

Scanned By	Date	DOC ID	Permit
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City of Greensboro



White Street Landfill Construction & Demolition Landfill Permit Application

June 2008

City of Greensboro
North Carolina

Fac/Perm/Co ID #	Date	Doc ID#
41-03 CDF	3/26/10	DIN 10207

DW

June 26, 2008

North Carolina Department of Environment
and Natural Resources
Division of Waste Management
Post Office Box 29603
Raleigh, North Carolina 27611-9603



Attention: Paul Crissman:
Section Chief

Reference: Permit Renewal for Construction/Demolition Landfill
City of Greensboro - White Street Landfill
Permit No. 41-03

Dear Mr. Crissman:

The City of Greensboro is pleased to submit five copies of our renewal application for the continued operation of the construction and demolition landfill on top of the formerly operated sanitary landfill. The application was completed in accordance with the permit requirements as outlined in Title 15A, Subchapter 13B of the North Carolina Administrative Code, Section .0547.

If, after your review of the enclosure permit application, additional information is required to facilitate permit approval, please do not hesitate to contact me at (336) 373-2787.

Very truly yours,
City of Greensboro

Jeryl W. Covington, P.E.
Director, Environmental Services Department

Enclosed: Permit Renewal Application

**White Street Landfill
Greensboro, North Carolina**

**Construction and Demolition
Permit Renewal Application
Permit No. 41-03**

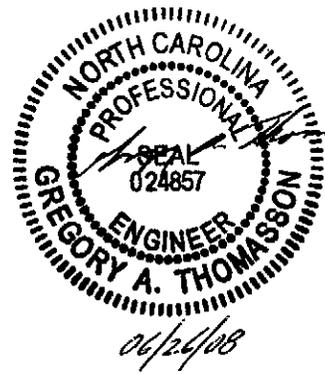
Prepared By:



**City of Greensboro
Environmental Services Department**

June 2008

Certification is not intended to cover sections of the application previously submitted, referenced, or certified by others.



**WHITE STREET LANDFILL
CONSTRUCTION AND DEMOLITION PERMIT RENEWAL APPLICATION**

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Construction and Demolition Application Overview

In November of 1995, HDR, on behalf of the City of Greensboro, submitted a Transition Plan for the Phase II sanitary landfill of the White Street Landfill. The Transition Plan was approved in July of 1996 and Olver certified closure of the sanitary landfill in March 1999. After NCDENR approval of the Transition Plan, the City of Greensboro submitted a permit application to dispose of Construction and Demolition (C&D) debris over top of the closed municipal solid waste (MSW) in Phase II. NCDENR issued the original C&D over MSW permit for Phase II in July of 1998.

In accordance with the North Carolina Solid Waste Management Rule 15A NCAC 13B Section .0547(4), the City of Greensboro is submitting a permit application to continue C&D disposal on top of the closed Phase II sanitary landfill. The City of Greensboro currently operated the C&D landfill in accordance with Facility Permit No. 41-03.

The City of Greensboro proposed to maintain the final maximum permitted elevation of 872 feet above mean sea level as approved in previous permit applications. Based on the existing contours and additional filling to reach the 4:1 regulatory side slopes, Phase II has a remaining operating airspace of approximately 1,118,000 cubic yards. Volume calculations were performed in AutoCAD.

In 2010, the White Street Landfill received 46,614 tons of C&D. Based on an estimated waste density placement of 1,700 pounds per cubic yard, the five-year volume consumed is approximately 275,000 cubic yards. Based on the available air space and projected waste receipt, Phase II final contours should be reached in approximately fifteen years. Fill calculations are provided on Drawing C-06 of the application. The total area of C&D disposal requiring a cap will be approximately 64 acres.

To continue operations, Section .0547 required owners and operators of existing C&D landfills on top of closed MSW landfills to submit a permit application by July 1, 2008 including the following:

- a. Local government approval in accordance with Rule .0536(c)(11),
- b. An operations plan in accordance with Rule .0542 of this Section,
- c. A corrective action plan for the closed MSW landfill in accordance with Rules .1635, .1636, and .1637,
- d. A closure and post-closure plan in accordance with Rule .1627, and
- e. Financial assurance in accordance with Rule .1628.

This permit application contains the above information.



June 19, 2008

Mr. Paul Crissman
Section Chief
North Carolina Department of Environmental and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646

Dear Mr. Crissman:

As required by NC General Statute 130A-294 (B1) (4), this letter confirms that the property under review for a construction and demolition landfill permit renewal meets all the requirements of the local zoning ordinance.

The property located at 2503 White Street was zoned Conditional District–Heavy Industrial in 1987. We have received information that confirms that the operations of the facility are fully consistent with this zoning designation, including conformance with the conditions attached to the zoning as follows:

1. Uses: Sanitary landfill and accessory uses;
2. Main access provided from White Street;
3. Emergency and service access may be provided from Rankin Mill Road;
4. A 100' buffer will be provided along exterior boundaries adjoining residentially zoned property not owned by the City of Greensboro. If adjacent property is owned by City of Greensboro, the buffer may be reduced by a distance equal to the width of the city-owned property;
5. In any event, the combination of buffer and adjacent city-owned property shall not be less than 100'.

If you have questions regarding this action, please contact me at (336) 373-2922.

Sincerely,

A handwritten signature in black ink that reads "Richard W. Hails".

Richard W. Hails, AICP
Planning Director

Cc: Jeryl Covington, Director of Environmental Services
Rawls Howard, Planning Manager for Zoning Administration

Agenda JERI COVINGTON

Greensboro City Council

**REGULAR MEETING
TUESDAY
20 MAY 2008
5:30 P.M.**

1. Moment of Silence
2. Pledge of Allegiance to the Flag
3. Recognition of Courier
4. Council Procedure for Conduct of the Meeting
5. Resolution honoring the memory of the late Virginia Kyle Hodges. (Attachment #5 to Council members)
6. Resolution honoring the memory of the late Margaret Boykin Gill. (Attachment #6 to Council members)
7. Speakers from the Floor (Each speaker will be allowed a maximum of three (3) minutes on non-agenda items and cannot cede their time to another speaker. Speakers from the floor will be limited to a maximum of thirty (30) minutes.)
8. Presentation of Water Conservation Poster Contest Awards. (Attachment #8 to Council members)
9. Presentation of 2007 Tree City USA Award. (Attachment #9 to Council members)
10. City Manager presents the proposed 2008-2009 Budget.
11. Resolution directing the filing with the City Clerk of the budget estimate for the Fiscal Year 2008-09. (roll call vote) (Attachment #11 to Council members)

MEMBERS OF COUNCIL

YVONNE J. JOHNSON, Mayor
SANDRA ANDERSON GROAT, Mayor Pro Tem
ROBBIE PERKINS, At Large
MARY C. RAKESTRAW, At Large

T. DIANNE BELLAMY-SMALL, District One
GOLDIE FRINKS WELLS, District Two
ZACK MATHENY, District Three
MIKE BARBER, District Four
TRUDY WADE, District Five

PUBLIC HEARING ITEMS:

12. Ordinance amending Chapter 30, Sections 30-5-2.2 and 30-5-2.18, of the Greensboro Code of Ordinances with respect to Zoning, Planning and Development to modify the bar separation requirements. (roll call vote) (Attachment #12 to Council members)
13. Ordinance amending Chapter 30, Sections 30-5-2.1, 30-4-4.3(E) (3) and 30-9-11.4, of the Greensboro Code of Ordinances with respect to Zoning, Planning and Development, to make it possible to grade the highway buffer within the Scenic Corridor Overlay District. (roll call vote) (Attachment #13 to Council members)
14. Ordinance amending Chapter 30 of the Greensboro Code of Ordinances with respect to Zoning, Planning and Development Section 30-9-1.2 to modify the signs posted for zoning hearings. (roll call vote) (Attachment #14 to Council members)
15. Resolution closing unnamed street, located approximately 972 feet south of Mackay Road, on the west side of the Norfolk-Southern Railroad Track, running approximately 400 feet westward to its end. (roll call vote) (Attachment #15 (PL(P)08-12) to Council members)
16. Resolution closing Windsor Road, from Pisgah Church Road northward for a distance of approximately 627 feet. (roll call vote) (Attachment #16 (PL(P)08-13) to Council members)
17. Opportunity for Public Comment regarding the National Register Nomination for Wilbur and Martha Carter House, 1012 Country Club Drive and consideration of a resolution in support of a recommendation that the Wilbur and Martha Carter House located at 1012 Country Club Drive be submitted for listing in the National Register. (roll call vote) (Attachment #17 to Council members)

CONSENT AGENDA ITEMS
(One Vote)

18. Resolution authorizing the City Attorney to institute proceedings to condemn a portion of the property of Battleground Crossing, LLC (Tax Map 273-7-27) in connection with the Battleground Rail Trail project. (Attachment #18 to Council members)
19. Resolution authorizing the City Attorney to institute proceedings to condemn a portion of the property of Battleground Crossing, LLC (Tax Map 273-7-26) in connection with the Battleground Rail Trail project. (Attachment #19 to Council members)
20. Resolution rescinding resolution 68-07 and authorizing the City Attorney to institute proceedings to condemn a portion of the property of Havcom Enterprises, LLC in connection with the Battleground Rail Trail project. (Attachment #20 to Council members)

CONSENT AGENDA ITEMS (cont.)

21. Resolution approving appraisal in the amount of \$44,674 and authorizing purchase of property of Battleground Partners, LLC for the Battleground Rail Trail project. (Attachment #21 to Council members)
22. Resolution approving appraisal in the amount of \$22,000 and authorizing purchase of property of Iris W. Marus for the Battleground Rail Trail project. (Attachment #22 to Council members)
23. Resolution approving appraisal in the amount of \$12,500 and authorizing purchase of property of Sam's Real Estate Business Trust and Wal-Mart Real Estate Business Trust for the West Wendover Avenue Sidewalk project. (Attachment #23 to Council members)
24. Resolution approving appraisal in the amount of \$54,000 and authorizing purchase of property of Francisco Place Association, Inc. for the Battleground Rail Trail project. (Attachment #24 to Council members)
25. Resolution authorizing purchase in the amount of \$192,500 of property of 2828 Battleground Group, LLC for the Battleground Rail Trail project. (Attachment #25 to Council members)
26. Resolution authorizing change order in the amount of \$109,000 to Contract No. 2007-033 with Yates Construction Company, Inc. for the on-call concrete repair and maintenance project. (Attachment #26 to Council members)
27. Resolution authorizing change order in the amount of -\$54,557.03 decreasing Contract No. 2007-031 with Wharton-Smith, Inc. for the T.Z. Osborne WRF IFAS Full Scale Demonstration project. (Attachment #27 to Council members)
28. Resolution approving change order in the amount of -\$343,632.82 decreasing Contract No. 2005-032 with T.A. Loving for the North Buffalo Transfer Pump Station project. (Attachment #28 to Council members)
29. Resolution approving bid in the amount of \$397,837 and authorizing Contract No. 2008-024 with Brooks General Contractors for the Greensboro Historical Museum wood trim replacement project. (Attachment #29 to Council members)
30. Resolution approving sale in the amount of \$13,500 of 296 linear feet of 12" water main on West Market Street to the City of Winston-Salem. (Attachment #30 to Council members)
31. Resolution listing loans and grants for City Council approval. (Attachment #31 to Council members)
32. Ordinance amending in the amount of \$30,000 State, Federal and Other Grants Fund Budget for Parks and Recreation Fit Community Grant. (Attachment #32 to Council members)
33. Ordinance amending in the amount of \$251,571 State, Federal and Other Grants Fund Budget for the appropriation of Department of Homeland Security Grant Funds for Administration of the Regional Response Team. (Attachment #33 to Council members)

CONSENT AGENDA ITEMS: (cont.)

34. Resolution establishing acceptance of contract award for Regional Response Team duties from N.C. Department of Crime Control and Public Safety. (Attachment #34 to Council members)
35. Resolution calling a public hearing for June 3, 2008 on the annexation of territory to the corporate limits located at 5205 Summit Avenue and 3901 Hicone Road – 18.57 acres. (Attachment #35 to Council members)
36. Ordinance amending in the amount of \$800,000 the Greensboro Transit Authority Budget for FY 2007-2008. (Attachment #36 to Council members)
37. Resolution approving Capital Fund expenditures from a portion of the seventy percent (70%) net proceeds of the Occupancy Tax received by the Greensboro/Guilford County Tourism Development Authority from the original Guilford County three percent (3%) Room Occupancy Tax for the expansion of the Coliseum and debt reduction. (Attachment #37 to Council members)
38. Ordinance amending in the amount of \$50,000 Special Tax Districts Fund Budget for the appropriation of funds for Downtown Cultural Arts District Study. (Attachment #38 to Council members)
39. Motion to approve report of budget adjustments for April 1-30, 2008. (Attachment #39 to Council members)
40. Motion to approve minutes of regular meeting of May 6, 2008 and recessed meeting of May 7, 2008.
41. Motion to make a part of the official record the listing of contracts that are currently eligible for destruction as per the City Clerk's Office. (Attachment #41 to Council members)

BUSINESS ITEMS:

42. Technical correction to Ordinance #08-21 rezoning property located at the southwest corner of New Garden Road and Garden Lake Drive from RS-15 to CD-GO-M. (roll call vote) (Attachment #42 to Council members)
43. Resolution approving bid in the amount of \$5,606,155 and authorizing Contract No. 2007-047 with Starr Electric Company, Inc. for the Lake Townsend Water Treatment Plant major electrical improvements project. (roll call vote) (Attachment #43 to Council members)
44. Resolution certifying that the operation of a Municipal Solid Waste Landfill Unit in the Phase III area of the White Street Landfill is consistent with existing land use/zoning requirements. (roll call vote) (Attachment #44 to Council members)
45. Resolution authorizing the submission of a re-permitting application for the continued operation of a Construction and Demolition Landfill Unit in the Phase II area of the White Street Landfill and certification that such operation is consistent with existing land use/zoning requirements. (roll call vote) (Attachment #45 to Council members)

BUSINESS ITEMS: (cont.)

46. Resolution authorizing Municipal/Traffic Agreement with NCDOT for design and construction of the Greensboro Traffic Signal System Rehabilitation/Replacement project. (roll call vote) (Attachment #46 to Council members)
47. Consideration of a request to support the Greensboro Bicentennial. (roll call vote) (Attachment #47 to Council members)
48. Addendum
49. Speakers from the Floor (Each speaker will be allowed a maximum of three minutes on non-agenda items if time permits)
50. Matters to be discussed by the Mayor and Members of the Council (if time permits)
 - Boards and Commissions Appointments
51. Matters to be presented by the City Manager (if time permits)
 - Report of results of the hiring freeze
 - Crime statistics report

Attachments for Council's Information:

Report of Disbursements

INFORMATION FOR THE PUBLIC

- At hearings involving rezoning applications, proponents and opponents shall be provided a total of twenty (20) minutes notwithstanding the number of persons desiring to be heard. Proponents shall be heard first followed by comments from opponents. Each side may speak a total of five (5) minutes rebuttal.
- Speakers who wish to speak to other agenda items will be allowed a maximum of five (5) minutes.
- A closed session may be held at this meeting.
- The Council will consider all public hearing and business items listed on the agenda. If the meeting continues to 11:00 p.m., Council will adjourn the meeting after all agenda items have been considered; speakers from the floor and Council comments at the end of the meeting will not be heard.
- Prior to the date of the meeting, contact Channel 13 at 333-6922 if you have electronic presentations.
- Any individual with a disability who needs an interpreter or other auxiliary aids or services for this meeting may contact Juanita Cooper at 373-2397 or 333-6930 (TDD).
- Citizens attending public meetings of the Greensboro City Council will be provided free parking after 5:00 p.m. in the public lot located at Washington/Eugene Streets, Governmental Center, Greensboro, NC.
- The next regular City Council meeting will be held on June 3, 2008 at 5:30 p.m. in the Council Chamber of the Melvin Municipal Office Building.



City of Greensboro
City Council
Agenda Item

TITLE: White Street Landfill Zoning Consistency for the Construction and Demolition Unit

Department: Environmental Services	Current Date: May 2, 2008
Contact 1: Jeryl W. Covington	Public Hearing: NA
Phone: 373-2787	Advertising Date: NA
Contact 2: Greg Thomasson	Advertised By: NA
Phone: 373-4107	Authorized Signature: <i>Jeryl W. Covington</i>
Attachments: Resolution	

PURPOSE:

The purpose of this resolution is to authorize the re-permitting of the Phase II construction and demolition landfill per newly adopted rules and to confirm that such operation is consistent with existing land use/zoning requirements.

BACKGROUND:

The North Carolina Department of Environment and Natural Resources-Division of Waste Management has adopted new construction and demolition (C&D) landfill rules which will continue the authorization of C&D waste placement on top of closed municipal solid waste landfill units. The City of Greensboro is currently permitted to dispose C&D waste in this manner as authorized by permit number 41-03.

Per new construction and demolition rules, 15A NCAC 13B .0547(4)(a), owners and operators of existing C&D landfill units on top of closed municipal solid waste landfill must submit a permit application by July 1, 2008 for the continued operations of those units. The permit application must contain local government approval in accordance with Rule .0536(c)(11) which states that "if the permit applicant is a unit of local government in which jurisdiction the proposed construction and demolition landfill site is located, the approval of the governing board shall be required. Approval may be in the form of either a resolution or a vote on a motion. A copy of the resolution or the minutes of the meeting where the vote was taken must be submitted to the Division as part of the site study." "A letter from the unit of local government(s) having zoning jurisdiction over the site which states that the proposal meets all the requirements of the local zoning ordinance, or that the site is not zoned, must be submitted to the Division as part of the site study."

The White Street landfill is zoned Conditional District- Heavy Industrial. Operation of the landfill is consistent with this zoning.

BUDGET IMPACT:

Adoption of the land use/zoning consistency determination resolution will result in no budget impact.

Agenda Item: 45

RECOMMENDATION / ACTION REQUESTED:

The Environmental Service Department is recommending City Council's adoption of the land use/zoning consistency determination resolution for inclusion with the permit documentation.

RESOLUTION AUTHORIZING THE SUBMISSION OF A RE-PERMITTING APPLICATION FOR THE CONTINUED OPERATION OF A CONSTRUCTION AND DEMOLITION LANDFILL UNIT IN THE PHASE II AREA OF THE WHITE STREET LANDFILL AND CERTIFICATION THAT SUCH OPERATION IS CONSISTENT WITH EXISTING LAND USE/ZONING REQUIREMENTS

WHEREAS, the North Carolina Department of Environment and Natural Resources – Division of Waste Management has adopted new construction and demolition landfill rules which will continue the authorization of construction and demolition waste placement on top of closed municipal solid waste landfill units;

WHEREAS, the City of Greensboro is currently permitted by the North Carolina Department of Environment and Natural Resources – Division of Waste Management to dispose construction and demolition waste in the Phase II area of the White Street Landfill as authorized by permit number 41-03;

WHEREAS, in accordance with the new construction and demolition rules, 15A NCAC 13B .0547(4)(a), owners and operators of existing C&D landfill units on top of closed municipal solid waste landfill must submit a permit application by July 1, 2008 for the continued operations of those units. The permit application must contain local government approval in accordance with Rule .0536(c)(11) which states that “if the permit applicant is a unit of local government in which jurisdiction the proposed construction and demolition landfill site is located, the approval of the governing board shall be required;” and

WHEREAS, it is deemed in the best interest of the City to authorize the submission of a re-permitting application for the continued operation of a construction and demolition landfill unit in the Phase II area of the White Street Landfill and certification that such operation is consistent with existing land use/zoning requirements.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF GREENSBORO:

That the City of Greensboro is hereby authorized to submit a re-permitting application to the North Carolina Department of Environment and Natural Resources – Division of Waste Management for the continued operation of a construction and demolition landfill unit in the Phase II area of the White Street Landfill. Moreover, the Council of the City of Greensboro hereby certifies that the operation of the Phase II area of the White Street Landfill as a construction and demolition landfill unit is consistent with the land use/ zoning requirements of the Conditional District - Heavy Industrial (CD-HI) zoning district.

CITY COUNCIL MEETING SUMMARY

COUNCIL MEETING DATE: Tuesday, May 20, 2008 at 5:30 pm

Date Prepared: Wednesday, May 21, 2008

Prepared By: Diana Schreiber, Assistant Clerk

Please send Staff responses to Tom Murphy In the CMO

AGENDA ITEMS:

- All agenda items were adopted with the following exceptions:
 - Items 14 & 43 were amended and adopted.

OTHER COUNCIL ACTION:

- Took action with respect to boards and commissions.
- Discussed items and events of interest.

ITEMS FOR STAFF FOLLOW-UP:

- Manager proposed to add monthly Tuesday evening briefing sessions; on the second Tuesday, beginning at 4:30 pm. Further discussion to be held.
- Follow-up from Andy Scott wanted regarding \$100,000 reduction in CRB and its affect on homelessness.
- Planning was requested to enhance the visibility of zoning signage.
- J. Covington was requested to keep Council updated on dates/times of community meetings relevant to the White Street Landfill
- Council member Perkins voiced interest in supporting the Revolution Mill Project to add public egress points and to consider support for possible expansion.
- Council member Wells asked Council to consider allowing re-districted voters to maintain contact with their current representatives until the election of 2009; further discussion will be held by full Council.
- Council member Barber requested Planning to review ordinance setbacks for sidewalk tables & chairs to ensure that setbacks coincide with businesses' hours.
- Council member Barber requested staff to investigate partnering with Guilford County Sheriff's Department to provide police coverage of annexed areas.
- Council member Matheny reiterated an earlier request for a proposal from Legal & Planning with regard to the processing of uncontested Comp Plan amendments and rezonings.
- Council encouraged to propose ways to shorten the duration of Council meetings.
- Council adopted a motion to provide additional financial support of the Greensboro Bicentennial.

153-08

RESOLUTION AUTHORIZING THE SUBMISSION OF A RE-PERMITTING APPLICATION FOR THE CONTINUED OPERATION OF A CONSTRUCTION AND DEMOLITION LANDFILL UNIT IN THE PHASE II AREA OF THE WHITE STREET LANDFILL AND CERTIFICATION THAT SUCH OPERATION IS CONSISTENT WITH EXISTING LAND USE/ZONING REQUIREMENTS

WHEREAS, the North Carolina Department of Environment and Natural Resources – Division of Waste Management has adopted new construction and demolition landfill rules which will continue the authorization of construction and demolition waste placement on top of closed municipal solid waste landfill units;

WHEREAS, the City of Greensboro is currently permitted by the North Carolina Department of Environment and Natural Resources – Division of Waste Management to dispose construction and demolition waste in the Phase II area of the White Street Landfill as authorized by permit number 41-03;

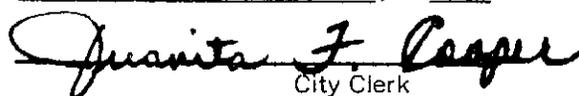
WHEREAS, in accordance with the new construction and demolition rules, 15A NCAC 13B .0547(4)(a), owners and operators of existing C&D landfill units on top of closed municipal solid waste landfill must submit a permit application by July 1, 2008 for the continued operations of those units. The permit application must contain local government approval in accordance with Rule .0536(c)(11) which states that "if the permit applicant is a unit of local government in which jurisdiction the proposed construction and demolition landfill site is located, the approval of the governing board shall be required;"

WHEREAS, it is deemed in the best interest of the City to authorize the submission of a re-permitting application for the continued operation of a construction and demolition landfill unit in the Phase II area of the White Street Landfill and certification that such operation is consistent with existing land use/zoning requirements.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF GREENSBORO:

That the City of Greensboro is hereby authorized to submit a re-permitting application to the North Carolina Department of Environment and Natural Resources – Division of Waste Management for the continued operation of a construction and demolition landfill unit in the Phase II area of the White Street Landfill. Moreover, the Council of the City of Greensboro hereby certifies that the operation of the Phase II area of the White Street Landfill as a construction and demolition landfill unit is consistent with the land use/ zoning requirements of the Conditional District - Heavy Industrial (CD-HI) zoning district.

The foregoing resolution was adopted
by the City Council of the City of
Greensboro, NC on

5-20, 2008

City Clerk

Public Meeting Notification
Legal Advertisement

News & Record

Published by
News & Record, Inc.
Greensboro, North Carolina

AFFIDAVIT OF PUBLICATION

North Carolina, Guilford County

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified and authorized by law to administer oaths, personally appeared the Publisher's Representative who being first duly sworn, deposed and says:

1. That he/she is the Publisher's Representative of the Greensboro News & Record, Inc. a corporation, engaged in the publication of newspapers known as "News & Record", published, issued and entered as second class mail in the City of Greensboro in said County and State.
2. That he/she is authorized to make this affidavit and sworn statement; that the notice or other legal advertisement, a copy of which is attached hereto, was published in the News & Record on the dates listed below.
3. That the said newspaper (or newspapers) in which such notice, paper, document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all of the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

Publisher's Representative Valerie McNeil

Sworn to and subscribed before me, this 8th day of May, 2008.

Valerie McNeil
Notary Public

My commission expires: August 23, 2010

 NOTARY PUBLIC
 VALERIE McNEIL
 GUILFORD COUNTY, NC
 My Commission Expires August 23, 2010

<u>Name</u>	<u>Ad #</u>	<u>Date</u>	<u>Edition</u>	<u>Class</u>	<u>PO</u>	<u>Ad Copy</u>
CITY OF GSO ENVIRONMENTAL	30920899	05/08/08	News & Record	400	DISPOSAL PER	Public Meeting to Discuss the Renewal of

**Public Meeting to
Discuss the Renewal of
the Construction and
Demolition Disposal
Permit at the
White Street Municipal
Solid Waste Landfill**

**City of Greensboro -
Environmental Services
Department
P.O. Box 3136
Greensboro,
North Carolina
27402-3136**

The City of Greensboro currently operates a construction and demolition disposal unit on top of the closed Phase II sanitary landfill. The construction and demolition landfill's operating permit (permit no. 41-03) is scheduled to expire on July 1, 2008 and the City is submitting an application to renew this permit. The construction and demolition landfill has remaining capacity of approximately 750,000 cubic yards.

