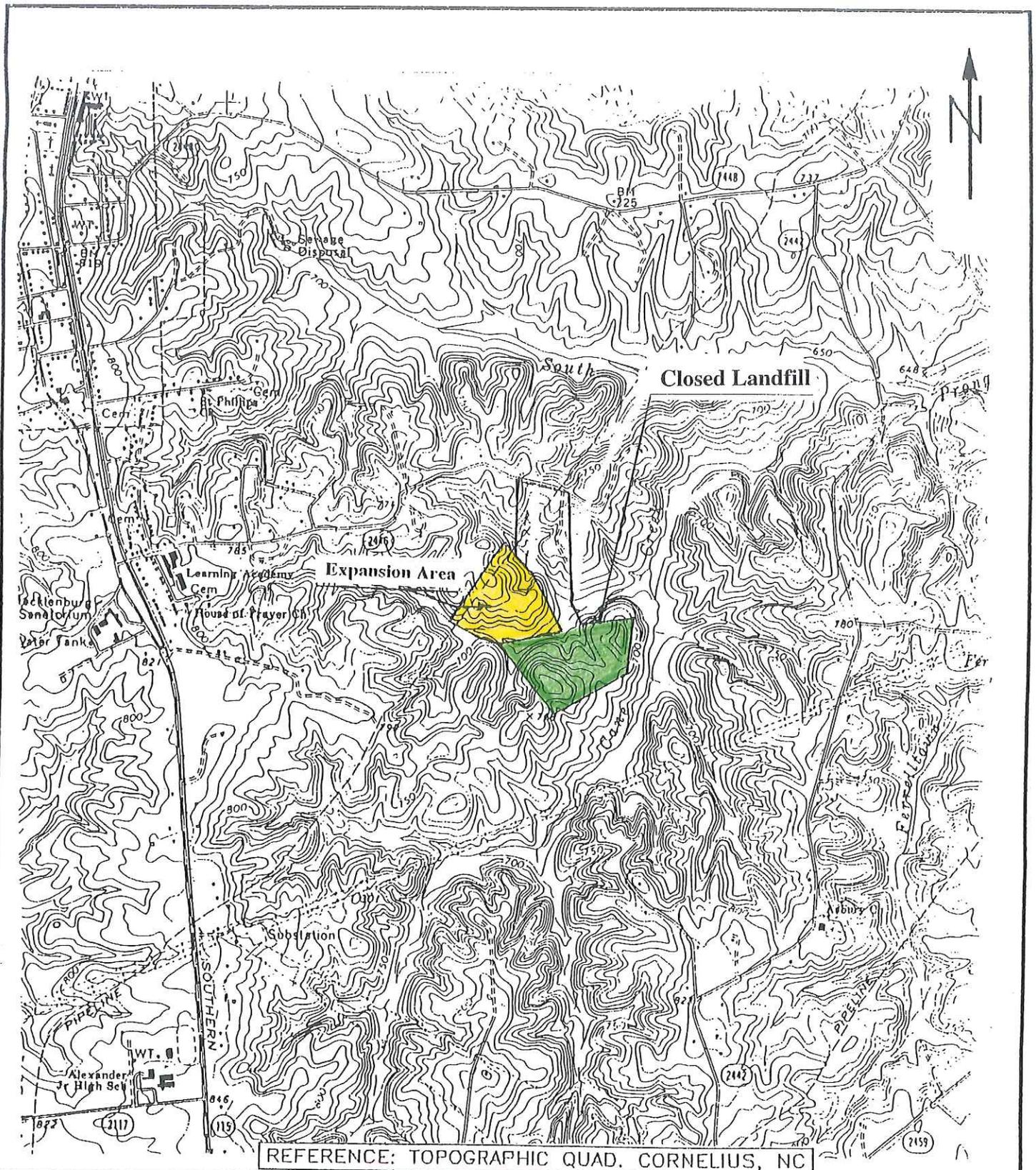
DATE  
10/21/2002

REVIEWED BY: \_\_\_\_\_

DATE  
/ /

**TABLE 1**  
**RESULTS OF HAND AUGER BORING ASSESSMENT**  
**PHASE I AND II**  
**NORTH MECKLENBURG C&D LANDFILL**

<i>HAND AUGER BORING I.D.</i>	<i>DATE OF BORING</i>	<i>HAND-AUGER DEPTH</i>
HA-1	9/11/02	3.6'
HA-2	9/11/02	4.0'
HA-3	9/11/02	2.6'
HA-4	9/11/02	2.7'
HA-5	9/11/02	2.6'
HA-6	9/11/02	2.7'
HA-7	9/11/02	2.6'
HA-8	9/12/02	2.4'
HA-9	9/12/02	2.4'
HA-10	9/12/02	2.2'
HA-11	9/12/02	2.6'
HA-12	9/12/02	3.0'
HA-13	9/12/02	2.2'
HA-14	9/12/02	2.4'
HA-15	9/18/02	3.2'
HA-16	9/18/02	3.4'
HA-17	9/18/02	2.9'
HA-18	9/18/02	2.6'
HA-19	9/18/02	2.4'
HA-20	9/18/02	2.8'
HA-21	9/18/02	3.0'
HA-22	9/18/02	3.1'
HA-23	9/18/02	4.3'
HA-24	9/18/02	2.6'
HA-25	9/18/02	2.5'
HA-26	9/18/02	2.8'
HA-27	9/18/02	3.0'
HA-28	9/18/02	3.1'
HA-29	9/18/02	2.8'
HA-30	9/18/02	2.6'
HA-31	9/18/02	2.8'
HA-32	9/18/02	2.9'
HA-33	9/18/02	2.6'
HA-34	9/18/02	2.8'
HA-35	9/18/02	3.0'
HA-36	9/18/02	3.1'



REFERENCE: TOPOGRAPHIC QUAD, CORNELIUS, NC

SCALE: 1:24000

DATE: March 7, 2001

**ENVIRO-PRO, P.C.**  
 15101 REGINA LANE, CHARLOTTE, NC 28278  
 (704) 583-0075 \* Fax (704) 583-2873

Project Location  
 Map  
 North Mecklenburg  
 Landfill Expansion  
 Huntersville, NC  
 Figure 1