Per the North Carolina Administrative Code, Title 15A Subchapter 13B .0536(c) (11), the City of Greensboro's Environmental Services Department is holding a public meeting to discuss the renewal of this permit.

The public meeting will be held on June 9, 2008 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The construction and demolition permit is available for review at the following locations during normal business hours:

**City of Greensboro
Central Library
219 North Church Street**

**McGirt-Horton
Branch Library
2509 Phillips Avenue**

Public Meeting Notification
Press Release



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: ABC

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-723-8217

Pages: 4 (including cover sheet)

Phone: 336-722-4545

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice – June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 11:18

ID=GSD WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
05/08	11:17	00'40"	3367238217	TX	04	OK 0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: Curtis Media

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 517-2448

Pages: 4 (including cover sheet)

Phone:

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice – June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 11:12

ID=GSD WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
05/08	11:11	00'36"	336 517 2448	TX	04	OK	0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: News & Record

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 373-7382

Pages: 4 (including cover sheet)

Phone: 336- 373-7000

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice – June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 11:10
ID=GSD WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
05/08	11:09	00'42"	336+373+7382	TX	04	OK	0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: News 14

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 856-9499

Pages: 4 (including cover sheet)

Phone: 336- 856-9497

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice – June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 11:08

ID=GSO WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
05/08	11:07	00'56"	3368569499	TX	04	OK	0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WFMY TV2 Assignment Desk

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-230-0971

Pages: 4 (including cover sheet)

Phone: 336-379-9369

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice -- June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 11:05
ID=GSO WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
05/08	11:05	00'36"	WFMY NEWSROOM	TX	04	OK	0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WGHP Fox News

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-841-5169

Pages: 4 (including cover sheet)

Phone: 336-275-1850

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice -- June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 10:59
ID=650 WASTE DISPOSALL

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
05/08	10:56	01'06"	336 841 5169	TX	04	OK 0000



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WXII 12

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 721-0856

Pages: 4 (including cover sheet)

Phone:

Date: 5/8/2008

Re: News Release

CC:

Public Meeting Notice – June 9, 2008

MESSAGE CONFIRMATION

05/08/2008 10:54
ID=GSO WASTE DISPOSALL

DATE	TIME	S.R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
05/08	10:54	00'34"	336 721 0856	TX	04	OK 0000

Public Meeting to Discuss the Renewal of the Construction and Demolition Disposal Permit at the White Street Municipal Solid Waste Landfill

**City of Greensboro- Environmental Services Department
P.O. Box 3136
Greensboro, North Carolina 27402-3136**

The City of Greensboro currently operates a construction and demolition disposal unit on top of the closed Phase II sanitary landfill. The construction and demolition landfill's operating permit (permit no. 41-03) is scheduled to expire on July 1, 2008 and the City is submitting an application to renew this permit. The construction and demolition landfill has remaining capacity of approximately 750,000 cubic yards.

Per the North Carolina Administrative Code, Title 15A Subchapter 13B .0536(c) (11), the City of Greensboro's Environmental Services Department is holding a public meeting to discuss the renewal of this permit.

The public meeting will be held on June 9, 2008 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The construction and demolition permit is available for review at the following locations during normal business hours:

**City of Greensboro Central Library
219 North Church Street**

**McGirt-Horton Branch Library
2509 Phillips Avenue**

**Public Meeting to Review Groundwater Corrective Measures
for the White Street Municipal Solid Waste Landfill**

**City of Greensboro- Environmental Services Department
P.O. Box 3136
Greensboro, North Carolina 27402-3136**

In accordance with Title 15A NCAC 13B .1635(d), the City of Greensboro- Environmental Services Department is holding a public meeting to discuss the implementation of phytoremediation as an additional corrective measure related to impacted groundwater associated with the formerly operated Phase II municipal solid waste landfill. The former Phase II landfill operated from 1978 to 1997. Phase II is within the White Street Landfill which is located at 2503 White Street.

After the public meeting, the City of Greensboro will select a remedy(ies) in accordance with the requirements of 15A NCAC 13B .1636 and submit the corrective measure(s) in a Corrective Action Plan for approval by the Solid Waste Section of the NC Department of Environment and Natural Resources.

The public meeting will be held on June 9, 2008 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The groundwater studies are available for public inspection at the following locations during normal business hours:

**City of Greensboro Central Library
219 North Church Street**

**McGirt-Horton Branch Library
2509 Phillips Avenue**

Public Meeting to Discuss the Phase III Permit Modification for the White Street Municipal Solid Waste Landfill

**City of Greensboro- Environmental Services Department
P.O. Box 3136
Greensboro, North Carolina 27402-3136**

The City of Greensboro currently maintains a municipal solid waste Subtitle D landfill permit (Permit No. 41-12) at the White Street Landfill. A permit modification is being submitted to the North Carolina Department of Environment and Natural Resources – Division of Waste Management in order to modify the previously permitted side slopes. The proposed amendment will re-configure the side slopes from 25% (4 horizontal to 1 vertical) to 33% (3 horizontal to 1 vertical); thus, increasing the disposal capacity. The current permit anticipates that the total municipal solid waste disposal capacity of Phase III is 5,645,000 cubic yards. The proposed modification increases the disposal capacity to approximately 6,669,000 cubic yards. The elevation of the disposal unit will not increase but will be maintained at an elevation of 920 feet.

Per the North Carolina General Statute, Chapter 130A-294(b1), the City of Greensboro's Environmental Services Department is holding a public meeting to discuss the permit modification. The public meeting will be held on June 9, 2008 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The permit modification for the Phase III municipal solid waste landfill is available for review at the following locations during normal business hours:

**City of Greensboro Central Library
219 North Church Street**

**McGirt-Horton Branch Library
2509 Phillips Avenue**

**Public Meeting
Property Owner Notification**

SENDER: COMPLETE THIS SECTION

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- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Ms. Wanda C. Ball
 & Woodrow F. Childress, Jr.
 1007 Eagle Rd.
 Greensboro, NC 27407

2. Article Number
 (Transfer from service label) 7004 1160 0000 9685 9134
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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A. Signature Agent
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 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below No



3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

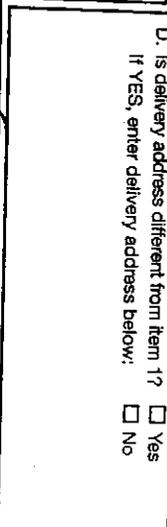
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Mr. and Mrs. Glenn H. and Carey A. Campbell
 2219 McKnight Mill Rd.
 Greensboro, NC 27405

2. Article Number
 (Transfer from service label) 7004 1160 0000 9685 9165
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 B. Received by (Printed Name) Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No



3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Sent To: Ms. Wanda C. Ball
 & Woodrow F. Childress, Jr.
 Street or P.O. #: 1007 Eagle Rd.
 City: Greensboro, NC 27407



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Sent To: Mr. and Mrs. Glenn H. and Carey A. Campbell
 Street or P.O. #: 2219 McKnight Mill Rd.
 City: Greensboro, NC 27405



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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Ms. Alice M. Cook
Gertrude C Pegram Heirs & Geneva
Cook Jessup
6182 Thacker Dairy Rd.
Whitsett, NC 27377

2. Article Number
 (Transfer from service label) **7004 1160 0000 9685 9196**
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
Charlotte M. Egleman Addressee
 B. Received by (Printed Name) Addressee
Charlotte M. Egleman Addressee
 C. Date of Delivery
5/17/05
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Mr. David E. Dick
1477 Rankin Mill Rd.
McLeansville, NC 27301

2. Article Number
 (Transfer from service label) **7004 1160 0000 9685 9219**
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
Ellen Dick Addressee
 B. Received by (Printed Name) Addressee
Ellen Dick Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

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Portage	\$
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

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1. Article Addressed to:
Ms. Alice M. Cook
Gertrude C Pegram Heirs & Geneva
Cook Jessup
6182 Thacker Dairy Rd.
Whitsett, NC 27377

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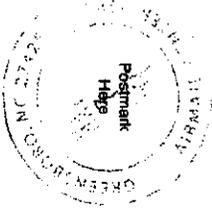
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

1. Article Addressed to:
Mr. David E. Dick
1477 Rankin Mill Rd.
McLeansville, NC 27301

7004 1160 0000 9685 9196

7004 1160 0000 9685 9219



SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Ms. Vivian E. King Carter
 Maxwell Harvey T. Heirs
 25 Woodbine Ave.
 Newark, NJ 71060

2. Article Number
 (Transfer from service label)
 PS Form 3811, February 2004

7004 1160 0000 9685 9295

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
X Vivian E. Carter Addressee
 B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

7004 1160 0000 9685 9295

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Louise M. Donnell
 1711 Huffine Mill Rd.
 Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature

Louise M. Donnell Agent
 B. Received by (Printed Name) Addressee
Louise Donnell C. Date of Delivery
2/11/04

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number
 (Transfer from service label)
 PS Form 3811, February 2004

7004 1160 0000 9685 9226

Domestic Return Receipt

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 Restricted Delivery Fee (Endorsement Required)

Total Postage & Fees \$

Ms. Vivian E. King Carter
 Maxwell Harvey T. Heirs
 25 Woodbine Ave.
 Newark, NJ 71060

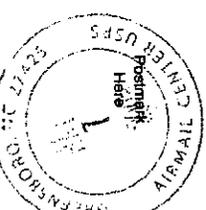


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 Restricted Delivery Fee (Endorsement Required)



Sent To: Ms. Louise M. Donnell
 Street: 1711 Huffine Mill Rd.
 or PO B Greensboro, NC 27405
 City, St:

PS Form 3811, February 2004

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Jacqueline N. Ferguson
1320 Nealtown Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
 X *Jacqueline N. Ferguson* Addressee
 B. Received by (Printed Name) C. Date of Delivery
5/8/08
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

Jacqueline N. Ferguson

3. Service Type

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9233

(Transfer from service label)
PS Form 3811, February 2004

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102595-02-M-1540

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. John A and Edna M
Ferguson
16420 Joy St.
Laurinburg, NC 28352

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
 X *Edna M. Ferguson* Addressee
 B. Received by (Printed Name) C. Date of Delivery
Edna M. Ferguson 5/8/08
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

Edna M. Ferguson

3. Service Type

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9240

(Transfer from service label)
PS Form 3811, February 2004

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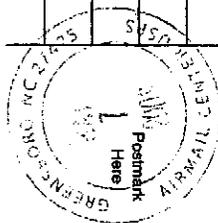
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Sent by air or by air City, State, ZIP+4®
 Ms. Jacqueline N. Ferguson
1320 Nealtown Rd.
Greensboro, NC 27405

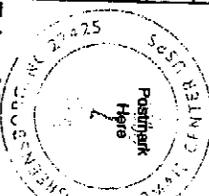
PS Form 3811, February 2004 Instructions

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Sent by air or by air City, State, ZIP+4®
 Mr. and Mrs. John A and Edna M
Ferguson
16420 Joy St.
Laurinburg, NC 28352

PS Form 3811, February 2004 Instructions

SENDER: COMPLETE THIS SECTION

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- Print your name and address on the reverse so that we can return the card to you.
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1. Article Addressed to:

Resident or Ferguson
1216 Nealtown Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
Bossie Gatson Addressee
- B. Received by (Printed Name) Date of Delivery
Teresa Austin *5-8-05*
- D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.
4. Restricted Delivery? (Extra Fee) Yes

2. Article Number **7004 1160 0000 9685 9394**
 (Transfer from service label)

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. Bossie and Josie W.
Gatson, Jr.
1403 Dans Rd.
Greensboro, NC 27401

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
Bossie Gatson Addressee
- B. Received by (Printed Name) Date of Delivery
- D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.
4. Restricted Delivery? (Extra Fee) Yes

2. Article Number **7004 1160 0000 9685 9257**
 (Transfer from service label)

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GREENSBORO, NC 27405

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Return Receipt Fee (Endorsement Required) \$ _____

Restricted Delivery Fee (Endorsement Required) \$ _____

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GREENSBORO, NC 27405

7004 1160 0000 9685 9257

PS Form 3811, February 2004

Mr. and Mrs. Bossie and Josie W.
Gatson, Jr.
1403 Dans Rd.
Greensboro, NC 27401

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. Kevin G. and Anita R. Harris
1232 Drivers Cir
Rocky Mount, NC 27804

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 B. Received by (Printed Name) Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9264
 (Transfer from service label)
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Hines Chapel Baptist Church
3228 Hines Chapel Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 B. Received by (Printed Name) Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9127
 (Transfer from service label)
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7004 1160 0000 9685 9264

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 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)
 Total Postage & Fees \$

Mr. and Mrs. Kevin G. and Anita R. Harris
1232 Drivers Cir
Rocky Mount, NC 27804

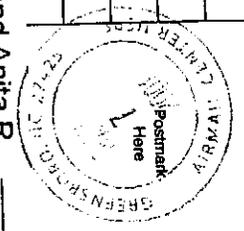
7004 1160 0000 9685 9127

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 Certified Fee
 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)
 Total Postage & Fees \$

Hines Chapel Baptist Church
3228 Hines Chapel Rd.
Greensboro, NC 27405



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Resident or Hines Chapel Baptist Church
 3232 Hines Chapel Rd.
 Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent Addressee
- B. Received by (Printed Name) Addressee
- C. Date of Delivery
- D. Is delivery address different from item 1? Yes No
- If YES, enter delivery address below:

William Davis
 MAY 09 2008
 3232 Hines Chapel Rd

- 3. Service Type Certified Mail Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D.
- 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label) 7004 1160 0000 9685 9448
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Holy Temple United Holy Church of Greensboro
 1907 Huffine Mill Rd.
 Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent Addressee
- B. Received by (Printed Name) Addressee
- C. Date of Delivery
- D. Is delivery address different from item 1? Yes No
- If YES, enter delivery address below:

William Davis
 MAY 09 2008
 1907 Huffine Mill Rd

- 3. Service Type Certified Mail Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D.
- 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number (Transfer from service label) 7004 1160 0000 9685 9103

PS Form 3811, February 2004 Domestic Return Receipt

7004 1160 0000 9685 9448

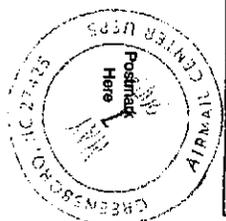
U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only. No Insurance Coverage Provided)

OFFICIAL USE

Postage \$
 Certified Fee
 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)

Total Postage & Extra

Resident or Hines Chapel Baptist Church
 3232 Hines Chapel Rd.
 Greensboro, NC 27405



7004 1160 0000 9685 9103

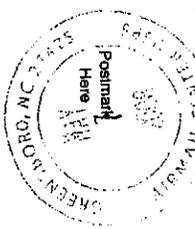
U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only. No Insurance Coverage Provided)

OFFICIAL USE

Postage \$
 Certified Fee
 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)

Total Postage & Extra

Holy Temple United Holy Church of Greensboro
 1907 Huffine Mill Rd.
 Greensboro, NC 27405



PS

Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ruby Brown Kernodle
4029-A Hicone Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
x Ruby Kernodle Addressee

B. Received by (Printed Name) Agent
Chloee W30 Addressee
 Date of Delivery *5/8/08*

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9288
 (Transfer from service label)
 PS Form 3811, February 2004 Domestic Return Receipt

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece or on the front if space permits.

1. Article Addressed to:

Resident or Kernodle
1245 Rankin Mill Rd.

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

B. Received by (Printed Name) Agent
Chloee W30 Addressee
 Date of Delivery *5/8/08*

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes

7004 1160 0000 9685 9455

PS Form 3811, August 2001

Domestic Return Receipt

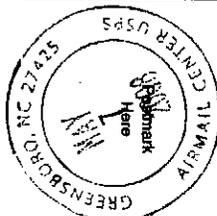
102595-02-M-1540

**U.S. Postal Service™
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For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent **Ms. Ruby Brown Kernodle**
 State **4029-A Hicone Rd.**
 or P.O. **Greensboro, NC 27405**
 City

PS F

Instructions

7004 1160 0000 9685 9288

**U.S. Postal Service™
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(Domestic Mail Only; No Insurance Coverage Provided)**

For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent **Resident or Kernodle**
 State **1245 Rankin Mill Rd.**
 or P.O. **Greensboro, NC 27405**
 City

or Instructions

7004 1160 0000 9685 9455

**McLEANSVILLE, NC
27301**

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Ralph Johnson
c/o Concerned Citizens of Northeast
Greensboro
2402 Bothwell St.
Greensboro, NC 27401

2. Article Number
(Transfer from service label) **7004 1160 0000 9685 9271**
PS Form 3811, February 2004 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature X Agent
 B. Received by (Printed Name) Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

Signature: Robert L. Neal
Received by: Robert L. Neal
 MAY 15 2004

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. Robert L. and Lottie M. Neal
1202 Nealtown Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature X Agent
 B. Received by (Printed Name) Addressee
 C. Date of Delivery
 D. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

Signature: Robert L. Neal
Received by: Robert L. Neal

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number
(Transfer from service label) **7004 1160 0000 9685 931A**

PS Form 3811, February 2004 Domestic Return Receipt

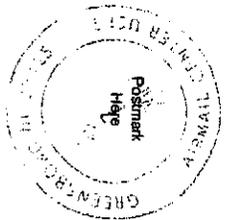
**U.S. Postal Service™
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(Domestic Mail Only. No Insurance Coverage Provided)**

For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage \$
 Certified Fee
 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)

To: Mr. Ralph Johnson
c/o Concerned Citizens of Northeast
Greensboro
2402 Bothwell St.
Greensboro, NC 27401



PS Form 3811, February 2004 Instructions

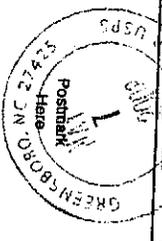
**U.S. Postal Service™
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For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage \$
 Certified Fee
 Return Receipt Fee (Endorsement Required)
 Restricted Delivery Fee (Endorsement Required)

To: Mr. and Mrs. Robert L. and Lottie M. Neal
1202 Nealtown Rd.
Greensboro, NC 27405



PS Form 3811, February 2004 Instructions

7004 1160 0000 9685 931A

7004 1160 0000 9685 9271

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. James T. and Linda H. Plummer
2307 White Elder Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
James T. Plummer Addressee
 B. Received by (Printed Name) _____
 C. Date of Delivery 5-10-08
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

- Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number 7004 1160 0000 9685 9325
 (Transfer from service label)
 PS Form 3811, February 2004 Domestic Return Receipt

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also, complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Resident or Plummer
2300 White Elder Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

- A. Signature Agent
James T. Plummer Addressee
 B. Received by (Printed Name) _____
 C. Date of Delivery 5-10-08
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

2. Article Number

7004 1160 0000 9685 9479

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

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Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Mr. and Mrs. James T. and Linda H. Plummer
2307 White Elder Rd.
Greensboro, NC 27405

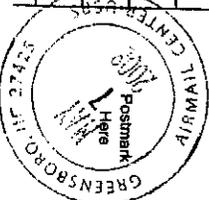


**U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only. No Insurance Coverage Provided)**

For delivery information visit our website at www.usps.com

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Resident or Plummer
2300 White Elder Rd.
Greensboro, NC 27405



See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Resident
3242 Hines Chapel Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature *[Signature]* Agent Addressee
 B. Received by (Printed Name) *[Signature]* Date of Delivery *[Signature]*
 C. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below: Yes No

3. Services Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail C.O.D.
- 4. Restricted Delivery? (Extra Fee) Yes No

2. Article Number **7004 1160 0000 9685 9332**
 (Transfer from service label)
 PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece or on the front if space permits.

1. Article Addressed to:

Mr. David Scales
1212 Nealtown Rd.
Greensboro, NC 27405

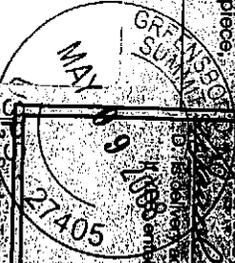
COMPLETE THIS SECTION ON DELIVERY

A. Signature *[Signature]* Agent Addressee
 B. Received by (Printed Name) *[Signature]* Date of Delivery *[Signature]*
 C. Is delivery address different from item 1? Yes No
 If YES, enter delivery address below: Yes No

3. Service Type

- Certified Mail Express Mail
- Registered Return Receipt for Merchandise
- Insured Mail G.O.D.
- 4. Restricted Delivery? (Extra Fee) Yes No

2. Article Number **7004 1160 0000 9685 9516**
 (Transfer from service label)
 PS Form 3811, August 2001 Domestic Return Receipt 102-M-15-50

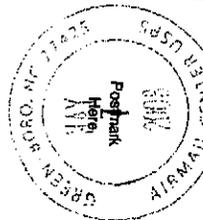


**U.S. Postal Service™
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For delivery information visit our website at www.usps.com

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Sent **Resident**
 Street **3242 Hines Chapel Rd.**
 or PO **Greensboro, NC 27405**
 City:



7004 1160 0000 9685 9516

7004 1160 0000 9685 9332

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For delivery information visit our website at www.usps.com

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Sent **Mr. David Scales**
 Street **1212 Nealtown Rd.**
 or PO **Greensboro, NC 27405**
 City:



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2 and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
**Mr. and Mrs. Lloyd Felix and
 Catherine V. Shaw, Jr.
 3256 Hines Chapel Rd.
 Greensboro, NC 27405**

2. Article Number
 (Transfer from meter label)
7004 1160 0000 9685 9523
 PS Form 3811, August 2001

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail Signature Required
 Restricted Delivery Yes No

4. Received by (Printed Name)
BOB V. FELIX

5. Date of Delivery
5/23/08

6. Delivery address different from item 1? Yes No
 If YES, enter delivery address below.

EE: COMPLETE THIS SECTION

1. If Restricted Delivery is desired, complete item 1, 2 and 3. Also complete item 4 if Restricted Delivery is desired. If your name and address on the reverse that we can return the card to you, attach this card to the back of the mailpiece, or on the front if space permits.

2. Article Addressed to:
**Resident or Shaw
 3262 Hines Chapel Rd.
 Greensboro, NC 27405**

COMPLETE THIS SECTION ON DELIVERY

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail Signature Required
 Restricted Delivery Yes No

4. Received by (Printed Name)
BOB V. FELIX

5. Date of Delivery
5/23/08

6. Delivery address different from item 1? Yes No
 If YES, enter delivery address below.

7. Article Number
 (Transfer from meter label)
7004 1160 0000 9685 9493
 PS Form 3811, August 2001

Domestic Return Receipt

U.S. Postal Service™ RECEIPT
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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

1. Article Addressed to:
**Mr. and Mrs. Lloyd Felix and
 Catherine V. Shaw, Jr.
 3256 Hines Chapel Rd.
 Greensboro, NC 27405**

2. Article Number (Transfer from meter label)
7004 1160 0000 9685 9523
 PS Form 3811, August 2001

Domestic Return Receipt

U.S. Postal Service™ RECEIPT
 (Domestic Mail Only. No Insurance Coverage Provided)

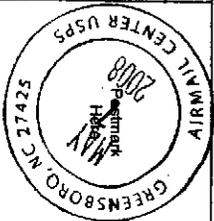
OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

1. Article Addressed to:
**Resident or Shaw
 3262 Hines Chapel Rd.
 Greensboro, NC 27405**

2. Article Number
 (Transfer from meter label)
7004 1160 0000 9685 9493
 PS Form 3811, August 2001

Domestic Return Receipt



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2 and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece or on the front if space permits.

Resident or Shaw
3262-R1 Hines Chapel Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

Received by: Greg Pechter Agent Addressee

C. Date of Delivery: 5-28-08

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

2. Article Number: 7004 1160 0000 9685 9486
(Transfer from previous label)
PS Form 3811, August 2007 Domestic Return Receipt 102506-02-1A-15-00

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2 and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece or on the front if space permits.

Mr. and Mrs. Christopher L and
Greta A. Smith
2820 Brame Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

Received by: Christopher L and Greta A. Smith Agent Addressee

E. Date of Delivery: 5-23-08

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.
 4. Restricted Delivery? (Extra Fee) Yes

2. Article Number: 7004 1160 0000 9685 9530
(Transfer from service label)
PS Form 3811, August 2007 Domestic Return Receipt 102506-02-1A-15-00

7004 1160 0000 9685 9486

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OFFICIAL USE

Postage \$ _____

Certified Fee _____

Return Receipt Fee (Endorsement Required) _____

Restricted Delivery Fee (Endorsement Required) _____

Total Postage & Fees \$ _____

Sent Resident or Shaw
3262-R1 Hines Chapel Rd.
Greensboro, NC 27405

Postmark Here

GREENSBORO, NC 27405

7004 1160 0000 9685 9530

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage \$ _____

Certified Fee _____

Return Receipt Fee (Endorsement Required) _____

Restricted Delivery Fee (Endorsement Required) _____

Total Postage & Fees \$ _____

Sent Mr. and Mrs. Christopher L and Greta A. Smith
2820 Brame Rd.
Greensboro, NC 27405

Postmark Here

GREENSBORO, NC 27405

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Virginia Wade
1206 Nealtown Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Virginia Wade Addressee
 B. Restricted Delivery/Insured Mail Date of Delivery
Virginia Wade 5-8-97
 C. Is delivery address different from item 1? Yes
 No
 D. Is delivery address different from item 1? Yes
 No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Registered Mail
 Restricted Mail Insured Mail Registered Mail
 Restricted Delivery (Extra Fee) Yes

2. Article Number: 7004 1160 0000 9685 9547
 (Transfer only to Service Labels)
 PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature Agent
 Goldie Wells Addressee
 B. Restricted Delivery/Insured Mail Date of Delivery
Goldie Wells 5-8-97
 C. Is delivery address different from item 1? Yes
 No
 D. Is delivery address different from item 1? Yes
 No
 If YES, enter delivery address below:

1. Article Addressed to:
 Councilwoman, Dr. Goldie Wells
4203 Belfield Dr.
Greensboro, NC 27405

Article Number: 7004 1160 0000 9685 9554
 PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

7004 1160 0000 9685 9547

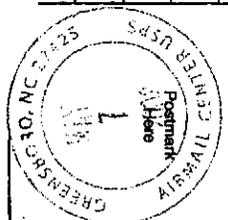
**U.S. Postal Service™
 CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only. No Insurance Coverage Provided)**

OFFICIAL USE

For delivery information visit our website at www.usps.com.

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Ms. Virginia Wade
1206 Nealtown Rd.
Greensboro, NC 27405



7004 1160 0000 9685 9554

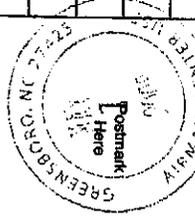
**U.S. Postal Service™
 CERTIFIED MAIL™ RECEIPT
 (Domestic Mail Only. No Insurance Coverage Provided)**

OFFICIAL USE

For delivery information visit our website at www.usps.com.

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Councilwoman, Dr. Goldie Wells
4203 Belfield Dr.
Greensboro, NC 27405



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. and Mrs. Bob W. and Irene S. Wright
3234 Hines Chapel Rd.
Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

Received by (Printed Name) Bob W. Wright
G. Date of Delivery 5-8-04

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
- Certified Mail
 - Registered
 - Insured Mail
 - Restricted Delivery? (Extra Fee)
- Express Mail
 Return Receipt for Merchandise
 C.O.D.
 Yes

2. Article Number 7004 1160 0000 9685 9561

(Transfer from service label)
PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Youth Focus Inc.
301 E Washington St.
Greensboro, NC 27401

COMPLETE THIS SECTION ON DELIVERY

A. Signature [Signature]
B. Received by (Printed Name) [Signature]
C. Date of Delivery 5-8

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
- Certified Mail
 - Registered
 - Insured Mail
 - Restricted Delivery? (Extra Fee)
- Express Mail
 Return Receipt for Merchandise
 C.O.D.
 Yes

2. Article Number 7004 1160 0000 9685 9110

(Transfer from service label)

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

7004 1160 0000 9685 9561

**U.S. Postal Service™
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OFFICIAL USE

For delivery information visit our website at www.usps.com

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

Mr. and Mrs. Bob W. and Irene S. Wright
3234 Hines Chapel Rd.
Greensboro, NC 27405

PS Form 3811, August 2001

Instructions

**U.S. Postal Service™
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Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	

Postmark Here

Youth Focus Inc.
301 E Washington St.
Greensboro, NC 27401

Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Resident or Youth Focus Inc.
 1601 Huffine Mill Rd.
 Greensboro, NC 27405

COMPLETE THIS SECTION ON DELIVERY

Handwritten: 1601 Huffine Mill Rd, Greensboro, NC 27405
 5/18/08

Is delivery address different from item 1? Yes No
 If YES, enter delivery address below:

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail GDS
 Restricted Delivery? (Extra Fee) Yes No

2. Article Number 7004 1160 0000 9685 9509

(Transfer from service label) PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

7004 1160 0000 9685 9509

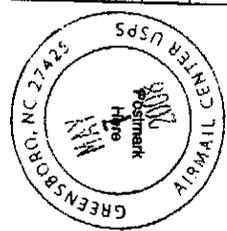
U.S. Postal ServiceTM
CERTIFIED MAILTM RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

For delivery information visit our website at www.usps.com

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Resident or Youth Focus Inc.
 1601 Huffine Mill Rd.
 Greensboro, NC 27405



Instructions

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



7004 1160 0000 9685 9156



Mr. Jimmy C. Bull
Veronica A. Ratliff T/C
1811 Huffine Mill Rd.
Greensboro, NC 27405

8-4
55-133
55-23

NIXIE 274 SE 1 08 03/28/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402319636 *2090-04122-28-20

27405855730208368



1024

U.S. Postal Service
CERTIFIED MAIL - RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Mr. Jimmy C. Bull
Veronica A. Ratliff T/C
1811 Huffine Mill Rd.
Greensboro, NC 27405

7004 1160 0000 9685 9156

GREENSBORO, NC 27402

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



7004 1160 0000 9685 9356



Resident or Campbell
3130 Hines Chapel Rd.
Greensboro, NC 27405

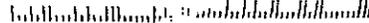
NS-818
A-133

NIXIE 274 SE 1 08 UNCL

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402319636

27405855730208368



1024

U.S. Postal Service
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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Resident or Campbell
3130 Hines Chapel Rd.
Greensboro, NC 27405

7004 1160 0000 9685 9356

GREENSBORO, NC 27402

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL

5/14
Pty



7004 1160 0000 9685 9349



UNITED STATES POSTAGE
02 1A \$05.210
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Resident or Ball
2802 Brame Rd.
Greensboro, NC 27405

NSN

NIXIE 274 3C 1 08 05/13/08

RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD

BC: 27402913836 *2080-10598-13-15

27402913836



U.S. Postal Service
CERTIFIED MAIL RECEIPT
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For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 Resident or Ball
2802 Brame Rd.
Greensboro, NC 27405

PS Instructions

7004 1160 0000 9685 9349



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL



7004 1160 0000 9685 9141



UNITED STATES POSTAGE
02 1A \$05.210
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Ms. Phyllis T. Bradley
1247 Rankin Mill Rd.

McLEANSVILLE, NC
27301

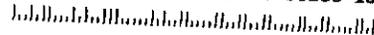
**FORWARD
SCANNED**

*15X
NCL
2/19/08*

NIXIE 274 3C 1 08 05/26/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402913836 *2080-09286-28-20



U.S. Postal Service
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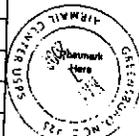
OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 Ms. Phyllis T. Bradley
1247 Rankin Mill Rd.
Greensboro, NC 27405

PS Instructions

7004 1160 0000 9685 9141



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL

RTS
5/16/08



7004 1160 0000 9685 9363



UNITED STATES POSTAGE
02 1A \$05.21⁰
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

NSN RR3
UAA LR3

Resident or Cook
4212 - 4224 Camp Burton Rd.

McLEANSVILLE, NC
2730

NIXIE 274 5C 1 08 05/14/08

RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD

BC: 27402919636 *2080-08351-14-21



1024

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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 1160 0000 9685 9363

RESIDENT OR COOK
4212 - 4224 Camp Burton Rd.
GREENSBORO, NC 27405

PS Form 3800, MAY 2002

CERTIFIED MAIL

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



7004 1160 0000 9685 9200



UNITED STATES POSTAGE
02 1A \$05.21⁰
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

UNCLAIMED

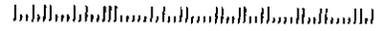
Mr. and Mrs. Mitchell Thomas and
Katherine K. Currie
4034 High Rock Rd.
Gibsonville, NC 27249



NIXIE 274 5E 1 08 05/27/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402919636 *2080-07307-27-23



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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 1160 0000 9685 9202

Mr. and Mrs. Mitchell Thomas and
Katherine K. Currie
4034 High Rock Rd.
Gibsonville, NC 27249

PS Form 3800, MAY 2002

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



7004 1160 0000 9685 9172



UNITED STATES POSTAGE
02 1A \$05.21⁰
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Mr. Donald Jefferson Cates
3238 Hines Chapel Rd.
Greensboro, NC 27405

AK 2-8

NIXIE 274 SE 1 08 05/29/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402313636 *2080-04159-28-20

27402313636



1024

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OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

7004 1160 0000 9685 9172

Mr. Donald Jefferson Cates
3238 Hines Chapel Rd.
Greensboro, NC 27405

PS Form 3800, October 2007



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL



7004 1160 0000 9685 9189



UNITED STATES POSTAGE
02 1A \$05.21⁰
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Mr. Robert C. Christian
1819 Huffine Mill Rd.
Greensboro, NC 27405

*W
4329
66129*

NIXIE 274 SE 1 08 05/29/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402313636 *2080-04162-28-20

27402313636



1024

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OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

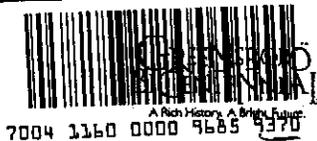
7004 1160 0000 9685 9189

Mr. Robert C. Christian
1819 Huffine Mill Rd.
Greensboro, NC 27405

PS Form 3800, October 2007



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



Resident or Dick
1409 Rankin Mill Rd.
Greensboro, NC 27405

NIXIE 274 3C 1 08 05/10/08
RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD
BC: 27402313636 *2080-01449-10-24
274023136

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Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 1160 0000 9685 9370

Resident or Dick
1409 Rankin Mill Rd.
Greensboro, NC 27405

GREENSBORO, NC 27402
MAY 10 2008

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



Resident or Ferguson
1214 Nealtown Rd.
Greensboro, NC 27405

NIXIE 274 5E 1 08 05/28/08
RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD
BC: 27402313636 *2080-04129-28-20
274023136

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For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

7004 1160 0000 9685 9400

Resident or Ferguson
1214 Nealtown Rd.
Greensboro, NC 27405

GREENSBORO, NC 27402
MAY 28 2008

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



Resident or Currie
3272 Hines Chapel Rd.
Greensboro, NC 27405

NV
8/17/08

NIXIE 274 SE 1 08 05/26/08
RETURN TO SENDER
UNCLASSED
UNABLE TO FORWARD
BC: 27402313636 *2080-04125-20-20
2740539424 274023136

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

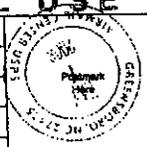
OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total	

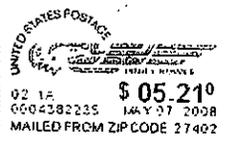
7004 1160 0000 9685 9097

3272 Resident or Currie
3272 Hines Chapel Rd.
Greensboro, NC 27405

PS Form 3800, September 2007



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



~~NV~~
~~SW~~
NMR

Resident or Dick
3200 Hines Chapel Rd.
Greensboro, NC 27405

NIXIE 274 SE 1 08 05/13/08
RETURN TO SENDER
NO MAIL RECEIPTABLE
UNABLE TO FORWARD
BC: 27402313636 *2080-10707-13-16
2740539424 274023136

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	

7004 1160 0000 9685 9887

3 Resident or Dick
3200 Hines Chapel Rd.
Greensboro, NC 27405

PS Form 3800, September 2007



CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL



7004 1160 0000 9685 1117

UNITED STATES POSTAGE
02 1A \$05.21⁰
9004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Resident or Gatson
4208 - 1210 Nealtown Rd.
Greensboro, NC 27405

5-8-8
5-13-3
5-23

NIXIE 274 5C 1 08 03/28/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402313636 *2080-04165-28-20

27402313636



1024

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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For delivery information visit our website at www.usps.com

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

7004 1160 0000 9685 9437

Resident or Gatson
1208 - 1210 Nealtown Rd.
Greensboro, NC 27405

Instructions

CERTIFIED MAIL

CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136



7004 1160 0000 9685 9424

UNITED STATES POSTAGE
02 1A \$05.21⁰
9004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Resident or Harris
1210 Nealtown Rd.
Greensboro, NC 27405

5-8-8
5-13-3
5-23

NIXIE 274 5E 1 08 03/28/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

BC: 27402313636 *2080-04165-28-20

27402313636



1024

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OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark Here

7004 1160 0000 9685 9424

Resident or Harris
1210 Nealtown Rd.
Greensboro, NC 27405

Instructions

NIL ee 5/8
CITY OF GREENSBORO
P.O. BOX 3136
GREENSBORO, NC 27402-3136

CERTIFIED MAIL



7004 1160 0000 9685 9301



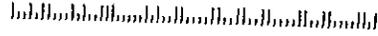
UNITED STATES POSTAGE
02 1A \$05.21⁰
0004382235 MAY 07 2008
MAILED FROM ZIP CODE 27402

Mr. Daniel Kenneth Neal
3106 Spring Mill Rd.
Greensboro, NC 27406

NIXIE 274 SE 1 06 06/07/08

RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

RC: 27402313636 *2080-02041-07-17



2740635422 0013
274023136

1024

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CERTIFIED MAIL - RECEIPT
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For delivery information visit our website at www.usps.com.

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Mr. Daniel Kenneth Neal
3106 Spring Mill Rd.
Greensboro, NC 27406

PS1

7004 1160 0000 9685 9301

**June 9, 2008 Public Meeting
Attendees List**

Public Meeting
City of Greensboro - White Street Landfill
North Carolina Department of Environment and Natural Resources
Division of Waste Management
June 9, 2008
Peeler Recreation Center

Name	Lothie Neal		Do you want a copy
Address	1202 Newton Bl.		of the presentation?
City	Greensboro	State NC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Zip Code	27405	

Name	Marikay Bruzgiter		Do you want a copy
Address	40 2301 Randleman Rd		of the presentation?
City	650	State NC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Zip Code	27406	

Name	Ralph Johnson		Do you want a copy
Address	2402 Bottwell St		of the presentation?
City	Greensboro	State NC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Zip Code	27401	

Name	Carole Carter		Do you want a copy
Address	1311 Aldmore Drive		of the presentation?
City	Greensboro	State NC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Zip Code	27401	

Name	ANN WALLINGTON		Do you want a copy
Address	2312 Ford Pk		of the presentation?
City	Greensboro	State NC	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Zip Code	27406	

Public Meeting
City of Greensboro - White Street Landfill
North Carolina Department of Environment and Natural Resources
Division of Waste Management
June 9, 2008
Peeler Recreation Center

Name	Phillip Wade	Do you want a copy of the presentation?
Address	1206 Nealton Road	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro State NC	Zip Code 27405

Name	Virginia Wade	Do you want a copy of the presentation?
Address	1206 Nealton Rd	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State N.C.
		Zip Code 27405

Name	Robert L. Neal	Do you want a copy of the presentation?
Address	202 Nealton Rd.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State N.C.
		Zip Code 27403

Name	Harold A. Field	Do you want a copy of the presentation?
Address	1903 Belden Dr.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State N.C.
		Zip Code 27405

Name	James E. Brame	Do you want a copy of the presentation?
Address	1614 Woodbriar Ave.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State N.C.
		Zip Code 27405

Public Meeting
City of Greensboro - White Street Landfill
North Carolina Department of Environment and Natural Resources
Division of Waste Management
June 9, 2008
Peeler Recreation Center

Name	<i>Theresa Donnell</i>		Do you want a copy
Address	<i>1711 Huggins Mill Rd</i>		of the presentation?
City	<i>Greensboro</i>	State <i>NC</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
		Zip Code <i>27405</i>	

Name			Do you want a copy
Address			of the presentation?
City		State	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Zip Code	

Name			Do you want a copy
Address			of the presentation?
City		State	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Zip Code	

Name			Do you want a copy
Address			of the presentation?
City		State	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Zip Code	

Name			Do you want a copy
Address			of the presentation?
City		State	Yes <input type="checkbox"/> No <input type="checkbox"/>
		Zip Code	

Public Meeting
City of Greensboro - White Street Landfill
North Carolina Department of Environment and Natural Resources
Division of Waste Management
June 9, 2008
Peeler Recreation Center

Name	REV SAMUEL CONNOR	Do you want a copy
Address	2907 Peninsula Dr.	of the presentation?
City	Jamestown	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
State	NC	
Zip Code	27282	

Name	Charlie R. Miskow	Do you want a copy
Address	1400 Woodbriar Ave	of the presentation?
City	Greensboro	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
State	N.C.	
Zip Code	27405	

Name	Tim Kee	Do you want a copy
Address	4302 Cord Jeff Dr.	of the presentation?
City	Greensboro	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
State	NC	
Zip Code	27405	

Name	Bob Davis	Do you want a copy
Address	14052 Lord Foxley Dr	of the presentation?
City	Greensboro	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
State	N.C.	
Zip Code	27405	

Name	Dorothenia Carter	Do you want a copy
Address	1405 Lord Foxley Drive	of the presentation?
City	Greensboro	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
State	N.C.	
Zip Code	27405	

Public Meeting
City of Greensboro - White Street Landfill
North Carolina Department of Environment and Natural Resources
Division of Waste Management
June 9, 2008
Peeler Recreation Center

Name <i>Eric Bishop (News 14 Carolina)</i>		Do you want a copy of the presentation?	
Address		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
City <i>GSO</i>	State <i>NC</i>	Zip Code	

Name <i>Walter...</i>		Do you want a copy of the presentation?	
Address <i>...</i>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
City <i>Greensboro</i>	State <i>NC</i>	Zip Code <i>27405</i>	

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**June 9, 2008 Public Meeting
Transcript**

White Street Landfill Public Meeting - June 9, 2008

The White Street Landfill's public meeting began at 6:35 p.m. Eighteen guests attended including one media representative. Attendees were requested to sign a registration sheet in order to document their attendance.

The meeting was conducted by Ms. Jeryl Covington, Environmental Services Director and began with the introduction of the attending staff, Mr. David Bost, Acting Waste Disposal Manager, and Mr. Greg Thomasson, Technical and Planning Support Manager (Waste Disposal Engineer). Following the introduction of staff, the purpose of the meeting was provided which stated that this meeting was being held in accordance with applicable waste disposal regulations associated with the proposed landfill activities.

As originally reported at the public meeting held on Thursday, December 20, 2007, the City of Greensboro is submitting information to the North Carolina Department of Environment and Natural Resources – Division of Waste Management regarding three activities at two of the operating units located at the White Street Landfill. These submissions include: re-permitting the construction and demolition landfill located above a formerly operated sanitary landfill; changing the municipal solid waste landfill's configuration by modifying the side slopes; thus, increasing the disposal capacity; and adding an additional remediation technology to the groundwater corrective action plan.

The City of Greensboro reported that the groundwater was consistently monitored in accordance with the regulatory requirements. One area adjacent to the formerly operated Phase II landfill continued to detect the occurrence of groundwater impact above the regulatory limits. The location of this impact was identified on an aerial photograph and a brief discussion educating the audience on the principals of groundwater flow was provided. The general direction of groundwater flow was described referencing the aerial photograph and identified as flowing from the southerly direction toward a northern-northeast direction. Residential neighborhoods were identified on the aerial photograph as being located uphill (up gradient) of the landfill's property. The groundwater flow direction was described as flowing from higher elevations (residential area) to lower elevations (North Buffalo Creek). In addition, it was reported that the recent groundwater sampling event (May 2008) revealed that the level of groundwater contamination was decreasing. In light of the recent sampling results, the City is proposing the planting of trees within the property boundaries and adjacent to North Buffalo Creek as an additional solution in remediating the groundwater. This form of remediation was referenced as phytoremediation. The process of phytoremediation was described as utilizing the root system of hybrid poplar trees to uptake existing contaminants in the groundwater. The poplars will require placement in a manner that will promote growth and reduce the opportunity for insect infestation and fungal diseases. The City hopes to obtain agronomy assistance from one of the local colleges or universities. The phytoremediation will be completed in conjunction with the monitored natural attenuation (MNA) that was originally discussed at the December 20, 2007 public meeting. A brief review of MNA was provided to the audience and described as being a natural breakdown in the contaminants due to the composition and make-up of subsurface media and oxygen levels in and around the subsurface groundwater.

The City of Greensboro reported that a permit modification has been submitted for the Phase III municipal solid waste landfill. This permit modification will request a change in the side slopes of the unit. A cross-sectional schematic was shown to the audience. The currently approved side slope configuration was identified and the proposed increase was depicted on the schematic. No change in the height of the landfill will result with the proposed side slope modification. The height of the landfill will remain at 872 feet above mean sea level. Approximately one (1) million cubic yards of disposal capacity will be gained with this modification. The audience was provided information regarding the current capacity of the Phase III unit. Mr. Jim Kee made inquiry about household waste returning to the site. If it were decided to return disposal activities to the site, the existing available landfill area would be consumed in less than five years. This is due to the fact that both construction and demolition waste and household waste will be utilizing the same landfill during the operational life of this unit during this period. Based upon current volumes, the construction and demolition landfill (phase II) will be full on or about 2011. As originally permitted in 1997, the Phase III landfill was designed for a ten-year capacity. The next landfill area could not be constructed and permitted during this timeframe.

The audience was provided a copy of the current waste generation volume being managed by the transfer station. The audience was recommended to participate in the City's recycling program and increase their recycling efforts. The transfer station operations were briefly described and photos of the operation were shown to the audience. The current hauling and disposal costs for the facility beginning June 2008 are \$36.08 per ton with a \$36.00 per ton rate being charged to the users. This increase results from the dramatic escalation in fuel costs. Mr. Harold Fields raised a question about the solid waste fee charges being increased due to this event. It was explained that the household solid waste fee was eliminated in 2004 and this fee was converted to the property tax. Mr. Fields further stated that the message being sent to the community is that the recent property tax increases are due to the closing of the landfill. A brief explanation was provided clarifying that a portion of the property tax increase was due to the opening of the transfer station. This portion was approximately \$0.25 of the total property tax amount; other portions of the increase included costs for public safety and other municipal activities. Currently, no property tax increase is being proposed in the upcoming budget.

The audience was reminded that the solid waste disposal tax of \$2.00 per ton will be in effect July 1, 2008. The solid waste legislation passed by the general assembly increased the regulatory requirements for the development of landfills within the state; thus, fewer landfills may be developed and the competition for disposal capacity may increase. The regulatory agency has provided information on the state's currently available solid waste disposal capacity to the legislature. They have stated that North Carolina will be facing a disposal capacity dilemma in future years. As a result, it is anticipated that the City will be facing competition for landfill disposal capacity as other cities consume their landfill space and resolve to find other disposal locations. Ms. Valeria Niles made inquiry about waste-to-energy (WTE) options. It was explained that currently one WTE facility operates in the state and is located in New Hanover County. This community decided to develop the WTE unit and preserve their lands for tourism and recreation. The cost associated with the operations of the WTE plant exceeds the cost of landfilling. The City of Greensboro's waste volume makes the development of a WTE plant in our community cost prohibitive. Ms. Niles referenced the St. Lucia, Florida WTE operation being developed. It was explained that the cost of land for landfill development makes the WTE development in Florida an equitable

solution for managing waste. North Carolina is currently considered a rural area, the cost of land is still relatively inexpensive; thus, landfill development remains relatively inexpensive in comparison to other alternatives. Other communities that have WTE or alternative waste disposal methods have landfill costs exceeding \$60.00 per ton; North Carolina's average is \$34.00 - \$38.00 per ton. If WTE is developed within this area, other communities will need to participate in order to acquire the volume necessary to make the operation profitable. Currently, the cities of Winston-Salem and High Point have secured land to manage their waste generation for 15-20± years. Reverend Samuel Connor asked if the landfill were to reopen, what are the risks to the closest residents? It was explained that the landfill currently conducts groundwater monitoring and has a landfill gas collection in-placed to manage emissions. Both of these operations are required by the state for environmental protection. An audience member made inquiry regarding the arrangements made with Cone Mills for the landfill gas. It was explained that Cone Mills receives this gas at no charge. Inquiry was made with respect to the City's arrangements and the reasoning that allowed Cone Mills to receive the landfill gas for free. It was explained that department staff were not involved with the agreement and Councilmember Wells is not present to provide the background on the City Council's actions. Ms. Valerie Niles stated that Cone Mills received the landfill gas as an incentive in order to remain open and keep jobs; but instead, they have laid-off employees. Ms. Niles asked whether the City could sell the landfill gas? The response provided stated that there are other interested parties willing to purchase the gas and acquire the system; however, all of the currently generated landfill gas is provided to Cone Mills; there are no other sources of landfill gas available to sell.

The City of Greensboro reported that a permit submission will be made in order to continue the construction and demolition landfill operations above the formerly utilized sanitary landfill (Phase II). New construction and demolition regulations were adopted and facilities wishing to continue their operations are required to re-submit an application and request permit renewal. The application submissions are due on June 30, 2008. The City is proposing to continue the construction and demolition disposal activities at the White Street landfill. The materials being disposed will originate from construction and demolition sites and include brick, shingles, concrete, wood, and sheetrock, etc. Waste is screened at the entrance gate and at the lift. The City does not accept asbestos containing material nor does the City recycle this waste stream. Currently, the generators of construction and demolition waste remove any marketable recyclable materials prior to delivery to the landfill.

The City of Greensboro discussed future development plans for the landfill. The proposed Phase IV region was identified on the aerial photograph. The City is proposing to acquire two additional tracts of land prior to the development of this portion of the landfill. Mr. Harold Fields asked whether the City would purchase land located south of Huffine Mill Road for future landfill development. It was explained that the City has no plans to expand the boundaries in this direction. If this option were to be considered, it would be an expensive proposition based upon the number of homes required to be purchased in order to satisfy the regulatory buffer requirements. Mr. Harold Fields further expressed concern regarding the lack of maintenance along the roadway. It was explained that the City of Greensboro does not maintain the right-of-ways on state maintained roadways. Mr. David Bost provided his contact information to Mr. Fields in order to assist in addressing this concern.

The meeting concluded at 8:10 p.m.

.0542 Operational Plan

1.0 Introduction

The purpose of this section is to identify protocols for the overall operation and maintenance of the White Street Landfill Construction and Demolition Debris disposal facility. This plan has been prepared in accordance with North Carolina Department of Environment and Natural Resources (NCDENR) rules. Detailed drawings for each phase of the landfill's development from existing conditions to final contours are presented in the Operational Drawings Section. By definition, the construction and demolition debris waste stream is originated solely from construction, demolition, and remodeling or repair operations on pavement, buildings or other structures. In addition, the NCDENR Division of Waste Management (DWM) has approved other inert wastes (such as land clearing debris, but not yard waste) if they can be demonstrated to be inert through the toxicity characteristic leaching procedure. The current waste screening program will continue to be utilized by the landfill staff for determination of accurate disposal areas and the prevention of prohibited wastes as described in Rule .542 (e).

The City of Greensboro proposes to continue operation of the current construction and demolition disposal site as previously approved and permitted May 25, 2006 (Permit #41-03). The proposed disposal area continues to operate within the area of the facility known as Phase II which is a closed MSWLF unit subject to the appropriate section of the .1600 rules (Drawing CD-77B). Regulatory closure of Phase II has been previously certified as closed in accordance with promulgated guidelines.

2.0 Personnel Structure

Responsibility for overall facility management and operation rests with the Solid Waste Disposal Manager.

Solid Waste Disposal Manager
(336) 373-2489
2503 White Street
Greensboro, NC 27405

This individual is designated as the contact person for regulatory compliance, and is responsible for ensuring adequate personnel and equipment in order to operate the facility in compliance with approved permit documents and the North Carolina Solid Waste Management Rules.

Landfill supervisory staff includes the Solid Waste Disposal Manager, the Landfill Supervisor, the Environmental Compliance Supervisor, the Yard Waste and Compost Supervisor, and the Scalehouse Supervisor. In addition to the supervisory staff, the landfill now operates with six full time heavy equipment operators, two full time heavy equipment mechanics, two full time maintenance workers, two full time heavy equipment operators at the yard waste and compost site, one landfill technician, and two full time scale operators.

3.0 Personnel Certifications and Training

The Solid Waste Disposal Manager maintains certifications as a Manager of Landfill Operations (MOLO), a Construction and Demolition Debris Manager, and a Transfer Station Manager as issued by the Solid Waste Association of North America (SWANA).

The Landfill Supervisor maintains certification as a MOLO.

In compliance with North Carolina GS 130-309.25, all heavy equipment operators and the landfill technician maintain certification as Landfill Operation Specialists as issued by the North Carolina Chapter of SWANA (NCSWANA). These staff members are then continuously recertified through on-site training as well as through industry and NCSWANA events. All training records are available at the scalehouse.

Personnel trained in landfill operations are on duty at all times while the facility is open for public use and at all times during active waste management operations.

4.0 Hours of Operation

The landfill is open for operation between the hours of 7:00AM and 4:50 PM, Monday through Friday and from 7:00 AM to 1:00 PM on Saturday. The landfill is closed on Sundays except where prior permission has been granted to receive wastes for special instances such as a natural disaster. The observed holidays are New Year's Day, Martin Luther King Jr. Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. The sign giving the hours of operation for the landfill is shown in Figure 1.



Figure 1.



Figure. 2

5.0 Equipment Requirements

The landfill will utilize three compactors of the 100,000 lb class (Cat 836) and 2 bulldozers of the 85,000 (Cat D-8). The landfill will utilize a Cat D-6 LGP bulldozer for soil placement in the routine covering of the waste. Also available for operational and compliance activities are a Cat 14-G motorgrader and 3500 gallon water truck. A full inventory list of current equipment is presented in Appendix A, Table 1.

6.0 Inclement weather Operations

During periods of heavy rainfall or other adverse weather conditions, the working face of the waste disposal area will be kept as close as possible to the landfill service roads while allowing for safe and orderly dumping from the haulers. The waste will be covered in compliance with applicable regulations.

7.0 Traffic Routing

An entrance sign is posted on the front gate stating operating hours only as well as emergency contact information (Figure 1). An additional sign is also posted immediately inside the front gate stating facility name, permit number and operating hours (Figure 2). Signs are posted at regular intervals along the landfill access roads indicating speed limit and directions to the applicable disposal area (Figure 3).



Figure 3

All trucks entering the landfill are required to weigh in at one of two scales at the scalehouse. The scales are operated by North Carolina Department of Agriculture Certified Weigh masters. The scales are calibrated and cleaned on a regular basis. Automobiles and pickup trucks are also required to weigh in.

The roads that allow access to the site and to monitoring locations are of all weather construction and maintained in good condition.

8.0 Litter Control

Litter control is a prime requisite in the proper operation of the landfill. In order to effectively control litter and windblown debris, the working face is kept as small as possible and waste is compacted as soon as possible after unloading. Cover material is applied at least once weekly and when the working face exceeds one-half acre. Cover is available daily and will be placed at more frequent intervals if necessary to control blowing litter. Temporary litter fences will be installed downwind of and in close proximity to the working face to prevent windblown debris. The disposal area as well as the landfill property and the streets feeding into the landfill are inspected and any fugitive debris is removed on a daily basis.

9.0 Odor, Noise, and Dust Control

Odors which emanate from the management of construction and demolition debris wastes are generally limited to within a short distance of the working face. The covering of the wastes as required prevents odors from becoming a nuisance.

The access road from the scalehouse to the waste disposal unit is paved. All other service and operating roads on the operating landfill unit are graded and maintained with stone as necessary to maintain smooth, well-drained surfaces. During dry conditions, operating roads will be sprayed with water to control dust issues. The paved access roads are washed periodically to maintain an overall neat appearance of the landfill.



Noise resulting from landfill equipment is limited to the period of time during operating hours. To further reduce the possibility of noise nuisance, a vegetative buffer of coniferous and deciduous trees and other vegetation is maintained between the operating areas and other areas not designated for landfill operations. All landfill equipment is equipped with mufflers or similar noise-dampening devices. The on-site landfill maintenance facility maintains all landfill equipment in top operating condition further eliminating potential noise nuisances from equipment operations.

10.0 Waste Placement

Waste will only be disposed of inside the area labeled limits of C&D waste as shown on Drawing CD-77B. Drawing CD-77B also indicates the buffers as maintained. The existing contours of the current waste placement operation as well as closed MSW areas are identified on Drawing CD-78B. Waste is to be placed vertically over existing construction and debris material and closed MSW areas. The removal of solid waste from the C&D landfill is prohibited.

Solid waste unloading at the landfill is controlled to prevent disposal in locations other than those permitted. Such control is also used to confine the working face to a minimum width, facilitating a safe and efficient operation. The waste shall be managed in the smallest area (working face) feasible. Upon dumping, the waste will be spread and compacted as densely as practical into cells utilizing a minimum of four passes over the waste with a D-8 size bulldozer (not less than 85,000 lbs) or an 836 size compactor (not less than 100,000 lbs).

The fill sequence using multiple lifts allows filling to occur uniformly across the site (Drawings C-01 through C-06as prepared by HDR Engineering). This provides for elimination of depression areas and facilitates proper storm water movement and management. Waste disposal activities will progress in approximately 10 foot lifts across the landfill footprint as shown on (Drawing CD-78B).

11.0 Asbestos

The White Street Landfill does not accept asbestos. Asbestos is listed as a banned material on the signage in Figure 2 and staff is trained to detect and prevent disposal through the waste screening program.

12.0 Cover Requirements

A significant volume of soil is required to provide adequate cover and allow for safe and efficient waste disposal operations. In order to provide for these requirements, the landfill maintains a large permitted borrow area (Drawing CD-77B). The landfill also maintains a stockpile for soil that is brought to the landfill from outside sources (Drawing CD-77B). These outside soil sources must be approved by staff prior to being brought to the landfill.

12.1 Weekly Cover

In compliance with the latest rules as promulgated regarding management of construction and demolition debris waste, the waste will be covered with six inches of earthen material at least

once per week or when the working face exceeds one-half acre. The landfill will also have available daily, if needed, cover material to apply in times of adverse weather conditions. At this time, the landfill will be utilizing earthen material from the above described soil sources to cover the waste. This material has been demonstrated to control odors, vectors, blowing litter, and fires.

12.2 Intermediate Cover

Intermediate cover consisting of a total of 12 inches of earthen material is applied to all areas which will not have any waste placement occurring for a period of 3 months or more. Areas which have received intermediate cover are graded to facilitate proper drainage and to prevent any ponding of water. Once proper grading and drainage has been achieved, temporary vegetative grass cover will be planted. Any erosion or damage to the intermediate cover is repaired on a routine basis.

13.0 Vector Control

The City will prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and the environment. For purposes of this item, "disease vectors" means any rodents, flies, mosquitoes, or other animals or insects, capable of transmitting disease to humans. Vectors are generally attracted by opportunities for food and shelter. C&D waste is not a food source for many vectors. Vectors seeking shelter in the waste mass can be discouraged by covering of the waste and proper grading to prevent ponding of water. If vectors become a problem, a licensed exterminator or other legal means of control shall be implemented.

14.0 Explosive Gases Control

With the construction and demolition disposal operations occurring on top of a closed MSW facility, the landfill monitors for migration of explosive gases. A gas monitoring system has been constructed along the east side of the landfill which abuts Rankin Mill Road. All buildings and enclosed structures on the landfill are monitored as part of the routine methane monitoring program (Drawing CD-79B). Routine monitoring for gas migration is performed in accordance with Rule .1626 part (4)(b) on a quarterly basis to ensure that the following compliance levels for methane concentration are not exceeded: 1) the concentration of methane gas generated by the facility does not exceed 25% of the lower explosive limit (LEL) for methane gas in facility structures (1.25% methane; 2) the concentration of methane gas migrating from the landfill does not exceed the LEL for methane at the facility property boundary (5% methane).

Routine monitoring for gas migration will be performed on a quarterly basis to ensure that the following compliance levels for methane concentration are not exceeded.

- The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit (LEL) for methane in facility structures (1.25 percent methane).
- The concentration of methane gas migrating from the Landfill does not exceed the LEL for methane at the facility property boundary (5 percent methane).

The monitoring device that will be used will be a combustible gas indicator (CGI).

If concentrations are measured at greater than 25 percent of the LEL for methane in facility structures, then the landfill must immediately take all necessary steps to ensure protection of human health and shall notify the NCDENR-DWM. Within seven days of detection, the methane gas levels detected and a description of the steps taken to protect human health shall be placed in the operating record. Within 60 days of detection, a remediation plan describing the nature and extent of the problem and the proposed remedy for methane gas releases shall be placed in the operating record, the remediation plan shall be implemented, and the NCDENR-DWM shall be notified.

Additional gas probes may be installed as required. They will be installed in a similar manner as the existing gas probes.

14.1 Perimeter Explosive Gas Monitoring Well Placement

According to Rule .1624 (4), soil, hydrogeologic and hydraulic conditions, and proximity of structures and property boundaries should be considered when locating gas monitoring wells and determining monitoring frequency.

Landfill structures consist of the Administration Building, Compliance and Compost Operations Office, Maintenance Shop, Phase II LFG blower building, equipment and maintenance shed at the compost site, and the Operations Building. The landfill also operates a landfill gas collection system on Phase II and Phase III. The Phase II system is comprised of approximately 99 vertical extraction wells, a main header pipe, condensate traps and collection system, and a blower station as shown on the as-built survey of the landfill gas system labeled Drawing No. 1.

The Phase II area of the landfill is bounded on the north and west sides by North Buffalo Creek, on the east by Rankin Mill Road, and on the south by landfill property. North Buffalo Creek will act as an impermeable barrier between the landfill and adjoining properties on the north side of the creek. Four locations labeled Surface Monitoring Points have been identified on the southern bank of North Buffalo Creek and are monitored as part of the quarterly landfill gas monitoring program.

It will be necessary to monitor gas migration along the landfill property line at Rankin Mill Road, and the church property on Rankin Mill Road. As shown on Drawing CD-79B six wells are located along Rankin Mill Road and two wells are located near the church property. Permanently mounted gas monitors have been placed in the Administration Building, Compliance and Compost Operations Office, Maintenance Shop, Phase II LFG blower building, and the Operations Building. These structures are also monitored during the quarterly monitoring event.

14.2 Well Construction

All of the methane monitoring wells were constructed of 2-inch PVC pipe placed in a 6-inch diameter bore hole. The screened interval ranged from 5-10 feet, terminating just above the seasonally high water table or at auger refusal. A sand filter pack was placed around the screen

and extends 2 feet above the top of the screen. A bentonite seal was placed above the filter pack. The 2-inch casing pipe is protected by a 4-inch square steel outer casing with a locking steel cover. The outer casing is embedded in a 2'x2'x4" concrete pad.

14.3 Methane Monitoring Program

The City of Greensboro will continue to conduct routine methane monitoring events on a quarterly basis to ensure that methane concentrations do not exceed the following compliance levels as required in Rule .1626 (4).

- The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit (LEL) for methane in facility structures
- The concentration of methane gas migrating from the Landfill does not exceed the LEL for methane at the facility property boundary).

Methane wells and locations along North Buffalo Creek will continue to be monitored quarterly as part of the program. The monitoring device that will be used will be a combustible gas indicator (CGI).

If concentrations are measured at greater than 25 percent of the LEL for methane in facility structures, then the landfill must immediately take all necessary steps to ensure protection of human health and shall notify the NCDENR-DWM. Within seven days of detection, the methane gas levels detected and a description of the steps taken to protect human health shall be placed in the operating record. Within 60 days of detection, a remediation plan describing the nature and extent of the problem and the proposed remedy for methane gas releases shall be placed in the operating record, the remediation plan shall be implemented, and the NCDENR-DWM shall be notified.

Additional gas probes may be installed as required. They will be installed in a similar manner as the existing gas probes

14.4 Sampling Procedures

The monitoring device that will be used during each quarterly monitoring event will be a portable combustible gas indicator. This is equipped with a flexible hose and rigid probe. Calibration of the instrument will be performed in accordance with the manufacturer's specifications.

Personnel designated to perform the monitoring program will be trained in the operation, maintenance, and calibration of the monitoring equipment. The following operating procedures and safety precautions will be adhered to by all personnel when monitoring for methane gas.

1. At least two people should be present at all times when monitoring for explosive gases.
2. At a minimum, safety glasses, gloves, work boots, will be worn. Other appropriate personal protective equipment will be worn as needed.

3. Smoking and open flames are strictly prohibited at all times during the monitoring event.
4. Fire extinguishers will be readily available when performing the monitoring event.
5. Personnel performing the monitoring event will have the City radio readily available which has direct access to emergency personnel.

14.5 Emergency Response Plan

In the event gas levels are detected that exceed allowable limits, the emergency response plan will be as follows.

1. For 100% LEL at landfill boundaries less than 250 feet from structures:
 - a. Greensboro Fire Department and Hazardous Material Team will be notified.
 - b. Implement procedures as outlined in Rule .1624 (4).
2. For 100% LEL at landfill boundaries where the distance is greater than 250 feet from structures:
 - a. Notify the Division.
3. For structures detection levels greater than 25% LEL:
 - a. Evacuate the structure immediately.
 - b. Notify Greensboro Fire Department and Hazardous Material Team.

15.0 Prevention of Fires

In accordance with the Clean Air Act, open burning is prohibited at this site, unless approved by the Division for the infrequent burning of land clearing debris as generated from natural disasters or emergency clean-up operations. In order to control accidental fires occurring at the site, the following preventative measures have been taken:

1. The scale attendants and equipment operators screen incoming waste loads for signs of hot loads such as smoke, steam, or heat being released from the waste. If evidence of a hot load is detected, the hauler is diverted to the paved road directly east of the scalehouse. This prevents the load from entering the disposal unit and provides a safe area for emergency crews to manage the situation.
2. As described in the City of Greensboro Smoking Policy, smoking is confined to designated areas only. Smoking is not allowed within the footprint of the disposal unit, in any of the landfill equipment, or the landfill buildings. Smoking is also disallowed at the fuel dispensing station, in the vicinity of any of the landfill gas collection system structures or facilities or other fire sensitive area.

3. Motorized equipment is not parked near fuel dispensing stations longer than necessary for refueling.
4. Fuel spills are reported immediately and contained by berming the area and cleaned up immediately using an approved absorbent material.
5. Landfill equipment does not remain on the active disposal area of the site overnight.
6. Landfill equipment is washed routinely and kept free of ignitable debris.
7. Landfill equipment is maintained through a rigorous on-site routine preventative maintenance program to ensure integrity of all operating systems and fluid conveyance lines.
8. Dead trees, brush, or vegetation, adjacent to the landfill are removed immediately, and grass and weeds are routinely mowed so that brush fires cannot spread to the landfill. The landfill employs several types of large bush-hog and lawn type mowers to accomplish this task.

In the event of a fire, the Greensboro Fire Department is notified immediately. Fires and explosions that occur at the C&D Landfill will be verbally communicated to the Division within 24 hours and followed by written communication within 15 days. Written notification will include the suspected cause of fire or explosion, the response taken to manage the incident, and the action(s) to be taken to prevent the future occurrence of fire or explosion.

16.0 Waste Screening Program

In order to assure that prohibited wastes are not entering the landfill facility, a Waste Screening Program has been implemented at the landfill. Waste received at the scalehouse and wastes taken to the working face are inspected by trained personnel.

16.1 Waste Receiving and Inspection

All vehicles (customers and visitors) must stop at the scalehouse. All refuse containing vehicles are weighed and their load assessed. All visitors must report in the scalehouse and sign in. The scale attendant requests from the driver of the refuse containing vehicle a brief description of the waste to ensure that unacceptable wastes are not allowed in the landfill. The scale attendant then requests from the driver the following information to document all inspections:

- Date and time
- Source and type of wastes
- Hauling company, vehicle and driver identification
- Net weight of load

The landfill will notify the Division within 24 hours of attempted disposal of any waste the C&D landfill is not permitted to receive, including waste from outside its service area.

16.2 Waste Screening

Each day, haulers are subject to being screened as part of the waste screening program. The current waste screening program will continue to be utilized by the landfill staff for determination of accurate disposal areas and the prevention of prohibited wastes as described in Rule .542 (e).

Waste Screening Program

1. The scale attendants utilize a computer based random number generator to determine the vehicles to be screened that day.
2. The scale attendants notify the landfill technician when the incoming loads are five loads away from the number that has been selected for screening.
3. Once the incoming load has been selected, the scale attendant informs the hauler that the load will be inspected, collects the name of the waste generator, the origin of the waste, the type of waste, and the weight of the waste. The truck is then directed to the correct disposal area.
4. Upon arrival at the disposal site, the waste hauler is directed where to deposit the load for inspection. The waste will be deposited in an area separate and away from the working face of the disposal area. The waste hauler then presents the weigh ticket to the inspector who records the ticket number, waste hauler information, date, and time.
5. The inspector will examine the load. The inspector will verify the waste complies with all items on the Waste Screening Inspection Form (Appendix B, Form 1). The inspector will also include a brief description of the waste on the form.
6. The driver must remain with the waste until it is determined by the inspectors that it is acceptable for disposal. If it is deemed acceptable, the driver and truck may be released. The waste material is then moved to the working face for disposal. The inspection area is cleaned and prepared to receive another load.
7. If through the normal procedures of the waste screening program or regular daily operations, a hauler has been identified as routinely bringing prohibited wastes for disposal, that hauler will be subject to daily screening in addition to the random load(s) as selected for that day.

Any prohibited wastes detected through this program are recorded on the Waste Screening Inspection Form and the incident is described in detail on the Report of Attempted Disposal of Hazardous or Prohibited Waste form (Appendix B, Form 2). If unacceptable wastes are found, the load will be isolated and secured. The Solid Waste Disposal Manager will then notify the Waste Management Specialist of NCDENR within 24 hours of attempted disposal.

All Waste Screening Inspection Forms, hauler information, reports of attempted disposal of prohibited wastes, and records of disposition of rejected wastes are maintained in the operating record in the scalehouse. These records are routinely archived electronically and also stored on media and secured in the records storage room in the Operations Building 2503 –B.

17.0 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is discovered at the landfill, whether through the waste screening program or normal operations, the Hazardous Materials Contingency Plan (Appendix C) shall be instituted immediately.

18.0 Access Control

Entry to the site is limited to landfill personnel, approved waste haulers, and properly identified persons whose entry is authorized by the site management and properly logged in. The City reserves the right to restrict access to the site. The landfill routinely performs public information tours and educational of the facility for civic groups and local grade schools and universities. These tours are conducted with a landfill staff member present at all times. Visitors may be allowed near the active area only when accompanied by one of the landfill staff.

As shown in Figure 1, a sign is posted at the entrance of the landfill stating the facility name, permit number, operating hours, and prohibited wastes. As shown in Figure 3, there is additional signage posted periodically throughout the landfill to direct traffic flow and to provide information on the location of appropriate disposal sites.

The facility is surrounded on the west, southwest, south, southeast and eastern sides by means of a chain link fence. All gates in this fence network are secured with locks and chains preventing vehicular access and illegal dumping. As stated in landfill property deeds, the northern and northwestern property line of the landfill facility is the center of North Buffalo Creek. This creek, being a natural barrier also prohibits vehicular access and illegal dumping.

19.0 Drainage, Sedimentation and Erosion Control

The landfill facility has an extensive network of sedimentation and erosion control devices to restrict sediments being carried from the site. The landfill facility has developed a Storm Water Pollution and Prevention Plan (SWPPP, Drawing CD-80B) to further manage runoff and protect the integrity of North Buffalo Creek. Sediment basins also prevent the discharge of pollutants into the waters of the United States, including wetlands that violate any requirements of the Clean Water Act, including but not limited to National Pollutant Discharge Elimination System (NPDES) requirements. In areas which will not have additional waste placed on them for three months or more, but where final termination of disposal operations has not occurred, vegetative cover will be present to prevent on-site erosion. Drainage channels, benches, and other features will have appropriate control devices installed. Where needed, down slope drains will be constructed of 15" corrugated plastic pipe. All devices are routinely inspected and repairs are made as necessary and as soon as possible after detection.

No solid waste will be disposed of in standing water and surface water will be diverted away from the active face. In addition, surface water will not be impounded over or in waste.**20.0 Water Protection**

The landfill has a comprehensive surface and groundwater monitoring program (Drawing CD-81B) to provide early detection information to allow for the prevention of pollution to groundwater. This program is also comprised of a Groundwater Monitoring Plan prepared by S&ME, project number 1584-98-081 which is included herewith and made a part thereof and is included in Appendix D.

21.0 Maintenance

21.1 Repair of Security Control Devices

Should the routine inspection process note any deficiencies in any of the security and access control devices, maintenance and repair will be performed as necessary. Locks, vehicular gates, and fencing will be replaced if functioning improperly. Warning and information signs will be kept legible at all times and will be replaced if damaged by inclement weather or vandalism.

21.2 Erosion Damage Repair

Should the routine inspection process note any evidence of erosion in any areas of the final cap system, maintenance, repair, and reseeded will be performed as necessary and as soon as possible after detection. Excessive slopes will be flattened if possible by adding clean fill material. If necessary, erosion control fabrics will be used to expedite re-vegetation of slopes and to secure topsoil in place.

21.3 Correction of Settlement, Subsidence, and Displacement

Minimum slopes of 5% will be maintained after settlement in order to prevent ponding and allow for proper drainage while preventing infiltration. If vertical or horizontal displacement occurs due to differential settlement, cracks will be filled with appropriate material and final cover will be reestablished.

21.4 Repair of Run-On/Run-Off Control Structures

All terraces, swales, and perimeter channels will be repaired, cleaned, or realigned to maintain original conditions and performance. Any culverts, pipe, or other control device that becomes damaged will be repaired or replaced.

22.0 Benchmarks

The landfill has a comprehensive horizontal and vertical control benchmark network (Drawing CD-82B). This network is based on NAD 83 and NAVD 88. In addition to the on-site benchmarks, the landfill facility has one NCGS control point (57W-200) on site and five points on the west, south and east sides of the facility.



Typical benchmark signage



Brass COG Monument

23.0 Record Keeping

The City of Greensboro maintains detailed records of all activities relating to the landfill. These records are kept on site. The records, generated electronically and hard copy are maintained electronically in the Administration Building and archived on readily accessible media in the records storage room in the Operations Building (2503 B). The records generated, maintained and available upon request by the Division are as follows.

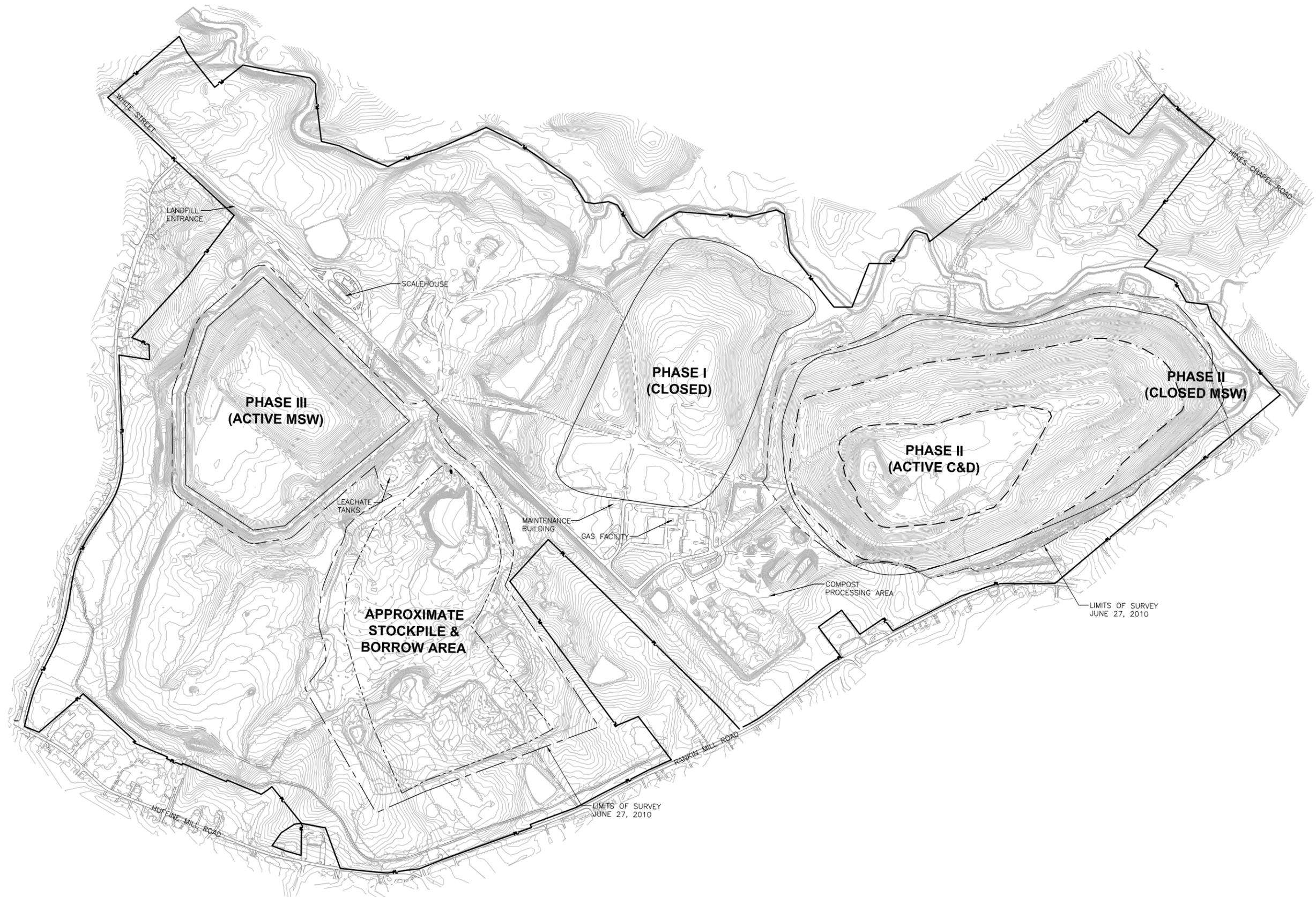
1. Waste Screening Inspection Forms
2. Waste determination records
3. Amounts of waste received
4. Gas monitoring results
5. Financial assurance
6. Any demonstration, certification, finding, monitoring, testing, or analytical data required by Rules .1630 thru .1637
7. Any monitoring, testing, or analytical data as required by rule .1627.
8. Employee training records
9. Manager's certifications
10. Landfill specialist certifications
11. Reports of attempts at disposal of prohibited wastes
12. Facility inspections
13. Notation of date and time of cover placement

14. Notation of date of approval and name of Division personnel who approved burning (if applicable)
15. Approved Operation and Engineering Plan
16. Current permit to construct and permit to operate
17. Approved Monitoring Plan
18. Any cost estimates and financial assurance documentation required by Rule .0546.



GENERAL NOTES:

1. EXISTING TOPOGRAPHY TAKEN FROM SURVEY PROVIDED BY THE CITY OF GREENSBORO DATED AUGUST 26, 2009.
2. SURVEY FOR PHASE II, PHASE III AND THE BORROW AREA TAKEN FROM AERIAL SURVEY BY BRADY SURVEYING DATED JUNE 27, 2010.
3. EXTENTS OF WASTE PLACED AFTER OCTOBER 9, 1993 TAKEN FROM PHASE II TRANSITION PLAN DATED NOVEMBER 1995.



GENERAL LEGEND:

- 790 EXISTING CONTOURS
- TREELINE
- PROPERTY LINE
- STREAM OR WATER BODY
- APPROX. MSW LANDFILL LIMITS
- BORROW AREA
- LIMITS OF C&D WASTE (NOTE 3)
- APPROX. LIMITS OF CURRENT C&D WASTE PLACEMENT
- LIMITS OF SURVEY JUNE 27, 2010

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ISSUE	DATE	DESCRIPTION
A	03/11	ISSUED FOR NCDENR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E. E.L. HARTWICK, E.I.
PROJECT NUMBER	6770-109019-018

**WHITE STREET LANDFILL
PERMIT 41-03
PHASE II
PERMIT RENEWAL APPLICATION**

Greensboro North Carolina

OVERALL SITE PLAN

SCALE 1"=400'

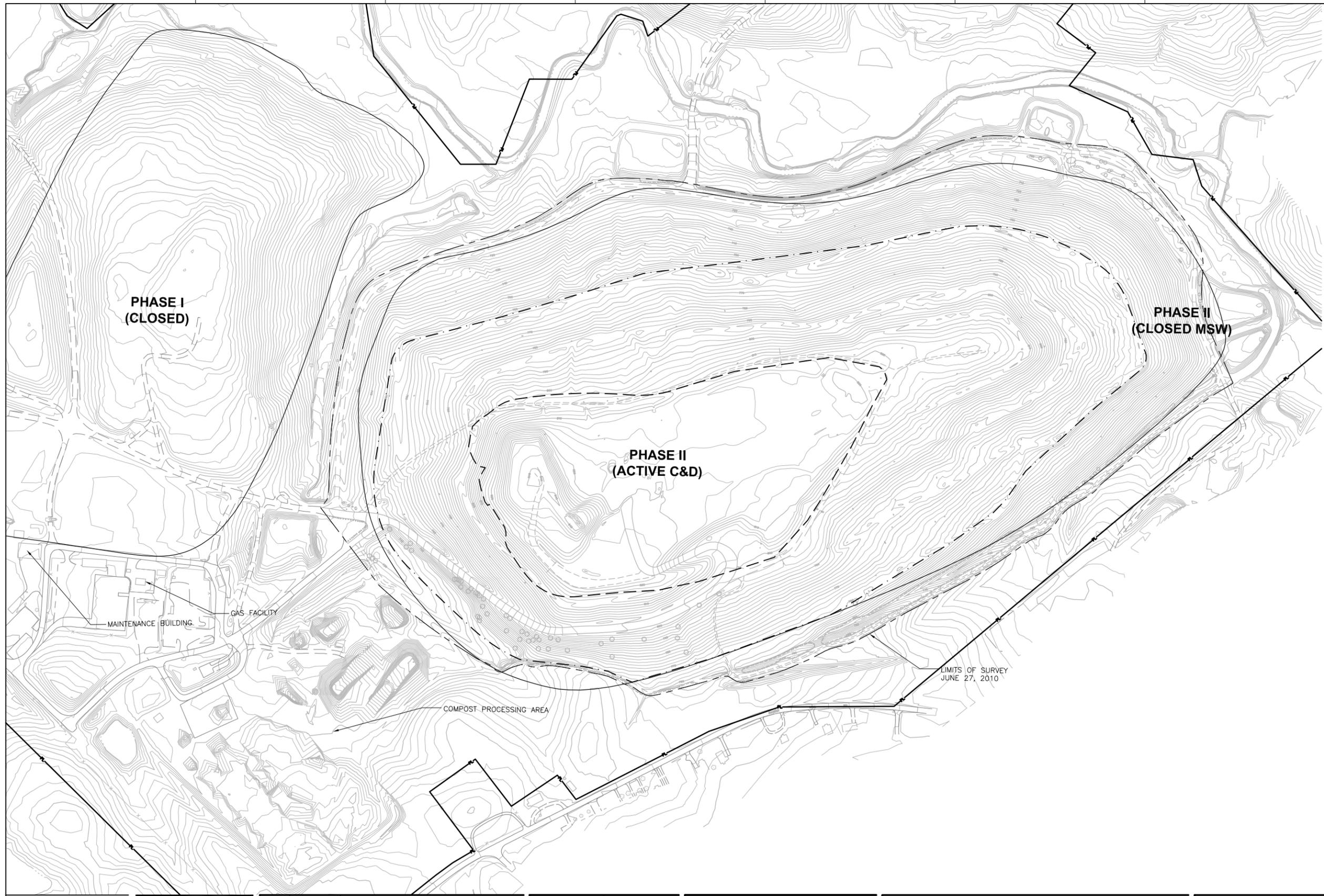
FILENAME CD-77B.dwg

SHEET **CD-77B**



GENERAL NOTES:

1. EXISTING TOPOGRAPHY TAKEN FROM SURVEY PROVIDED BY CITY OF GREENSBORO DATED 2009.
2. SURVEY FOR PHASE II AREA TAKEN FROM AERIAL SURVEY BY BRADY SURVEYING DATED JUNE 27, 2010.
3. EXTENTS OF WASTE PLACED AFTER OCTOBER 9, 1993 TAKEN FROM PHASE II TRANSITION PLAN DATED NOVEMBER 1995.



GENERAL LEGEND:

- 790 EXISTING CONTOURS
- TREELINE
- PROPERTY LINE
- STREAM OR WATER BODY
- APPROX. MSW LANDFILL LIMITS
- LIMITS OF C&D WASTE (NOTE 3)
- APPROX. LIMITS OF CURRENT C&D WASTE PLACEMENT
- LIMITS OF SURVEY JUNE 27, 2010

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ISSUE	DATE	DESCRIPTION
A	03/11	ISSUED FOR NCDENR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E. E.L. HARTWICK, E.I.
PROJECT NUMBER	6770-109019-018

**WHITE STREET LANDFILL
PERMIT 41-03
PHASE II
PERMIT RENEWAL APPLICATION**

Greensboro North Carolina

EXISTING CONDITIONS

0 1" 2"

FILENAME CD-78B.dwg SHEET CD-78B

SCALE 1"=200'



GENERAL NOTES:

1. SURVEY FOR PHASE II AREA TAKEN FROM AERIAL SURVEY BY BRADY SURVEYING DATED JUNE 27, 2010.
2. EXTENTS OF WASTE PLACED AFTER OCTOBER 9, 1993 TAKEN FROM PHASE II TRANSITION PLAN DATED NOVEMBER 1995.

PHASE II REMAINING CAPACITY:

TOTAL GROSS CAPACITY = 2,525,443 CY*
 AIRSPACE CONSUMED TO DATE = 1,197,839 CY
 GROSS AIRSPACE REMAINING = 1,327,604 CY**

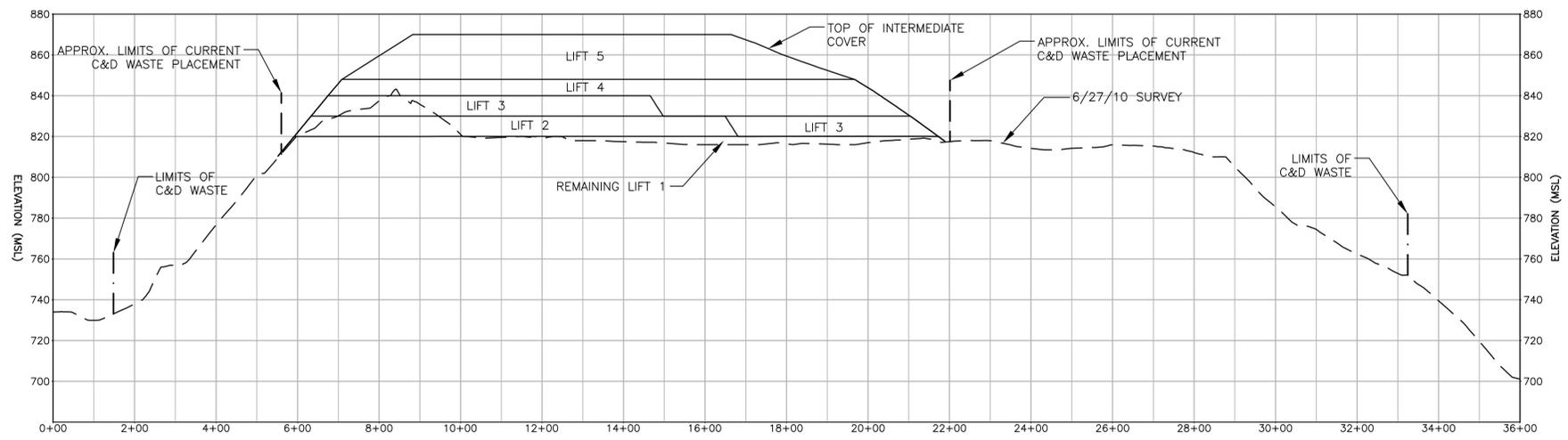
* AS REPORTED IN THE NC SOLID WASTE MANAGEMENT ANNUAL REPORT FISCAL YEAR 2008-2009.
 ** AIRSPACE REMAINING AS OF JUNE 27, 2010 SURVEY.

PHASE II OVERALL FILLING PLAN:

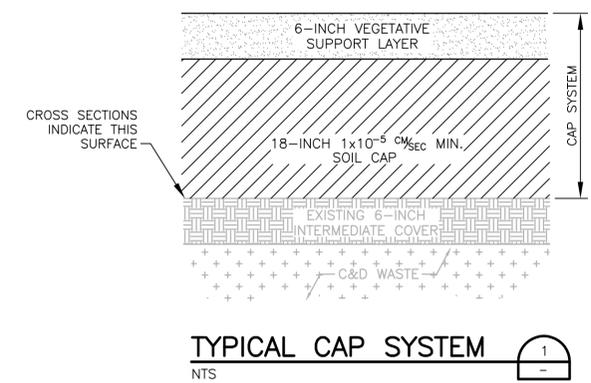
1. THE LANDFILL WILL BE CONSTRUCTED IN APPROXIMATELY 10 FOOT LIFTS.
2. EACH LIFT IS APPROXIMATELY 260,000 CY.
3. BASED ON THE TONNAGE AND VOLUME CONSUMED FROM MARCH 25, 2007 TO JUNE 27, 2010 THE WASTE DENSITY IS APPROXIMATELY 1,700 LBS/CY.

PHASE II 5-YEAR FILLING PLAN:

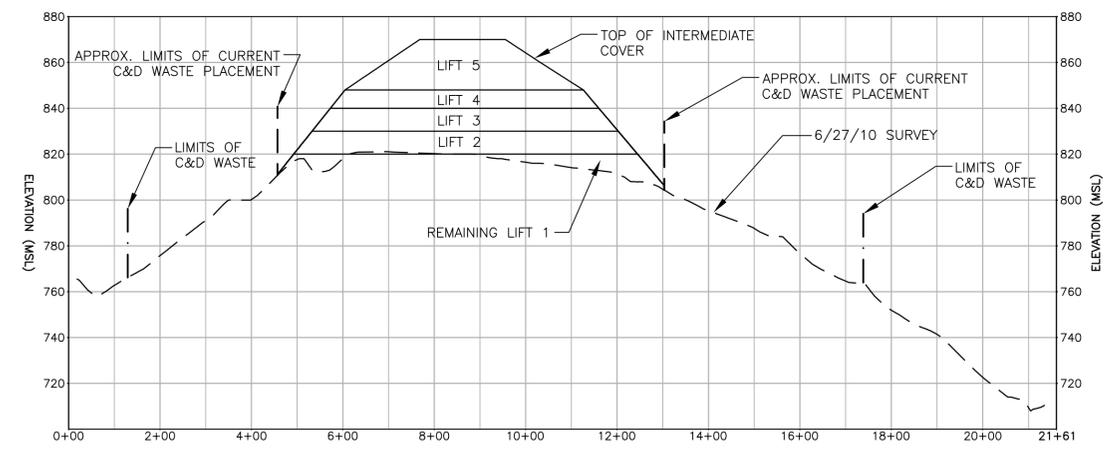
2010 WASTE ACCEPTANCE RATE = 46,614 TONS
 APPROXIMATE WASTE DENSITY OF 1,700 LBS/CY
 5-YEAR TONNAGE PROJECTION = 233,000 TONS
 5-YEAR CAPACITY = 275,000 CY



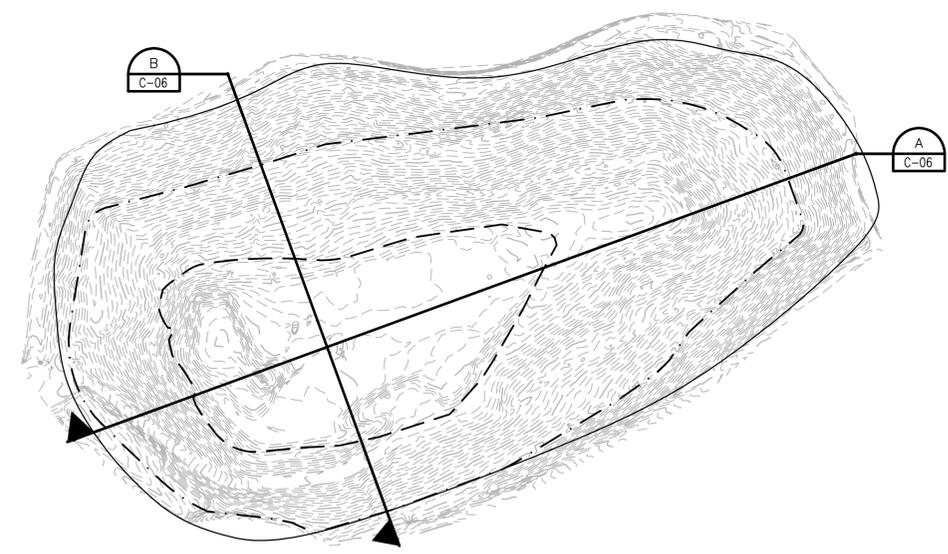
SOUTH - NORTH CROSS-SECTION
 HORIZONTAL 1" = 200' VERTICAL 1" = 40'



TYPICAL CAP SYSTEM
 NTS



EAST - WEST CROSS-SECTION
 HORIZONTAL 1" = 200' VERTICAL 1" = 40'



PHASE II CROSS-SECTION LAYOUT
 HORIZONTAL 1" = 400'

GENERAL LEGEND:

- - - 790 - - - EXISTING CONTOURS
- APPROX. MSW LANDFILL LIMITS
- . - . - - LIMITS OF C&D WASTE
- - - - - APPROX. LIMITS OF CURRENT C&D WASTE PLACEMENT

ISSUE	DATE	DESCRIPTION
C	12/11	REVISED PER NCDENR COMMENTS
B	09/11	REVISED PER NCDENR COMMENTS
A	03/11	ISSUED FOR NCDENR APPROVAL

PROJECT MANAGER	M.D. PLUMMER, P.E. E.L. HARTWICK, E.I.
PROJECT NUMBER	6770-109019-018

**WHITE STREET LANDFILL
 PERMIT 41-03
 PHASE II
 PERMIT RENEWAL APPLICATION**

Greensboro North Carolina

FILL PLAN

SCALE: AS SHOWN

FILENAME: C-06.dwg SHEET: C-06

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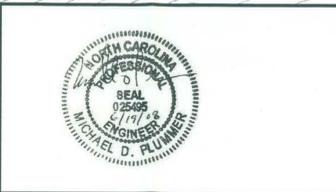


LEGEND
 - - - - - 800 - - - - - EXISTING CONTOURS
 _____ 800 _____ PROPOSED CONTOURS



ISSUE	DATE	DESCRIPTION
A	06/2008	ISSUED FOR APPROVAL

PROJECT MANAGER	E. SHUFFLER, P.E.
DESIGN ENG.	M. PLUMMER, P.E.
Q.C.	
CADD	G.M. WILLIAMS, E.I.
PROJECT NUMBER	00000000045265



**GREENSBORO PHASE II
C & D LANDFILL**

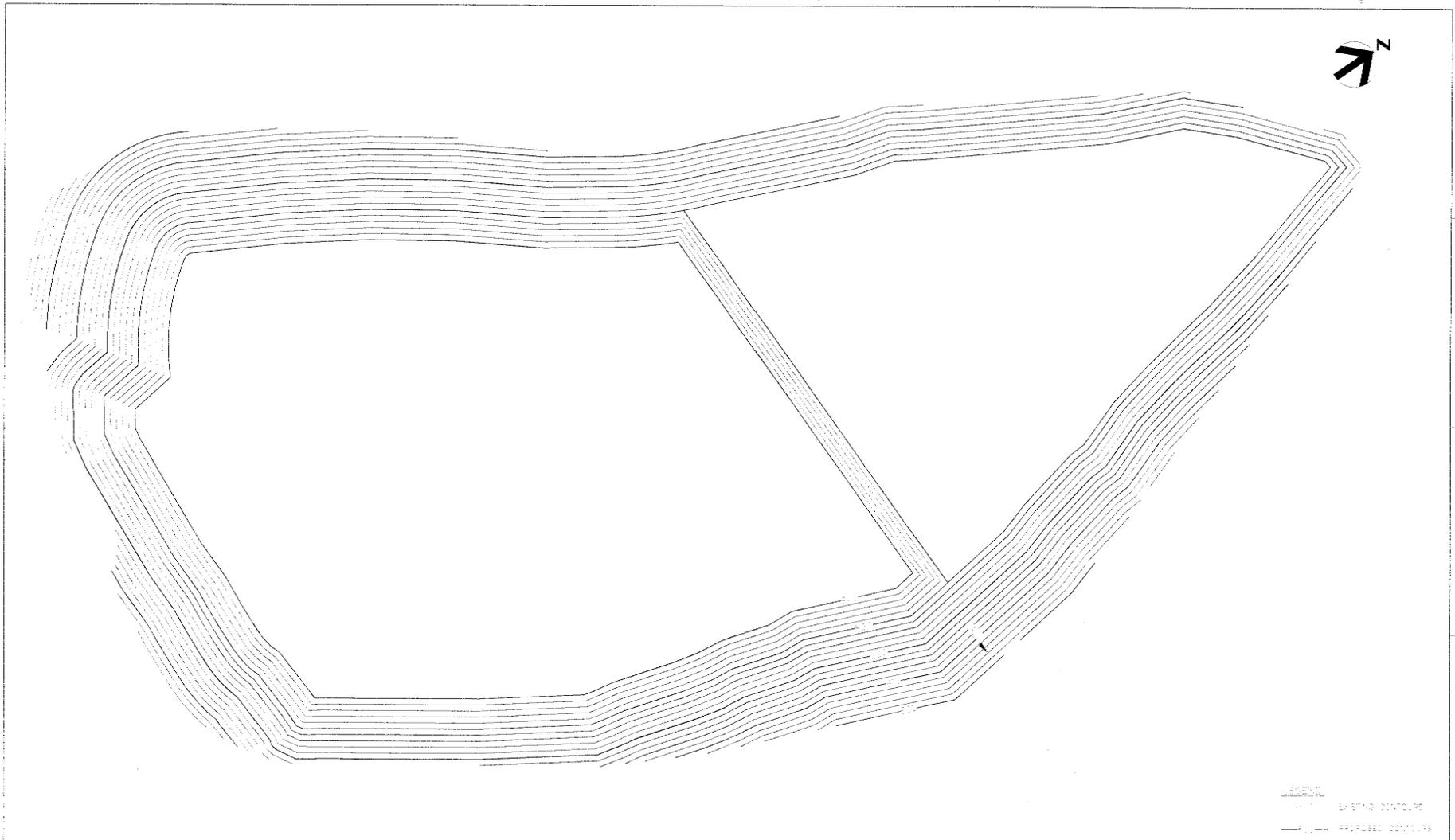
Greensboro North Carolina

**FILLING PLAN
LIFT 1**

0 1" 2"

FILENAME	00C-01.dwg	SHEET	
SCALE	1"=60'	C-01	

C:\pwworking\174601\12822600C-01.dwg, Plot: 6/19/2008 5:18:24 PM, gwilliam



LEGEND
--- EXISTING CONTOURS
--- PROPOSED CONTOURS



PROJECT: GREENSBORO PHASE II C & D LANDFILL
DATE: 10/15/2010
SCALE: AS SHOWN
DRAWN BY: J. B. BROWN
CHECKED BY: J. B. BROWN

PROPOSED CONTOURS
EXISTING CONTOURS



**GREENSBORO PHASE II
C & D LANDFILL**
Greensboro North Carolina

**FILLING PLAN
LIFT 3**
SCALE: 1"=200'-0" (VERTICAL)
1"=100'-0" (HORIZONTAL)
DATE: 10/15/2010
DRAWN BY: J. B. BROWN
CHECKED BY: J. B. BROWN
C-03



DATE: 08/11/2010	BY: J. W. BROWN
SCALE: AS SHOWN	PROJECT: GREENSBORO PHASE II C & D LANDFILL

PROJECT: GREENSBORO PHASE II C & D LANDFILL
DATE: 08/11/2010



**GREENSBORO PHASE II
C & D LANDFILL**

Greensboro North Carolina



**FILLING PLAN
LIFT 5**

DATE: 08/11/2010
BY: J. W. BROWN

C-05

.1627 Closure Plans

The following closure and post closure plans for the White Street Landfill Phase II have been prepared in accordance with Rule .1627 for MSW landfills as required by Rule .0547(4)(d) governing existing C&D landfill units constructed on top of closed MSW landfills.

1.0 Closure

In accordance with the Solid Waste Management rules and/or statutes, and upon achievement of the final design and approved contours, the City of Greensboro proposes to construct the regulatory cap system over the construction and demolition debris landfill area. Prior to the placement of the final cap, the City of Greensboro will verify that fill area slopes constructed within the disposal area meet the approved slope requirements. The City will construct the areas such that post-settlement slopes of a minimum of 5 percent to a maximum of 25 percent can be achieved. Additionally, final contours will be established to enhance drainage from the construction and demolition debris fill areas to reduce the potential for infiltration into the waste mass. It is estimated that the total landfill operating volume at completion will be 2,315,800 cubic yards. The maximum area requiring a cap at any one time is approximately 64 acres.

An active gas collection system is currently in operation in Phase II to allow movement of gas generated from the completed fill area to the gas management area. Modifications to the system will not be required based on the C&D closure.

Commencement of closure activities will begin as required in accordance with Rule .1627 as promulgated. Once begun, closure will proceed and continue in compliance with Rule .1627.

A sign indicating the anticipated date of the final waste acceptance into the construction and demolition debris disposal unit as well as anticipated closure will be conspicuously posted at the facility at least 30 days in advance. The City of Greensboro may employ other avenues and devices to notify the public of the planned closure. These may include advertising in the local print media, advertising on local television, mailing to regular account customers, and notices on the City of Greensboro cable television channel. Prior to beginning closure of the unit, or portions thereof, the Division will be notified that intent to close has been placed in the operating record.

The closure will begin after completion of a portion of the final grades but no later than 30 days after the final receipt of waste. The design of the landfill in combination with the maintenance plan should assure a fairly uncomplicated closure period. The closure of the entire unit, or portions thereof, will be completed within 180 days unless an extension has been requested and received due to changes in the anticipated schedule.

The cap system designed will be constructed in accordance with Rule .1624(b)(8),(9), and (15) to minimize infiltration and erosion. The proposed cap system will minimize infiltration with the use of a low-permeability barrier that contains a minimum 18 inches of earthen material. The proposed permeability barrier will be less than or equal to the permeability of any base liner system or in-situ subsoils underlying the landfill, or a permeability specified for the final cover in the effective permit, or a

permeability no greater than 1×10^{-5} cm/sec, whichever is less. Additionally, erosion of the cap system will be minimized with the placement of at least 6 inches of earthen material that is capable of sustaining native plant growth. This layer will assist in the reduction of root penetration and protect the low permeability barrier layer. The installation and testing of the cap system will be performed as required by the specifications found in Appendix F, and the Construction Quality Assurance Plan found in Appendix G.

The construction of the regulatory cap system is anticipated to utilize borrow material from on-site landfill sources that satisfy the permeability requirements. Off-site materials that satisfy the permeability requirements will supplement volume differentials. In order to assure that the material meets the established criteria, the material will be tested prior to use and after placement. Final construction methods for the compacted clay liner shall be based upon the type and quality of the borrow source and shall be verified in the field by constructing test pad(s). A professional engineer licensed in the state of North Carolina shall certify that the compacted clay liner installation conforms with the plans approved by the NC DENR Division of Waste Management.

The anticipated schedule for closure activities to be initiated by the City of Greensboro will begin when that portion of the landfill unit meets one or more of the following requirements, unless an extension has been granted by NCDENR.

1. No later than 30 days after the date on which the C&D unit receives the known final receipt of wastes.
2. No later than one year after the most recent receipt of wastes, if the C&D unit has remaining capacity.

The material of the erosion layer will be selected considering soil type, nutrient levels, pH, erodibility, and other factors. Finished sideslopes shall be stable and configured to adequately control erosion and run-off. The erosion and storm water control system designed for Phase II is adequate to handle the runoff from the C&D area. The final cover will be graded, seeded, and stabilized. All cover material will be free of putrescible material, solid waste, construction debris, vegetation, rocks, frozen soil and other deleterious materials. The vegetation should be selected based upon:

- Species of grasses which are locally adapted and resistant to drought or temperature extremes;
- Having roots which will not disrupt the low permeability layer;
- Ability to thrive in low nutrient soil and develop a good stand to resist erosion;
- Survive and function with little or no maintenance.

The cap will be mowed on a routine basis to ensure growth of large, deep-rooted vegetation does not occur.

2.0 Closure Verification

The following procedures will be implemented following closure of the construction and demolition debris disposal unit in Phase II.

1. A Construction Quality Assurance (CQA) report shall be submitted to the Division. The report shall describe the observations and tests used before, during, and upon completion of cap construction to ensure that the construction materials meet the design specifications and the construction and certification requirements. The CQA report shall contain as built drawings.
2. A signed certification from an independent registered professional engineer verifying that closure has been completed in accordance with the closure plan will be submitted to the Division.
3. At least one sign notifying all persons of the closing of the disposal unit and that wastes are no longer accepted there will be posted. Suitable barriers will be installed and maintained to ensure against further waste disposal.
4. Within 90 days, a survey plat, compliant with G.S. 47-30 will be prepared by a professional land surveyor registered in the state of North Carolina. The plat shall be placed in the operating record of the facility.
5. A notation shall be recorded on the facility deed (or deeds) notifying the public that the land has been used as a solid waste management disposal facility and that future use is restricted under paragraph (8) of Rule.1627. A copy of the deed notation as recorded shall be filed with the operating record.
6. Following closure the Division will be notified that a certification, signed by the project engineer verifying that the closure has been completed in accordance with the closure plan, and has been placed in the operating record.

3.0 Post Closure Plan

This post-closure plan has been developed to outline steps to be taken to ensure environmental soundness of the landfill during its post-closure care period. The post-closure care period will last at least 30 years after closure completion and at a minimum will consist of the following.

1. Maintaining integrity and effectiveness of the final cover system.
2. Continued implementation of the approved groundwater monitoring plan through routine groundwater and surface water monitoring events.
3. Maintaining and operating a landfill gas control system and routine landfill gas monitoring events.
4. Maintaining surface run-on and run off controls.

3.1 Post Closure Monitoring Plan

The closed unit will be monitored for a minimum of 30 years. A series of inspections shall be scheduled to ensure the integrity and effectiveness of the cap system, storm water management system, groundwater monitoring system, gas collection and control system, and to protect human health and the environment. Inspections will be conducted utilizing the Post-Closure inspection Checklist as exhibited in Appendix E. No wastes will remain exposed after the closure of the disposal unit. Access to the closed site by the public or domestic livestock will not pose a health hazard. After official closure of the disposal unit has occurred, the area will be maintained with grass vegetation.

3.2 Closed Unit Monitoring and Inspections

Routine monitoring and inspections of the closed disposal unit will occur on a quarterly and semi-annual basis. All inspections records, reports and actions taken will be filed with and made a part of the operating record of the facility.

Quarterly inspections of the closed site will include examination of the security of control devices for signs of deterioration or vandalism to ensure access to the facility is limited to authorized persons. The previous disposal area will be checked to ensure the integrity of the final cover system is maintained, erosion damage is repaired, vegetative cover persists, and that cover settlement, subsidence and displacement are minimal. Drainage ditches, channels and other control devices will be cleared and repairs made as necessary. Benchmark integrity will be noted and maintained.

Semi-annual inspections will include drainage of the final cover system, settlement, subsidence and displacement. Semi-annual inspections will also include the semi-annual groundwater and surface water monitoring event as well as the landfill gas collection and control system.

In addition to the routine inspection program, landfill staff, during the normal course of the workday, will note and report any deficiencies in the operations and effectiveness of the entire landfill facility. These deficiencies will then be repaired and corrected as necessary.

3.3 Post Closure Contact

All correspondence and questions concerning the post-closure care of the unit should be directed to:

Environmental Services Director
City of Greensboro
P.O. Box 3136
Greensboro, NC 27402-3136
(336) 373-7658

3.4 Description of Use

After filling operations cease at Phase II of the White Street Sanitary Landfill and the unit is officially closed in accordance with the Plan, the area will be allowed to return to its natural vegetative state.

3.5 Engineering Certification

Based on the City's monitoring reports and an engineer's quarterly site visits, annual certifications by the engineer will be placed in the operating record. They will certify that the closure plan has been followed, noting discrepancies along with the corrective actions undertaken. At the end of the post closure period, the individual certifications will be compiled into a final document and forwarded to the Division.

4.0 Maintenance

4.1 Repair of Security Control Devices

Should the routine inspection process note any deficiencies in any of the security and access control devices, maintenance and repair will be performed as necessary. Locks, vehicular gates, and fencing will be replaced if functioning improperly. Warning and information signs will be kept legible at all times and will be replaced if damaged by inclement weather or vandalism.

4.2 Erosion Damage Repair

Should the routine inspection process note any evidence of erosion in any areas of the final cap system, maintenance, repair and reseeded will be performed as necessary and as soon as possible after detection. Excessive slopes will be flattened if possible by adding clean fill material. If necessary, erosion control fabrics will be used to expedite re-vegetation of slopes and to secure topsoil in place.

4.3 Correction of Settlement, Subsidence, and Displacement

Minimum slopes of 5% will be maintained after settlement in order to prevent ponding and allow for proper drainage while preventing infiltration. If vertical or horizontal displacement occurs due to differential settlement, cracks will be filled with appropriate material and final cover will be re-established.

4.4 Repair of Run-On/Run-Off Control Structures

All terraces, swales, and perimeter channels will be repaired, cleaned, or realigned to maintain original conditions and performance. Any culverts, pipe, or other control device that becomes damaged will be repaired or replaced.

4.5 Gas Collection System

The landfill gas collection system is anticipated to be maintained by the City or a third party. Proper operation of the systems will be verified through testing at the landfill gas monitoring wells and probes.

If methane gas recovery wells do not function as a result of irregular settlement, accumulation of liquids (condensate, leachate, water), binding or corrosion, replacement wells can be installed if necessary.



CITY OF GREENSBORO
LETTER FROM CHIEF FINANCIAL OFFICER
FY 2011

November 14, 2011

Mr. Donald Herndon
Compliance Officer
North Carolina Department of Environment
and Natural Resources – Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

Dear Mr. Herndon:

I am the chief financial officer of the City of Greensboro, North Carolina. This letter is in support of this unit of local government's use of the financial test to demonstrate financial assurance, as specified in 15A NCAC 13B Rule.1628 (e)(1)(F) for the fiscal year ending June 30, 2011, including estimated closure and post-closure costs of the City's C & D Landfill, as well as certain estimated remediation costs associated with the Phase II Landfill groundwater.

This unit of local government is the owner and operator of the following facilities for which financial assurance for closure, post-closure, or corrective action is demonstrated through the financial test specified in 15A NCAC 13B Rule.1628 (e)(1)(F). The current closure and post-closure cost estimate covered by the test are shown for Permit No. 41-03, White Street Sanitary Landfill, Phase II, located at 2503 White Street, Greensboro, North Carolina, 27405. Of the 135 acres of the Phase II footprint, 101 are owned by Guilford County and leased to the City of Greensboro. We believe, however, that actually only 98 acres of the 101 acres owned by Guilford County is actually utilized as part of the landfill footprint area. The City completed final closure of Phase II during fiscal year 1998-99. Upon closure, the MSW Landfill was re-permitted for construction and demolition debris disposal above the regulatory closure cap, consisting of approximately 65 acres. As of June 30, 2011, the City of Greensboro had expended \$3,876,035 to complete the closure of the original Phase II MSW Landfill. Future closure costs of the 65 acre C&D unit are estimated at \$6,028,690. It is estimated that total Phase II post-closure care costs, including the C&D unit will amount to \$6,242,465 (\$256,540 per year) following closure.

The current closure and post-closure cost estimate covered by the test are also shown for Phase III, Cells 1, 2 and 3, White Street Sanitary Landfill, located at 2503 White Street, Greensboro, North Carolina, 27405. The permit number for Phase III is 41-12. Phase III opened on January 1, 1998 and Cell 1 (25 acres) completed filling as of June 30, 2001. It is estimated that \$5,256,003 (2010 adjusted for inflation) will be required in total for closure activities at the White Street Sanitary Landfill Phase III, Cell 1, and post-closure activities will require \$71,790 (2010 adjusted for inflation) annually for 30 years after closure or \$2,153,700. The City's recorded liability for closure and post-closure care costs of Phase III Cell 1 as of June 30, 2011 was \$7,409,703 based on full capacity used.

Phase III, Cell 2 (13 acres) opened on July 1, 2001. It is estimated that \$2,733,079 (2010 adjusted for inflation) will be required in total for closure activities at the White Street Sanitary Landfill Phase III, Cell 2, and post-closure activities will require \$37,330 (2010) annually for 30 years after closure or \$1,119,900. The City's recorded liability for closure and post-closure care costs of Phase III Cell 2 as of June 30, 2011 was \$3,852,979 based on 100% capacity used.

Phase III, Cell 3 (13 acres) began filling in 2005. It is estimated that \$2,733,079 (2010 adjusted for inflation) will be required in total for closure activities at the White Street Sanitary Landfill Phase III, Cell 3, and post-closure activities will require \$37,330 annually for 30 years after closure or \$1,119,600. The City's recorded liability for closure and post-closure care costs of Phase III Cell 3 as of June 30, 2011 was \$1,805,608 based on 46.9% capacity used.

Costs are based on estimates provided by an independent engineering firm contracted by the City in FY2010, as attached. Resources totaling \$510,367 to fund landfill expansion, closure and post-closure care costs and certain remediation costs have been set aside in a Solid Waste Capital Reserve Fund as of June 30, 2011. In addition, available operating funds totaled \$6,530,397 as of June 30, 2011 for solid waste collection and disposal purposes, including \$1,971,221 appropriated for FY 2012 activities.

Should any corrective actions be deemed necessary, a detailed written estimate of current costs associated with the required corrective action remedies shall be submitted to the Division of Solid Waste Management. Estimated groundwater remediation costs, as provided to us by our groundwater consultants, S&ME, Inc., were included in the information submitted to NC DENR on August 31, 2007. A corresponding estimate of \$2,170,907 was included in the financial assurance test.

The current fiscal year of this unit of local government ended on June 30, 2011. The figures for the following items marked with an asterisk are derived from this local government's Annual Financial Information Report (AFIR) for the latest completed fiscal year ended June 30, 2011.

I hereby certify that the wording of this letter is identical to the wording specified in 15A NCAC 13B.1628 (e) (2) (G) as such rules were constituted on the date shown immediately below. I further certify the following: (1) that the unit of local government has not operated at a total operation fund deficit equal to five percent or more of total annual revenue in either of the past two fiscal years, (2) that the unit of local government is not in default on any outstanding general

obligation bonds or long-term obligations, and (3) does not have any outstanding general obligation bonds rated lower than Baa as issued by Moody's, BBB as issued by Standard & Poor's, BBB as issued by Fitch's, or 75 as issued by the Municipal Council.

Sincerely,

A handwritten signature in black ink, appearing to read "R. L. Lusk". The signature is written in a cursive style with a large, prominent initial "R".

Richard L. Lusk
Finance Director
City of Greensboro
November 14, 2011

Attachments

**CITY OF GREENSBORO, NORTH CAROLINA
BOND RATING INDICATOR OF FINANCIAL STRENGTH - FY 2011**

1. Sum of current closure and post-closure cost estimates:	
(a) Phase III, Cell 1 closure	\$5,256,003
(a) Phase III, Cell 1 post-closure	2,153,700
(a) Phase III, Cell 2 closure	2,733,079
(a) Phase III, Cell 2 post-closure	1,119,900
(a) Phase III, Cell 3 closure	2,733,079
(a) Phase III, Cell 3 post-closure	1,119,900
(a) Phase II, Closure (C&D)	6,028,690
(a) Phase II, Post-closure	6,242,465
(b) Phase II, Estimated groundwater remediation	2,170,907

Total closure and post-closure costs \$29,557,723

2. Current bond rating of most recent issuance and name of rating service:			
	Enterprise System Revenue Bonds	Certificates of Participation	General Obligation Bonds
Standard & Poor's Corp.	AAA	AA+	AAA
Moody's Investors Service	Aa1	Aa2	Aaa
Fitch Ratings	AAA	AA	AAA

3. Date of issuance bond:	April, 2009	June, 2011	October, 2010
---------------------------	-------------	------------	---------------

4. Date of maturity bond:	June, 2034	April, 2031	October, 2030
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5. Assured environmental cost to demonstrate financial responsibility in the following amounts under Division rules:

MSWLF under 15A NCAC 13B Section.1600: \$26,557,723

Hazardous waste treatment, storage and disposal facilities under 15A NCAC 13B Rules .0009 and .0010: \$0

Petroleum underground storage tanks under 15A NCAC 2N Sections .0100 - 0800: \$130,200

Underground injection Control System facilities under 15A NCAC 2D Section .0400 and 15A NCAC 2C Section .0200: \$0

PCB commercial storage facilities under 15A NCAC 20 Section .0100 and 15A NCAC 2N Section .0100: \$0

Other: Assessment and Corrective Action 3,000,000

Total assured environmental costs: \$29,687,923

6. Total Annual Revenue (AFIR Part 2): (2011 Report) \$502,835,464

7. Is line 5 divided by line 6 less than or equal to 0.43? Yes/No? **Yes**

(a) Based on 2010 engineering cost estimates, adjusted for inflation
(b) Based on 2011 engineering cost estimates



August 12, 2010

TO: Rick Lusk, Finance Director
FROM: Gail Licayan P.E., Technical and Planning Support Division Manager
SUBJECT: Subject: Financial Assurance Certificate – C&D Landfill Closure

Enclosed is the certified Cost Estimate for Closure of Phase II C&D unit of the White Street Landfill. This document can be utilized for financial assurance certification required by 15A NCAC 13B .0546. The cost estimate is based on closure of an area approximately 64± acres in size. Please note that the acreage will likely be modified as it is derived from a plan view drawing and not the actual surface area of the unit. This cost estimate is based on the unit costs presented in the estimate for partial closure of the Phase II C&D unit prepared by HDR Engineering, Inc. of the Carolinas. No solicitation for costs or investigation of resources has been completed. Therefore the estimate is contingent upon available resources (i.e. soil since roadway development also utilizes this resource) and may not reflect actual costs but is adequate for budgeting purposes.

Gail Licayan
Attachment: Cost Estimate for Closure of Phase II C&D

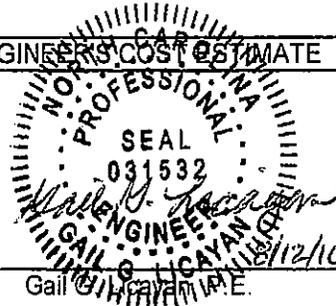
**City of Greensboro, White Street Landfill
Cost Estimate for Closure of Phase II C&D**

Item	Unit	Unit Cost	Full Closure (64± acres)	
			Quantity	Total
Acreage	AC		64	
Mobilization, CQC, Project Admin., Bonds	%	4	1	\$ 174,100
Surveying and Control	AC	\$ 3,000	64	\$ 192,000
1x10-5 Infiltration Layer (18 inches):				
Transportation (20 miles @ \$3.00/mile/load)	Load	\$ 60	15,488	\$ 929,300
Material	CY	\$ 6	154,880	\$ 929,300
Placing/Grading/Compaction	CY	\$ 6	154,880	\$ 929,300
Vegetative Support Layer (6 inches):				
Transportation (20 miles @ \$3.00/mile/load)	Load	\$ 60	5,163	\$ 309,800
Material	CY	\$ 4	51,626	\$ 180,700
Placing/Grading/Compaction	CY	\$ 4	51,626	\$ 180,700
Seeding and Mulching	AC	\$ 1,700	64	\$ 108,800
Backfill/Grading/Storm Water Drainage	LS	\$ 400,000	1	\$ 400,000
Methane Gas Control (passive extraction)	AC	\$ 6,000	64	\$ 384,000
Subtotal				\$ 4,718,000
Contingency	%	20		\$ 943,600
CQA	%	5		\$ 235,900
			2009 Total Construction	\$ 5,897,500
			2010 Inflation Factor per NCDENR	1.2%
			2010 Total Construction	\$ 5,969,000

Notes:

1. Area estimate (64± acres) based on plan view drawing, not actual surface area.
2. Estimate for full closure of Phase II (approximately 64 acres) is based on unit costs used in estimate for partial closure prepared by HDR Engineering, Inc. of the Carolinas (HDR).
3. HDR estimate based on costs bid for similar work at landfills in southeast region and assumes soil material will come from offsite sources. No actual solicitations or investigation of resources was completed.

ENGINEER'S COST ESTIMATE



October 22, 2010

Ms. Jeryl Covington, PE
Director of Environmental Services
City of Greensboro
P.O. Box 3136
Greensboro, NC 27402-3136

Re: Revised Fiscal Year 10/11 Closure and Post Closure Estimates
White Street Landfill
City of Greensboro, NC
HDR Project No. 06770-45262-018

Dear Ms. Covington:

Enclosed is a copy of the revised certified Fiscal Year 10/11 Closure and Post Closure Estimates for Phases I, II, and III prepared by HDR Engineering, Inc. of the Carolinas (HDR) for the White Street Landfill. The engineer's estimates are based on the regulatory requirements for closure and post-closure. HDR has made edits to inflate the 2009 estimate by the 1.2% inflation value taken from the NCDENR website. The pricing for components of the estimates is based on actual bid pricing for landfills in the southeast region. No actual investigation of resources in and around the White Street Landfill has been conducted. Due to the volatility of market conditions both locally and nationally, these estimates may not reflect actual costs. However, we consider them to be reasonable and adequate for budgeting purposes.

If you should have any questions or require additional information, please feel free to contact me at (704) 338-6843.

Sincerely,



Michael D. Plummer, PE
Project Engineer

Enclosures

MDP/mdp

WHITE STREET LANDFILL
 FISCAL YEARS 2010/2011 THROUGH 2014/2015
 ESTIMATED CLOSURE AND POST-CLOSURE COSTS ⁽⁴⁾

Year	1 FY 10/11	2 FY 11/12	3 FY 12/13	4 FY 13/14	5 FY 14/15
<u>CAPITAL COSTS</u>					
Phase III Partial Closure Costs (21 Acres) ⁽¹⁾	\$ 4,319,000	0	0	0	0
Phase II C&D Closure Costs (38 Acres)	\$ 3,713,000	0	0	0	0
Post Closure Costs (Phase I and II) ⁽²⁾	\$ 254,000	\$ 266,700	\$ 280,035	\$ 294,037	\$ 308,739
Post Closure Costs (Phase III) ⁽³⁾	\$ 145,000	\$ 152,250	\$ 159,863	\$ 167,856	\$ 176,248
TOTAL COST	\$ 8,431,000	\$ 418,950	\$ 439,898	\$ 461,892	\$ 484,990

- (1) The value is consistent with the July 6, 2009 estimate. The remaining Phase III Area is closed outside of this timeframe.
- (2) Post Closure costs based on current costs incurred by the City.
- (3) Post Closure costs are escalated at 5% inflation.
- (4) Costs were estimated in conjunction with City staff.

ENGINEER'S COST ESTIMATE



Michael D. Plummer, PE

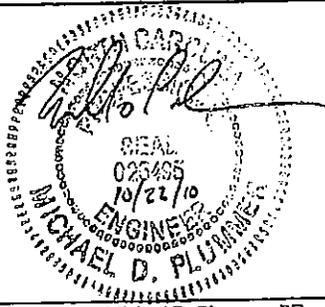
REVISED FOR FY 2010
CITY OF GREENSBORO, WHITE STREET LANDFILL, PHASE III
COST ESTIMATE FOR CLOSURE OF THE UNIT
(BASED ON 52 ACRE CLOSURE)

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
Construction:	52	Ac		
Geomembrane (40 mil LLDPE)	2,265,120	SF	\$0.50	\$1,132,600
Geonet Drainage Layer	2,265,120	SF	\$0.73	\$1,653,500
1 x 10 ⁻⁵ Infiltration Layer (18 inches):				
Transportation (20 miles @ \$3.00/mile/load)	12,590	Load	\$60	\$755,400
Material	125,900	CY	\$6.00	\$755,400
Placing/Grading/Compaction	125,900	CY	\$6.00	\$755,400
Vegetative Support Layer (24 inches):				
Transportation (20 miles @ \$3.00/mile/load)	16,780	Load	\$60	\$1,006,800
Material	167,800	CY	\$3.50	\$587,300
Placing/Grading/Compaction	167,800	CY	\$3.50	\$587,300
Seeding and Mulching	52	AC	\$1,700	\$88,400
Backfill/Grading/Drainage	1	LS	\$700,000	\$700,000
Methane Gas Control (active extraction)	20	AC	\$2,500	\$50,000
Subtotal				\$8,072,100
Contingency (20%)				\$1,614,400
Engineering Planning/Design				\$400,000
Construction Quality Assurance (CQA)	5	%	\$403,605	\$403,600
2009 TOTAL CONSTRUCTION				\$10,490,000
2010 Inflation Factor per NCDENR				1.2%
2010 TOTAL CONSTRUCTION				\$10,616,000

Note:

1. The majority of the methane gas extraction system in the Phase III closure area has been completed. This item is to finalize the gas collection system.
2. These estimates are based on average costs bid for similar work at a nearby landfill.
3. This estimate assumes soil material will come from offsite sources.
4. CQA includes construction monitoring, documentation and certification services as required under NCDENR Rules 15A NCAC 13B .1621 and .1624.

ENGINEER'S COST ESTIMATE

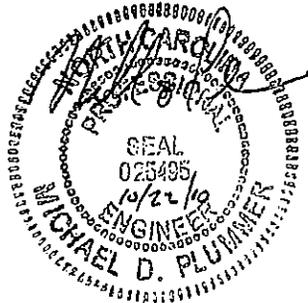


Michael D. Plummer, PE

REVISED FOR FY 2010
CITY OF GREENSBORO, WHITE STREET LANDFILL, PHASE III
ESTIMATED AVERAGE ANNUAL POST-CLOSURE COST
(BASED ON 52 ACRES)

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
Engineering Certificate	1	LS	\$17,400	\$17,400
Site Inspection and Recordkeeping:	80	HR	\$100	\$8,000
Cap Maintenance:				
Mowing	52	AC	\$100	\$5,200
Gates/Fences and Access Control	1	LS	\$2,300	\$2,300
Erosion Control	1	LS	\$5,800	\$5,800
Surface Water Control	1	LS	\$3,500	\$3,500
Seeding	4	AC	\$1,400	\$5,600
Monitoring:				
Methane Gas Monitoring and Report (quarterly)	4	3 mo.	\$5,800	\$23,200
Groundwater Sampling/Lab and Report (semiannual)	1	LS	\$35,200	\$35,200
Monitor well Maintenance	1	LS	\$1,500	\$1,500
Methane Gas System Repairs	1	LS	\$12,000	\$12,000
Subtotal				\$119,700
Contingency (20%)				\$23,940
			2009 AVERAGE ANNUAL COST	\$143,640
			2010 Inflation Factor per NCDENR	1.2%
			2010 TOTAL CONSTRUCTION	\$145,000
Note:				
1. These estimates are for a third party and include labor.				

ENGINEER'S COST ESTIMATE



Michael D. Plummer, PE

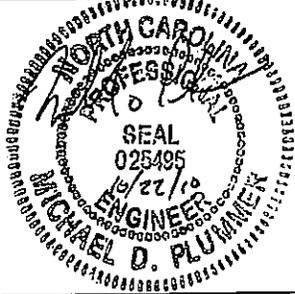
REVISED FOR FY 2010
CITY OF GREENSBORO, WHITE STREET LANDFILL, PHASE II C&D
COST ESTIMATE FOR PARTIAL CLOSURE OF THE UNIT
(BASED ON 38 ACRE CLOSURE, TOTAL UNIT IS 65 ACRES)

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
Construction:	38	AC		
Mobilization, CQC, Project Admin., Bonds	1	LS	4.00%	\$109,900
Surveying and Control	38	AC	\$3,000	\$114,000
1 x 10 ⁻⁵ Infiltration Layer (18 inches):				
Transportation (20 miles @ \$3.00/mile/load)	9,196	Load	\$60	\$551,800
Material	91,960	CY	\$6.00	\$551,800
Placing/Grading/Compaction	91,960	CY	\$6.00	\$551,800
Vegetative Support Layer (6 inches):				
Transportation (20 miles @ \$3.00/mile/load)	3,065	Load	\$60	\$183,900
Material	30,653	CY	\$3.50	\$107,300
Placing/Grading/Compaction	30,653	CY	\$3.50	\$107,300
Seeding and Mulching	38	AC	\$1,700	\$64,600
Backfill/Grading/Stormwater Drainage	1	LS	\$400,000	\$400,000
Methane Gas Control (passive extraction)	38	AC	\$6,000	\$228,000
Subtotal				\$2,970,400
Contingency (20%)				\$594,100
CQA	5	%	\$148,520	\$148,500
			2009 TOTAL CONSTRUCTION	\$3,713,000
			2010 Inflation Factor per NCDENR	1.2%
			2010 TOTAL CONSTRUCTION	\$3,758,000

Note:

1. These estimates are based on costs bid for similar work at a nearby landfill.
2. This estimate assumes soil material will come from offsite sources.

ENGINEER'S COST ESTIMATE



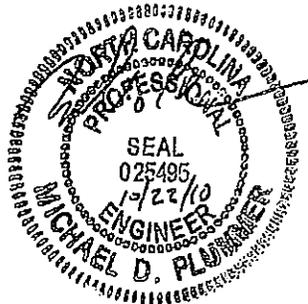
Michael D. Plummer, PE

REVISED FOR FY 2010
CITY OF GREENSBORO, WHITE STREET LANDFILL, PHASE I & II
ESTIMATED AVERAGE ANNUAL POST-CLOSURE COST
(BASED ON 220 ACRES)

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
Engineering Certificate	1	LS	\$17,400	\$17,400
Site Inspection and Recordkeeping:	160	HR	\$100	\$16,000
Cap Maintenance:				
Mowing	220	AC	\$100	\$22,000
Gates/Fences and Access Control	1	LS	\$2,300	\$2,300
Erosion Control	1	LS	\$5,800	\$5,800
Surface Water Control	1	LS	\$3,500	\$3,500
Seeding	16	AC	\$1,400	\$22,400
Monitoring:				
Methane Gas Monitoring and Report (quarterly)	4	3 mo.	\$5,800	\$23,200
Groundwater Sampling/Lab and Report (semiannual)	1	LS	\$46,800	\$46,800
Monitor well Maintenance	1	LS	\$1,500	\$1,500
Methane Gas System Repairs	1	LS	\$48,000	\$48,000
Subtotal				\$208,900
Contingency (20%)				\$41,780
2009 AVERAGE ANNUAL COST				\$250,680
2010 Inflation Factor per NCDENR				1.2%
2010 TOTAL CONSTRUCTION				\$254,000

Note: These estimates are for a third party and include labor.

ENGINEER'S COST ESTIMATE



Michael D. Plummer, PE

**TABLE 1
CITY OF GREENSBORO WHITE STREET LANDFILL
CURRENT EQUIPMENT INVENTORY**

DESCRIPTION	MAKE/MODEL	NO.	COMMENT
LANDFILL COMPACTOR	CAT 836G	2	
COMPACTOR	AL-JON525	1	
BULLDOZER	CAN D-8N	1	
BULLDOZER	CAT D-8R	1	
BULLDOZER	CAT D-6LGP	1	
BULLDOZER	DRESSER -TD-25	1	
MOTORGRADER	CAT 140-G	1	
LOADER	WA-250 KOMATSU	1	
LOADER	FIAT ALLIS 250	1	
EXCAVATOR	SAMSUNG 450	1	
DUMPTRUCK	40 TON/OFFROAD	3	
FARM TRACTOR	NEW HOLLAND8360	1	
FARM TRACTOR	JOHN DEERE2355	1	
WATER TRUCK	INT. 3500 GAL.	1	
ATV UTILITY	POLARIS	1	
ATV UTILITY	BOBCAT	1	
ATV UTILITY	POLARIS	1	
TANDEM DUMP TRUCK	STERLING	1	
TRUCK	INT.	1	FUEL TRUCK
TRUCK	INT.	1	SERVICE TRUCK
TRUCK	FORD F-450 4X4	1	MAINTENANCE TRUCK
TRUCK	CHEV. S/10 4X4	1	
TRUCK	CHEV. S/10 4X4	1	
TRUCK	FORD F-250 4X4	1	LFG/LF TECHNICIAN

WASTE SCREENING

City of Greensboro - Waste Disposal Facility

Date: _____ Time: _____ Inspected By: _____

- Are there any visible labels of hazardous waste found? No _____ Yes _____
- Are there any strong or irritating odors detected? No _____ Yes _____
- Are there any visible or noisy reactions detected? No _____ Yes _____
- Are there any liquids in containers or liquid saturated waste detected? No _____ Yes _____
- Are there any grindings, shavings, or fine particles detected? No _____ Yes _____
- Are there any sludges or bulk liquids detected? No _____ Yes _____

EXCLUDED WASTE FOUND

	No	Yes	If yes, how was the waste handled/disposed
Hazardous Waste			
Liquid Waste PCB Waste			
Tires			
White Goods			
Yard Waste			
Used Motor Oil			
Anti-Freeze			
Batteries			
Aluminum Cans (Bulk)			
Other (specify)			

WASTE FOUND REQUIRING SPECIAL ATTENTION

	No	Yes	If yes, how was the waste handled/disposed
Asbestos			
Sludges			
Medical Waste			
Other (specify)			

Hauler: _____ Vehicle # _____ Driver ID _____

Source _____ Waste Type: _____

Net Tonnage Of Load _____ Ticket # _____

City of Greensboro
White Street Sanitary Landfill

Report of Attempted Disposal of Hazardous or Prohibited Materials

Date: _____

Time: _____

Description of Material: _____

Detected By: _____

Hauler: _____

Owner: _____

Describe Exposure to Landfill Personnel and Customers(if applicable):

EMS MEDICAL SERVICES OTHER _____

GFD HazMat Incident Commander: _____

Describe Contamination of Property or Equipment (if applicable):

HAZARDOUS MATERIALS CONTINGENCY PLAN

This plan is developed to meet the requirements of the North Carolina Administrative Code 13B.1626 (1) (f) (iv). The White Street Sanitary Landfill does not accept any liquid or hazardous waste. Active measures are taken to insure that hazardous materials do not enter the landfill. These include signage, customer screening, radiation scanning and load inspections.

This plan establishes procedures that must be taken to minimize hazards to human health and the environment caused by sudden, non-sudden, or unplanned explosion, fire, discovery, or release of an unknown or hazardous material to the air, soil, surface water, or ground water.

1. Facility Identifications and General Information

Owner/Operator: The City of Greensboro
 Department of Environmental Services
 Division of Solid Waste Management
 White Street Sanitary Landfill

Location: 2503 White Street
 Greensboro, North Carolina 27405

Mailing Address: PO Box 3136
 Greensboro, NC 27402-3136

Telephone: (336) 373-7658 (Administration Office)
 (336) 412-3959 (Landfill Operations)
 (336) 587-3445 (Landfill Operations Cell Phone)

a. Facility Type:

This site is a Solid Waste Management Disposal facility comprised of the following operations: (a) MSWLF disposal sites (active and closed), (b) construction and demolition debris landfill, (c) Yard Waste composting facility, (d) Heavy equipment maintenance garage, (e) Automated fuel dispensing station, (f) three administrative office buildings, (g) equipment and material storage facility, (h) two phase Landfill gas systems.

The White Street Sanitary Landfill is not a RCRA Hazardous Waste generator or disposer. Any hazardous materials encounter on this site will be as a result of an attempt to improperly dispose of materials banned from this site or materials exempt from regulation.

b. Personnel Training

Facility personnel are properly instructed in the operation and maintenance of all equipment used to prevent discharges from the site. Personnel receive training upon employment and annual refreshers. The Contingency Plan is reviewed and updated annually

2. Emergency Coordinators

Primary Emergency Coordinator	Business Phone	Cellular
Solid Waste Disposal Manager 814 Olive St Greensboro, NC 27401	(336) 373-7656	

Secondary Emergency Coordinators	Business Phone	Cellular
Operations Supervisor 711 N. Church Street Greensboro, NC 27401	(336) 412-3959	(336) 587-3445
Environmental Compliance Specialist 2310 1D Bellemeade St. High Point, NC 27263	(336) 373-7662	(336) 254-8096
Composting Facility Supervisor 5594 Wild Turkey Road Whitsett, NC 27377	(336) 373-7659	(336) 442-4776

3. Emergency Phone Numbers

Fire and/or Hazmat	911 or 373-2222
Police	911 or 373-2222
Emergency Medical Service	911
Emergency Management (Greensboro/Guilford Co.)	336-373-2278 or 336-574-4082
Emergency Management Operations (NCDENR)	(800) 858-0368
NCDENR DWM (Winston-Salem Regional Office)	336-771-5000
NC Department of Labor – OSHA	(919) 779-8560 or 1-800-625-2267
CHEMTREC	(800) 262-8200
National Response Center	(800) 424-8802 or 202-267-2675
Medical Services (City of Greensboro)	336-373-2412
Moses Cone Hospital (Emergency Department)	336-832-8040

4. Emergency Response Procedures

In the event that hazardous or suspicious materials are detected at the landfill, the following steps will be taken:

NOTIFICATION:

The individual discovering the situation will immediately notify the Administrative Building. The operator receiving the call will immediately notify the Emergency Coordinator.

The Emergency Coordinator shall assess the situation and take action as necessary. In the event of an actual emergency situation, the Emergency Coordinator must immediately take the following steps:

1. Notify all landfill personnel.
2. Evacuate personnel and customers to a safe location, as appropriate.
3. Require transporter to remain at facility, as appropriate.
4. Implement the appropriate action plan (see appendix).
5. Notify Greensboro Fire Department Hazmat Team if appropriate.
6. Notify NCDENR DWM, Solid Waste Section.
7. If the Emergency Coordinator has determined that the facility has had a release, fire or explosion that could threaten human health, or the environment, outside the facility, then the NCDENR Emergency Management Center (800-858-0368) and the National Response Center (800-424-8802) must be notified and the report should include the following information:
 - a. Name and telephone number of reporter
 - b. Name and address of facility
 - c. Time and type of incident (release, fire, etc.)
 - d. Name and quantity of material involved
 - e. The extent of injuries, if any
 - f. Possible hazards to human health, or the environment, outside the facility
 - g. Corrective actions taken or planned

5. Follow-up

The Emergency Coordinator will ensure that, after a hazardous materials emergency has occurred, all recovered waste, contaminated soil and water will be disposed of in accordance with EPA guidelines.

The Emergency Coordinator will see that all materials used in the containment or cleanup are replaced in a timely manner.

The Emergency Coordinator will also ensure that an investigation be conducted to determine the cause of the incident and the steps will be taken to prevent its reoccurrence.

The Emergency Coordinator shall notify NCDENR within 24 hours of an attempted disposal of any waste the landfill is not permitted to receive, including waste from outside the area the landfill is permitted to serve. Within five days of the incident, the Emergency Coordinator must submit a written report to the NCDENR, DWM, Solid Waste Section. The report must include the following:

- a. The name, address, and telephone number of the facility
- b. The name, address and telephone number of the transporter
- c. The name address and telephone number of the waste generator
- d. When the incident took place
- e. Who was responsible for responding the incident (Hazmat Team, Environmental Clean-up contractor, etc.)
- f. The response actions taken
- g. The extent of human injuries caused by the incident
- h. An assessment of harm to both human health and environment
- i. The amount of materials recovered and disposed of the incident
- j. Additionally, the report should contain documentation of calls of notification to the state or EPA as appropriate.
- k. Note preventative measures, if any, and historical incidents at the site.

6. Appendix

Hazardous or Suspect Materials Action Plan

1. The employee who discovers the hazardous or suspect waste shall see that all personnel, customers and visitors are evacuated a safe distance upwind from the affected area.
2. The employee will then notify the Emergency Coordinator. The Emergency Coordinator will notify the emergency team.
3. The Emergency Coordinator shall assess the situation and determine if an emergency exists and then select the appropriate action.
4. The transporter of the material will be instructed to remain on the landfill.
5. If the Emergency Coordinator determines that an emergency exists, the Greensboro Police/Fire communications shall be notified and request a response from the Hazmat Team.
6. Lead operators will be responsible for a roll call in their area, as well as accounting for customers and visitors. The lead operators will report personnel status to the Landfill Supervisor immediately. If anyone is injured and unable to evacuate him or herself from the hazard area, this shall be reported immediately. In order to prevent additional casualties, rescue of any injured persons from the affected area will be the responsibility of Fire and/or EMS personnel and will not be attempted by landfill personnel.

7. Due to the landfill waste disposal activities being considered an essential and critical function of the City of Greensboro, should a spill or release of material occur, interrupting the normal operation of the landfill disposal activities, a secondary disposal area will be opened as soon as possible to allow disposal operations to continue. Selection of an alternative disposal area will be based on permitted area available, distance from affected area, wind direction and any other factors that may influence continued safe operation.
8. Containment and clean up of hazardous materials shall be the responsibility of Greensboro Fire Department/Hazmat and the owner of the material. Landfill personnel are not trained to attempt containment or cleanup of hazardous materials.

Radiation Emergency Action Plan

1. If the radiation detectors located on either Scale 1 or Scale 2 goes to alarm mode (>1000 cpm) the scale operator will instruct the driver to turn off all unnecessary electrical components on his vehicle. If the detector continues to alarm, the driver will be instructed to move his vehicle to the paved road leading to the Operations Building. Once the driver has moved his vehicle to the road and parked it halfway between the scalehouse and the Operations building, he/she will secure the vehicle, abandon the vehicle, and report to the scalehouse.
2. The scale operator shall notify the Emergency Coordinator.
3. All personnel will be kept a safe distance from the vehicle.
4. The Emergency Coordinator will notify GFD/Hazmat (373-2222), Greensboro/Guilford County Emergency Management (373-2278), and NCDENR Emergency Management (800-858-0368).
5. Containment, cleanup and removal of material shall be the responsibility of GFD/Hazmat and the owner of the material.

SEE DOCUMENT DIN 4314
4103-MSWLF-1987

**WATER QUALITY MONITORING PLAN
WHITE STREET LANDFILL
PHASE I AND II AREAS
WHITE STREET
GREENSBORO, NORTH CAROLINA
S&ME Project No. 1584-98-081**

Prepared for:
The City of Greensboro

Prepared by:
S&ME, Inc.
3718 Old Battleground Road
Greensboro, North Carolina 27401

December 2007

LANDFILL POST-CLOSURE CARE
SITE VISIT CHECKLIST

Security Issues:

How is access limited to the site at the entrance?

How is access limited to the site along the site boundaries?

Is there evidence of illegal entry or dumping?

Are there areas of unimproved access roads (e.g., LFG blower/lake station, pump stations)?

What is the condition of access roads?

What are the materials used to make?

Landfill Surface Issues:

Are there cracks in the surface?

Is there evidence of surface erosion or surface cracking?

Is the geomembrane exposed?

Describe the location and extent of differential settlement.

Vegetative Cover Issues:

Are there areas where vegetative cover is insufficient?

Are there areas where vegetative cover is insufficient?

Is the vegetative cover of a type that it should be mowed?

Is the vegetative cover of a type that it should be mowed?

Surface Water Run-off:

How much erosion exists and where?

Does it appear that additional run-off controls are needed?

Does it appear that additional run-off controls are needed?

Is sediment clean-out needed?

Is sediment clean-out needed?

Stormwater Management Issues:

Is there sedimentation build-up in the stormwater system (swales, channels, benches, sediment basins)?

Is there sedimentation build-up in the stormwater system (swales, channels, benches, sediment basins)?

Is there noticeable deformation or other damage to stormwater system components (check alignment, erosion under gabions, downchutes, pipes, overspilling)?

Is there noticeable deformation or other damage to stormwater system components (check alignment, erosion under gabions, downchutes, pipes, overspilling)?

Leachate Collection and Disposal Issues:

Is there evidence of leachate seeps?

Are leachate collection, storage, treatment, and/or disposal system components operating properly? Do they require servicing/repair/replacement?

Are leachate collection, storage, treatment, and/or disposal system components operating properly? Do they require servicing/repair/replacement?

Landfill Gas Issues:

Are the extraction wells and other LFG collection/venting and control system components properly withdrawing LFG?

Are the extraction wells and other LFG collection/venting and control system components properly withdrawing LFG?

Is there noticeable physical damage to the LFG monitoring wells or other LFG system components?

Is there noticeable physical damage to the LFG monitoring wells or other LFG system components?

Groundwater Monitoring Issues:

Are the security locks on the wells locked and in working order?

Are the security locks on the wells locked and in working order?

Is there standing water around the well casing?

Is there standing water around the well casing?

How many wells are there at the site? Describe the location.

How many wells are there at the site? Describe the location.

Miscellaneous Issues:

Are there uses for the closed areas?

Are there uses for the closed areas?

Are Landfill personnel trained to perform inspections?

Are Landfill personnel trained to perform inspections?

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SECTION 02220
EARTHWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Earthwork.
- B. Related Sections include but are not necessarily limited to:
 - 1. Division 0 - Bid Requirements, Contract Forms, and Conditions of the Contract.
 - 2. Division 1 - General Requirements.
 - 3. Section 01410 – Testing Laboratory Services.
 - 4. Section 02276 – Low Permeability Soil Cap.
 - 5. Construction Quality Assurance Plan.

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. American Society for Testing and Materials (ASTM):
 - a. C33, Standard Specification for Concrete Aggregates.
 - b. D698, Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft³).
 - c. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/f (2,700 kN-m/m)).
 - d. D1586, Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils.
 - e. D2487, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 - f. D4253, Standard Test Methods for Maximum Index Density of Soils Using a Vibratory Table.
 - g. D4254, Test Methods for Minimum Index Density of Soils and Calculation of Relative Density.
 - 2. North Carolina Erosion and Sediment Control Planning and Design Manual, current edition.
 - 3. North Carolina Department of Transportation Standard Specification for Roads and Structures, current edition.
- B. Contractor to employ an independent soils laboratory (CQC Consultant), in accordance with North Carolina General Statute 143-64.31 through 146-64.36 (the Minibrooks Act), to conduct the specified tests to assure that all work complies with this Specification.

1.3 SUBMITTALS

- A. Shop Drawings:
 - 1. See Section 01340.
 - 2. Product technical data including:
 - a. Acknowledgement that products submitted meet requirements of standards referenced.
 - 3. Certifications.
 - 4. Test reports:
 - a. Soils inspection and testing results.
- B. Samples:
 - 1. Submit samples and source of fill and backfill materials proposed for use.
 - 2. Submit samples and source of borrow materials proposed for use.
 - 3. Submit soil samples directly to CQA Consultant with notification to the Engineer.

1 **1.4 SOILS/GEOTECHNICAL**

- 2 A. The Owner will provide for the on-site services of a CQA Consultant (Soils Engineer) to
3 selectively test materials and monitor compliance with the requirements of these Specifications.
4 This will be in addition to Construction Quality Control (CQC), provided and paid for by the
5 Contractor to be performed by the CQC Consultant in accordance with these Specifications and
6 the CQA Plan.
- 7 B. The Contractor will afford these representatives access to the job site for the performance of
8 their duties as described in the Contract Documents.
- 9 C. General Duties and Responsibilities of the Contractor's CQC Consultant: Under the direction of
10 a qualified registered engineer or geologist:
11 1. Perform stockpile and in-place testing of all soil and rock materials used in the work in
12 conformance with these Specifications and the CQA Plan.
13 2. Inspect subgrades and excavations and evaluate/determine suitability of materials
14 encountered. Determine extent of any overexcavation required to remove unsuitable
15 materials under roadways, structures, or other areas of construction.
16 3. Document placement of fill materials and perform testing to confirm compliance with these
17 Specifications.
18 4. Evaluate the suitability of existing on-site materials for use in construction of embankments
19 and fills within the proposed grading shown on the Contract Drawings.
- 20 D. General Duties and Responsibilities of Owner's CQA Consultant:
21 1. Approve materials proposed for incorporation into the work as proposed by the CQC
22 Consultant.
23 2. Review subgrades and excavations and approve suitability of materials encountered as
24 proposed by the CQC Consultant. Approve extent of any overexcavation required to
25 remove unsuitable materials under roadways, structures, or other areas of construction, as
26 proposed by the CQC Consultant.
27 3. Observe placement of fill materials and testing by CQC Consultant for compliance with
28 these specifications.
29 4. Review/approve the suitability of existing on-site materials for use in construction of
30 embankments and fills.
31 5. Review construction operations and monitor for compliance with Contract Documents.
- 32 E. Available Subsurface Information: Where provided, data on subsurface soil conditions are not
33 intended as representations or warranties of the continuity of such conditions between borings or
34 indicated sampling locations. It shall be expressly understood that neither the Owner nor the
35 Engineer will be responsible for any interpretation or conclusion drawn therefrom by the
36 Contractor. Data is made available for the convenience of the Contractor.
- 37 F. Additional or supplementary soil borings or other exploratory operations may be made by the
38 Contractor at no additional cost to the Owner. The Contractor shall provide the Owner with a
39 copy of any data obtained/developed during such work. Such additional work shall be
40 performed in a timely manner in accordance with and not impacting or changing the project
41 schedule set forth in the Contract Documents.

42 **1.5 TOLERANCES**

- 43 A. Grading shall be to a tolerance of + 0.1 FT unless otherwise noted in the construction documents
44 and then the stricter criteria shall be used.

45 **PART 2 - PRODUCTS**

46 **2.1 MATERIALS**

- 47 A. Fill and Backfill: Selected material approved by Soils Engineer and Owner.

- 1 B. Structural Fill: Structural fill should be approved by the CQC and CQA consultants.
- 2 C. The Contractor shall conduct his own quantity and quality investigations and testing to
3 determine availability and suitability of (on-site) borrow materials, as allowed by the Owner. If
4 material is not available on-site, Contractor is responsible for finding off-site material.
- 5 D. All earth materials proposed for use in the Work shall be adequately characterized prior to the
6 Work by the CQC Consultant.

7 **PART 3 - EXECUTION**

8 **3.1 PROTECTION**

- 9 A. Protect existing surface and subsurface features on-site and adjacent to site as follows:
- 10 1. Provide barricades, coverings, or other types of protection necessary to prevent damage to
11 existing items indicated to remain in place.
- 12 2. Protect and maintain benchmarks, monitoring wells, existing structures, monuments, or
13 other established reference points and property corners. If disturbed or destroyed, replace at
14 own expense to full satisfaction of Owner and controlling agency.
- 15 3. Verify location of utilities. Omission or inclusion of utility items does not constitute non-
16 existence or definite location. Secure and examine local utility records for location data.
- 17 a. Take necessary precautions to protect existing utilities from damage due to any
18 construction activity.
- 19 b. Repair damages to utility items at own expense.
- 20 c. In case of damage, notify Engineer at once so required protective measures may be
21 taken.
- 22 4. Maintain free of damage, existing sidewalks, structures, and pavement not indicated to be
23 removed. Any item known or unknown or not properly located that is inadvertently
24 damaged shall be repaired to original condition. All repairs to be made and paid for by
25 Contractor.
- 26 5. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks,
27 and other points as designated by Owner to prevent serious interruption of travel.
- 28 6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage
29 to structures on-site or on adjoining property.
- 30 7. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.
- 31 8. Conduct operation with minimum interference to daily landfill operations.
- 32 B. Construct erosion and sedimentation controls prior to beginning earthwork.
- 33 C. Salvageable Items: Carefully remove items to be salvaged, and store on Owner's premises unless
34 otherwise directed.
- 35 D. Dispose of waste materials, legally, on site as directed by the owner. Burning, as a means of
36 waste disposal, is not permitted.

37 **3.2 SITE EXCAVATION AND GRADING**

- 38 A. The Work includes all operations in connection with excavation, borrow, construction of fills
39 and embankments, rough grading, and disposal of excess materials in connection with the
40 preparation of the site(s) for construction of the proposed facilities.
- 41 B. Excavation and Grading: Perform as required by the Contract Drawings.
- 42 1. Contract Drawings may indicate both existing grade and finished grade required for
43 construction of Project. Stake all units, structures, piping, roads, parking areas and walks
44 and establish their elevations. Perform other layout work required. Replace property corner
45 markers to original location if disturbed or destroyed.
- 46 2. Preparation of ground surface for embankments or fills: Before fill is started, scarify to a
47 minimum depth of 6 IN in all proposed embankment and fill areas. Where ground surface is

- 1 steeper than one vertical to four horizontal, plow surface in a manner to bench and break up
2 surface so that fill material will bind with existing surface.
- 3 3. Protection of finish grade: During construction, shape and drain embankment and
4 excavations. Maintain ditches and drains to provide drainage at all times. Protect graded
5 areas against action of elements prior to acceptance of work. Re-establish grade where
6 settlement or erosion occurs.
- 7 C. Borrow: Provide necessary amount of approved fill compacted to density equal to that indicated
8 in this Specification. Include cost of all borrow material in original Bid. Fill material to be
9 approved by Soils Engineer prior to placement.
- 10 D. Construct embankments and fills as required by the Contract Drawings:
11 1. Construct embankments and fills at locations and to lines of grade indicated. Completed fill
12 shall correspond to shape of typical cross section or contour indicated regardless of method
13 used to show shape, size, and extent of line and grade of completed work.
14 2. Provide approved fill material which is free from roots, organic matter, trash, frozen
15 material, and stones having maximum dimension greater than 6 IN. Ensure that stones larger
16 than 4 IN are not placed in upper 6 IN of fill or embankment. Do not place material in layers
17 greater than 8 IN loose thickness. Place layers horizontally and compact each layer prior to
18 placing additional fill.
19 3. Compact by sheepsfoot, pneumatic rollers, vibrators, or by other equipment as required to
20 obtain specified density. Control moisture for each layer necessary to meet requirements of
21 compaction.
- 22 E. Upon reaching subgrade elevations shown, proofroll subgrade soils and obtain the CQC
23 Consultant's review/recommendation and CQA Consultant's approval. If unsuitable materials
24 are encountered at the subgrade elevation, repair as directed by the CQC Consultant and
25 approved by the CQA Consultant to remove unsuitable materials. Excavation of 1 cy or greater
26 should be preapproved by the CQC Consultant and CQA Consultant.
- 27 F. Proofrolling shall be conducted with a pneumatic-tired vehicle of at least 20 tons Gross Vehicle
28 Weight (GVW), approved by the CQC and CQA Consultants. An alternate approved by the
29 CQA Consultant may be used in constricted areas.
- 30 G. Where subgrade materials are determined to be unsuitable, such materials shall be removed to
31 the lengths, widths, and depths directed by the CQC Consultant and approved by the CQA
32 Consultant, and backfilled with suitable material unless further excavation or earthwork is
33 required. No additional payment will be made for such excavation and backfill 6 IN or less than
34 the finished subgrade. Payment for unsuitable material excavation greater than 6 IN beneath the
35 finished subgrade shall be negotiated.
- 36 H. The subgrade of areas to receive fill shall be smooth and free of all vegetation, sticks, roots,
37 rocks, and debris.
- 38 I. Dewatering (as required): Provide and maintain dewatering of all surface water and/or
39 groundwater as required for excavation. Where groundwater is or is expected to be encountered
40 during excavation, install a dewatering system to prevent softening and disturbance of subgrade
41 below foundations and fill material, to allow foundations, fill material, and structures/backfill to
42 be placed in the dry, and maintain a stable excavation. Soils and hydrogeologic information may
43 be reviewed before beginning excavation to determine where groundwater is likely to be
44 encountered during excavation. Employ a dewatering specialist for selecting/designing,
45 monitoring, and operating the dewatering system as needed. Keep dewatering system in
46 operation until dead load of structure exceeds possible buoyant uplift force on structure or fill
47 material. Dispose of groundwater to an area which will not interfere with construction
48 operations or damage existing construction as approved by the Owner. Install groundwater
49 monitoring points as necessary. Shut off dewatering system at such a rate so as to prevent a
50 quick upsurge of water that might weaken the subgrade. Installation, start-up, monitoring
51 maintenance, and shut-off of the dewatering system shall be at no additional cost to the Owner.
- 52 J. Do not place fill when the subgrade is frozen, wet, loose, or soft.

- 1 K. Moisture control:
- 2 1. Moisture content of materials prior to, and during compaction, shall be uniform throughout
- 3 each layer of material.
- 4 2. Granular materials shall be thoroughly wetted during or immediately prior to compaction.
- 5 3. Supplementary water shall be added as required to materials by sprinkling and mixing
- 6 uniformly throughout layer.
- 7 4. Materials too wet for placing shall be temporarily spread or aerated until moisture content is
- 8 acceptable. If these materials cannot be processed in time to use, the Contractor shall find
- 9 alternatives acceptable to the CQC Consultant and the CQA Consultant.

10 **3.3 USE OF EXPLOSIVES**

- 11 A. Blasting is not allowed for this project.

12 **3.4 FIELD QUALITY CONTROL**

- 13 A. Moisture density relations, to be established by the CQC Consultant are required for all materials
- 14 to be compacted.
- 15 B. Extent of compaction testing will be as necessary to assure compliance with Specifications and
- 16 Drawings.
- 17 C. Give minimum of 24 HR advance notice to CQC Consultant and CQA Consultant when ready
- 18 for compaction or subgrade testing and inspection.
- 19 D. Should any compaction density test or subgrade inspection fail to meet Specification
- 20 requirements, perform corrective work as necessary.
- 21 E. Pay for all costs associated with corrective work and retesting resulting from failing compaction
- 22 density tests.

23 **3.5 COMPACTION DENSITY REQUIREMENTS**

- 24 A. Obtain approval from Soils Engineer with regard to suitability of soils and acceptable subgrade
 - 25 prior to subsequent operations.
 - 26 B. Provide dewatering system necessary to successfully complete compaction and construction
 - 27 requirements.
 - 28 C. Remove frozen, loose, wet, or soft, material and replace with approved material as directed by
 - 29 Soils Engineer.
 - 30 D. Stabilize subgrade with well graded granular materials as directed by Soils Engineer.
 - 31 E. Assure by results of testing that compaction densities comply with the following requirements:
 - 32 1. Sitework:
- | 33 SOIL TYPE | COMPACTION DENSITY |
|-----------------------|-----------------------------|
| 34 Cohesive Soils | 95 percent, ASTM D698 |
| 35 Cohesionless Soils | 75 percent relative density |
| 36 | per ASTM D4253 and D4254 |
- 37 2. Perform testing at a minimum frequency of 1 test per lift per 10,000 square feet.

38 **3.6 EXCAVATION, FILLING, AND BACKFILLING FOR STRUCTURES**

- 39 A. General:
- 40 1. In general, work includes, but is not necessarily limited to, excavation for structures and
- 41 retaining walls, removal of underground obstructions and undesirable material, backfilling,
- 42 filling, and fill, backfill, and subgrade compaction.
- 43 2. Obtain fill and backfill material necessary to produce grades required. Materials and source
- 44 to be approved by Soils Engineer. Excavated material approved by Soils Engineer may also
- 45 be used for fill and backfill.

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- 3. In this Section of the Specifications, the word "foundations" includes footings, base slabs, foundation walls, mat foundations, grade beams, piers and any other support placed directly on soil.
- 4. In the paragraphs of this Section of the Specifications, the word "soil" also includes any type of rock subgrade that may be present at or below existing subgrade levels.

B. Excavation Requirements for Structures:

- 1. General. Do not commence excavation for foundations for structures until:
 - a. Soils Engineer approves:
 - 1) The removal of topsoil and other unsuitable and undesirable material from existing subgrade.
 - 2) Density and moisture content of site area compacted fill material meets requirements of specifications.
 - 3) Site surcharge or mass fill material can be removed from entire construction site or portion thereof.
 - 4) Surcharge or mass fill material has been removed from construction area or portions thereof.
 - b. Engineer grants approval to begin excavations.
- 2. Dimensions:
 - a. Excavate to elevations and dimensions indicated or specified.
 - b. Allow additional space as required for construction operations and inspection of foundations.
- 3. Removal of obstructions and undesirable materials in excavation includes, but is not necessarily limited to, removal of old foundations, existing construction, unsuitable subgrade soils, expansive type soils, and any other materials which may be concealed beneath present grade, as required to execute work indicated on Contract Drawings. If undesirable material and obstructions are encountered during excavation, remove material and replace as directed by Soils Engineer.
- 4. Level off bottoms of excavations to receive foundations, floor slabs, equipment support pads, or compacted fill. Remove loose materials and bring excavations into approved condition to receive concrete or fill material. Where compacted fill material must be placed to bring subgrade elevation up to underside of construction, scarify existing subgrade upon which fill material is to be placed to a depth of 6 IN and then compact to density stated in this Section of Specifications before fill material can be placed thereon. Do not carry excavations lower than shown for foundations except as directed by Soils Engineer or Engineer. If any part of excavations is carried below required depth without authorization, maintain excavation and start foundation from excavated level with concrete of same strength as required for superimposed foundation, and no extra compensation will be made to Contractor therefore.
- 5. Notify Soils Engineer and Engineer as soon as excavation is completed in order that subgrades may be inspected. Do not commence further construction until subgrade under compacted fill material, under foundations, under floor slabs-on-grade, under equipment support pads, and under retaining wall footings has been inspected and approved by the Soils Engineer as being free of undesirable material, being of compaction density required by this specification, and being capable of supporting the allowable foundation design bearing pressures and superimposed foundation, fill, and building loads to be placed thereon. Soils Engineer shall be given the opportunity to inspect subgrade below fill material both prior to and after subgrade compaction.
 - a. Place fill material, foundations, retaining wall footings, floor slabs-on-grade, and equipment support pads as soon as weather conditions permit after excavation is completed, inspected, and approved and after forms and reinforcing are inspected and approved. Before concrete or fill material is placed, protect approved subgrade from becoming loose, wet, frozen, or soft due to weather, construction operations, or other reasons.

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6. Dewatering: Where groundwater is or is expected to be encountered during excavation, install a dewatering system to prevent softening and disturbance of subgrade below foundations and fill material, to allow foundations and fill material to be placed in the dry, and to maintain a stable excavation side slope. Groundwater shall be maintained at least 3 FT below the bottom of any excavation. Review soils investigation before beginning excavation and determine where groundwater is likely to be encountered during excavation. Employ dewatering specialist for selecting and operating dewatering system. Keep dewatering system in operation until dead load of structure exceeds possible buoyant uplift force on structure. Dispose of groundwater to an area which will not interfere with construction operations or damage existing construction. Install groundwater monitoring wells as necessary. Shut off dewatering system at such a rate to prevent a quick upsurge of water that might weaken the subgrade.
 7. Subgrade stabilization: If subgrade under foundations, fill material, floor slabs-on-grade, or equipment support pads is in a frozen, loose, wet, or soft condition before construction is placed thereon, remove frozen, loose, wet, or soft material and replace with approved compacted material as directed by Soils Engineer. Provide compaction density of replacement material as stated in this specification section. Loose, wet, or soft materials, when approved by Soils Engineer, may be stabilized by a compacted working mat of well graded crushed stone. Compact stone mat thoroughly into subgrade to avoid future migration of fines into the stone voids. Remove and replace frozen materials as directed by Soils Engineer. Method of stabilization shall be performed as directed by Soils Engineer. Do not place further construction on the repaired subgrades, until the subgrades have been approved by the Soils Engineer.
 8. Do not place floor slabs-on-grade including equipment support pads until subgrade below has been approved, piping has been tested and approved, reinforcement placement has been approved, and Contractor receives approval to commence slab construction. Do not place building floor slabs-on-grade including equipment support pads when temperature of air surrounding the slab and pads is or is expected to be below 40 DegF before structure is completed and heated to a temperature of at least 50 DegF.
 9. Drainage: Control grading around structures so that ground is pitched to prevent water from running into excavated areas or damaging structures. Maintain excavations where foundations, floor slabs, equipment support pads or fill material are to be placed free of water. Provide pumping required to keep excavated spaces clear of water during construction. Should any water be encountered in the excavation, notify Engineer and Soils Engineer. Provide free discharge of water by trenches, pumps, wells, well points, or other means as necessary and drain to point of disposal that will not damage existing or new construction or interfere with construction operations.
 10. Frost protection: Do not place foundations, slabs-on-grade, equipment support pads, or fill material on frozen ground. When freezing temperatures may be expected, do not excavate to full depth indicated, unless foundations, floor slabs, equipment support pads, or fill material can be placed immediately after excavation has been completed and approved. Protect excavation from frost if placing of concrete or fill is delayed.
 - a. Where a concrete slab is a base slab-on-grade located under and within a structure that will not be heated, protect subgrade under the slab from becoming frozen until final acceptance of the Project by the Owner.
 - b. Protect subgrade under foundations of a structure from becoming frozen until structure is completed and heated to a temperature of at least 50 DegF.
- C. Fill and Backfill Inside of Structure and Below Foundations, Base Slabs, Floor Slabs, Equipment Support Pads and Piping:
1. Structural fill under floor slabs-on-grade: Place all floor slabs-on-grade on a minimum of 6 IN of structural fill unless otherwise indicated.

1 **SECTION 02276**
2 **LOW PERMEABILITY SOIL CAP**

3 **PART 1 - GENERAL**

4 **1.1 SUMMARY**

- 5 A. Section Includes:
6 1. Soil used for the low permeability layer of the final cover system.
7 B. Related Sections include but are not necessarily limited to:
8 1. Section 02220 - Earthwork.
9 2. Construction Quality Assurance Plan.

10 **1.2 QUALITY STANDARDS**

- 11 A. Reference Standards:
12 1. ASTM - American Society for Testing and Materials:
13 a. ASTM D422 - Particle Size Analysis.
14 b. ASTM D698 - Standard Proctor.
15 c. ASTM D854 - Specific Gravity.
16 d. ASTM D1140 - Fines Content in Soils.
17 e. ASTM D1556 - In-situ Density Measurement Using the Sand Cone.
18 f. ASTM D1557 - Modified Proctor.
19 g. ASTM D2166 - Unconfined Compressive Strength.
20 h. ASTM D2216 - Moisture Content Using Over-Dry Method.
21 i. ASTM D2487 - Soils Classification.
22 j. ASTM D2573 - Field Vane Shear Test.
23 k. ASTM D2922 - In-situ Density Using Nuclear Methods.
24 l. ASTM D3017 - In-situ Moisture Content Using Nuclear Methods.
25 m. ASTM D4318 - Atterberg Limits.
26 n. ASTM D5084 - Flexible Wall permeameter.
27 2. USEPA - United States Environmental Protection Agency
28 a. EPA/600/R-93/182 - "Quality Assurance and Quality Control for Waste Containment
29 Facilities," September, 1993.
30 3. ASCE – American Society of Civil Engineers.
31 a. ASCE Paper No. 25333 – Water Content – Density Criteria for Compacted Soil Liners
32 (Daniel et al, 1998).
33 b. ASCE Paper No. 23827 – In-Site Hydraulic Conductivity for Compacted Clay (Daniel
34 et al, 1989).
35 4. Construction Quality Assurance (CQA) Plan.

36 **1.3 SUBMITTALS**

- 37 A. See Section 01340 – Submittals and Section 02220 - Earthwork.
38 B. Refer to the CQA Plan.

39 **1.4 JOB CONDITIONS**

- 40 A. Verify conditions of subgrade prior to commencing work.
41

1 **1.5 TOLERANCES**

- 2 A. The low permeability soil cap must meet the following tolerances:
- 3 1. The saturated hydraulic permeability of the low permeability soil cap must be equal to or
- 4 less than 1.0×10^{-5} cm/sec, as determined by ASTM D5084.
- 5 2. The thickness of the low permeability soil cap must be equal to or greater than 18 inches.
- 6 3. The work should be constructed to lines, grades, and control points indicated on the
- 7 Drawings, and shall be controlled and documented with survey methods. Laser based survey
- 8 systems are preferred for grading.

9 **PART 2 - PRODUCTS**

10 **2.1 MATERIALS**

- 11 A. Low Permeability Soil - General:
- 12 1. Contractor shall provide natural, fine-grained soil or bentonite amended soil that is capable
- 13 of being worked to produce a soil layer of thickness shown on the Drawings that meets the
- 14 hydraulic conductivity requirements.
- 15 2. In accordance with these Specifications, the Contractor is responsible for conducting a
- 16 borrow soil characterization study (BSCS) of the Owner's on-site borrow area to determine
- 17 if suitable soils exist for construction of the low permeability soil cap.
- 18 3. Contractor shall provide the CQA Consultant and Owner access to information about the
- 19 borrow source of the low permeability soil and certify that it is not contaminated with
- 20 hazardous materials or hazardous wastes.
- 21 4. The soil shall be relatively homogeneous in color and texture and shall be free from roots,
- 22 stones, foreign objects, and other deleterious materials.
- 23 5. Some soils not meeting the requirements of B.1. and B.4. below, may be acceptable for use
- 24 in the Work at the sole discretion of the Engineer. The contractor may submit data on soils
- 25 for the Engineer's review. For the Engineer to approve the materials, the submittal should
- 26 contain: a statement signed by a qualified professional Engineer that the proposed soils will
- 27 meet the hydraulic conductivity requirement and are otherwise suitable for use in the Work;
- 28 and, supporting geotechnical test results and data.
- 29 6. All soils must be approved for use by the Engineer prior to use in the Work.

- 30 B. Natural Fine-Grained Soil
- 31 1. Classification: Natural fine-grained soil shall have a classification of CH, CL, MH, ML, SC
- 32 or SM as determined by ASTM D2488.
- 33 2. Grain sizes shall be within the following gradation:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3/4 IN	100
No. 4	> 90
No. 200	> 30

- 34
- 35
- 36
- 37
- 38 3. Hydraulic Conductivity: The saturated hydraulic conductivity of the natural fine-grained
- 39 soil shall meet the stated tolerances, when compacted in accordance with requirements
- 40 established by the CQC Consultant and Contractor on the basis of the low permeability soil
- 41 cap test strip as specified herein.
- 42 4. Other Low Permeability Soil Cap Properties:
- 43 a. The liquid limit shall be determined in the BSCS measured by ASTM D4318.
- 44 b. The plasticity index shall be determined in the BSCS as measured by ASTM D4318.
- 45

- 1 C. Bentonite Amended Soil (where applicable):
 2 1. Hydraulic conductivity of constructed bentonite amended soil shall meet the tolerances
 3 when compacted in accordance with requirements established by the CQC Consultant on the
 4 basis of test results from the low permeability soil cap test strip and the borrow soil
 5 characterization study.
 6 2. Soil used in the bentonite amended soil shall be free from roots, organic matter, debris,
 7 particles larger than 3/4 IN, and other deleterious material. All soil used in the bentonite
 8 amended soil shall be taken from THE Owner's borrow area.
 9 3. Unless approved otherwise by the CQC Consultant, the soil used in the bentonite amended
 10 soil shall meet the following washed sieve gradation:

11	<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
12	3/4 IN	100
13	No. 4	55-100
14	No. 20	45-75
15	No. 200	10-40

- 16 4. Bentonite:
 17 a. Bentonite shall be free-flowing, powdered, high-swelling, sodium montmorillonite clay
 18 (bentonite) free of additives.
 19 b. Acceptable bentonite manufacturers are:
 20 1) American Colloid, Co., (800) 637-6654.
 21 2) Bentonite Corp., (303) 291-2940.
 22 3) CETCO, (813) 527-0605.
 23 4) Federal Industrial, (800) 231-3565.
 24 5) WYO-BEN, (800) 548-7055.
 25 c. The Contractor may propose a bentonite supplier other than those listed above if it is
 26 demonstrated that its use in the amended soil satisfies the requirements of these
 27 Specifications.

- 28 D. Permeability Test
 29 1. Laboratory permeability tests (ASTM D-5084) shall be conducted in constant head, triaxial
 30 type permeameters. The specimens shall be consolidated under an isotropic effective
 31 consolidation stress not to exceed 10 psi. The inflow to and outflow from the specimens
 32 shall be monitored with time and the coefficient of permeability calculated for each
 33 recorded flow increment. The test shall continue until steady state flow is achieved and
 34 relatively constant values of coefficient of permeability are measured.

35 **2.2 LOW PERMEABILITY SOIL CAP MATERIAL ACCEPTANCE**

- 36 A. General: All imported, on-site, and processed materials specified in this Section are subject to
 37 the following requirements:
 38 1. All tests necessary for the Contractor to locate and define acceptable sources of materials
 39 shall be made by the CQC Consultant. Certification that the material conforms to the
 40 Specification requirements along with copies of the test results from a qualified commercial
 41 testing laboratory shall be submitted to the CQA Consultant for approval at least 10 days
 42 before the material is required for use. All material samples shall be furnished by the
 43 Contractor at the Contractor's sole expense.
 44 2. All samples required in this Section shall be representative and be clearly marked to show
 45 the source of the material and the intended use on the project. Sampling of the material
 46 source shall be done by the CQC Consultant in accordance with ASTM D75.
 47 3. Notify the CQA Consultant at least 24 hours prior to sampling so that they may observe the
 48 sampling procedures.
 49 4. Tentative acceptance of the material source shall be based on an inspection of the source by
 50 the CQA Consultant and the certified test results of the Borrow Source Characterization
 51 Study (BSCS) as submitted by the Contractor to the CQA Consultant. No imported

- 1 materials shall be delivered to the site until the proposed source and materials tests have
 2 been accepted in writing by the CQA Consultant.
 3 5. Final acceptance of any material will be based on results of tests made on material samples
 4 taken from the completed low permeability soil cap test strip, combined with the results of
 5 the BSCS. If tests conducted by the CQC Consultant or the CQA Consultant indicate that
 6 the material does not meet Specification requirements, material placement will be
 7 terminated until corrective measures are taken. Material which does not conform to the
 8 Specification requirements and is placed in the work shall be removed and replaced at the
 9 Contractor's sole expense.
 10 6. Contractor shall be solely responsible for obtaining all permits required to obtain acceptable
 11 sources of materials for use in the work.

12 B. Sampling and testing required herein shall be done at the Contractor's sole expense.

13 C. Borrow Source Characterization Study:

- 14 1. The Contractor will be responsible for all processing and screening of the low permeability
 15 soil cap material at his own cost to meet the requirements of the Specifications. The
 16 Contractor will be responsible for the erosion protection of the stockpile and borrow area
 17 during his operation. The Contractor shall coordinate all aspects of this operation with the
 18 CQC Consultant, CQA Consultant, and Project Manager.
 19 2. CQC Consultant shall complete a BSCS of natural fine-grained soils or of soil that will be
 20 used in bentonite amended soils.
 21 3. Contractor shall conduct tests, including particle size, Atterberg limits, moisture-density,
 22 and hydraulic conductivity tests, as necessary to locate an acceptable source of material
 23 within the Owner's borrow area.
 24 4. Once a potential source of material has been located, the CQC Consultant shall develop and
 25 undertake a testing program to demonstrate the acceptability of the proposed material.
 26 Certified results of all tests shall be submitted to the CQA Consultant upon completion of
 27 tests. Tentative acceptance of the borrow source by the CQA Consultant will be based upon
 28 the results of the study. The testing program shall include the following elements, at a
 29 minimum:
 30 a. An excavation plan for the borrow source indicating proposed surface mining limits and
 31 depths of samples to be taken for testing.
 32 b. Test pits for borrow source sampling shall be appropriately spaced to reflect site
 33 geomorphology and sampled at depth intervals appropriate to the proposed excavation
 34 methods.
 35 c. A minimum of 12 samples shall be collected and tested for the parameters required as
 36 described in the following paragraphs.
 37 5. Test Parameters and Reporting for Natural Fine-Grained Soils: All samples collected from
 38 the proposed borrow area for natural fine-grained soils shall be tested for the following
 39 parameters:

40 Parameter	41 Test Method
42 Particle Size (sieve plus hydrometer)	ASTM D422
43 Atterberg Limits	ASTM D4318
44 Standard Proctor	ASTM D698
45 Hydraulic Conductivity(1)	ASTM D5084

46 (1) Hydraulic conductivity tests shall be performed on recompacted samples of the
 47 proposed material, compacted according to criteria developed by the CQC
 48 Consultant using data from tests conducted in accordance with ASTM D698.

- 49 6. Test Parameter for Soil to be Used in Bentonite Amended Soil:
 50 a. Parameters and reporting for soils to be used in bentonite amended soil shall be the
 51 same as for natural fine-grained soil.

1 b. Tests required under this paragraph are part of the BSCS. Additional tests on the
2 bentonite amended soil product are required for low permeability soil cap acceptance.
3 See 2.1E.

4 D. Borrow Soils Conformance Testing:

5 1. Following acceptance of a borrow source for natural fine-grained soils and soils for
6 bentonite amendment, the following tests shall be performed by the CQC Consultant on
7 samples taken from the excavated material using the methods and at the frequencies
8 indicated below:

9	<u>Test</u>	<u>Test Method</u>	<u>Minimum Frequency</u>
10	Percent Fines	ASTM D1140	1 per 5,000 cu yd
11	Atterberg Limits	ASTM D4318	1 per 5,000 cu yd
12	Standard Proctor	ASTM D698	1 per 10,000 cu yd

- 13 2. The CQC Consultant shall conduct tests more often if variation in test results is occurring,
14 or if material appears to depart from Specifications.
15 3. The CQA Consultant may also conduct independent tests to confirm the accuracy of the
16 CQC testing.
17 4. If tests indicate material does not meet Specification requirements, Contractor shall
18 terminate material placement until corrective measures are taken.
19 5. Contractor shall remove and replace material which does not meet Specification
20 requirements at no additional cost to the Owner.

21 E. Bentonite Amended Soil Conformance Testing (where applicable):

22 1. Following acceptance of a source for soils to be used in bentonite amended soils, the CQC
23 Consultant shall perform a Design Mix Analysis and submit certifications for the imported
24 bentonite material as described below.

25 2. Design Mix Analysis:

- 26 a. Collect two of the coarsest samples of the soil taken from the approved borrow area
27 (based on percent retained on #200 sieve). Soil samples for testing shall be at least 100
28 pounds each.
29 b. Trial mix samples shall be prepared by mixing each soil sample with three trial
30 application rates of bentonite. Compact each trial mix sample to a dry density equal to
31 95 percent relative compaction and at a moisture content within the range of optimum
32 to optimum plus 3 percent (ASTM D-698) for the unamended soil.
33 c. Test the hydraulic conductivity of the trial mix samples using ASTM D5084 and report
34 all data to CQA Consultant. Graph measured hydraulic conductivity vs. percent
35 bentonite.
36 d. Contractor shall select a minimum bentonite content needed to consistently achieve the
37 required in-place hydraulic conductivity.
38 3. After mix design and initial testing, CQC Consultant shall conduct tests of the mixed
39 bentonite amended soil, after it has been discharged from the pugmill and before this is
40 placed in the work using the following methods and at the following frequencies.

41	<u>Test</u>	<u>Method</u>	<u>Minimum Frequency</u>
42	Standard Proctor	ASTM D698	1 per 10,000 cu yd

43 4. Bentonite: CQC Consultant shall submit certifications from the supplier of the bentonite
44 material that it meets the requirements specified under PART 2, PRODUCTS.

45 F. Fine-Grained Material Dewatering, Mixing, and Staging

- 46 1. Dewatering of low permeability soil cap borrow excavations, if required, shall be solely at
47 the Contractor's expense.
48 2. Drying, blending, or wetting required to maintain the low permeability soil cap soil at a
49 suitable moisture content shall be solely at the Contractor's expense.
50

1 **2.3 EQUIPMENT**

2 A. **Compaction Equipment:**

- 3 1. The compaction equipment shall be of a suitable type, adequate to obtain the permeability
4 specified, that provides a kneading action, such as a wobble-wheeled roller or a sheepsfoot
5 roller having tines as long as the maximum loose lift thickness to ensure proper lift interface
6 compaction free of voids.
7 2. The CQC Consultant shall confirm compaction equipment adequacy, and recommend
8 changes if required, based on the low permeability soil cap test strip. Such additional
9 equipment will be provided by Contractor at no additional cost.
10 3. The compaction equipment shall be maintained and operated in a condition that will deliver
11 manufacturer's rated compactive effort.
12 4. Hand-operated equipment shall be capable of achieving specified soil densities.
13 5. The finished surface of the final lift shall be rolled with a smooth steel drum roller or
14 rubber-tired roller to eliminate tine or roller marks and provide a smooth, dense surface. The
15 final lift surface shall be roughened using dozer tracks prior to placement of topsoil in order
16 to allow bonding between the two materials.

17 B. **Moisture Control Equipment:**

- 18 1. Equipment for applying water shall be of a type and quality adequate for the work, shall not
19 leak, and shall be equipped with a distributor bar or other approved device to assure uniform
20 application.
21 2. Equipment for mixing and drying out material shall consist of blades, discs, or other
22 equipment defined by the CQC Consultant as approved by the CQA Consultant.
23 3. Mixing of natural fine-grained soils may also be required to get even distribution of
24 moisture.
25 4. Low permeability soil cap material must not be compacted within 24 hours of the
26 adjustment of water content by the addition of water.

27 C. **Bentonite Amended Soil Mixing Equipment (where applicable):**

- 28 1. Contractor shall mix, process, and condition the bentonite amended soil in a pugmill prior to
29 placing and compacting the mixture.
30 2. The pugmill shall have the capability to break up soil clumps and mix material to form a
31 homogeneous blend. The pugmill shall have controls that allow a variable rate of discharge
32 from it, to control the degree of mixing. The pugmill shall have automated controls to
33 control the rate of feed of each material to within an accuracy of 2 percent by weight.
34 3. The pugmill discharge shall be equipped with a batching bin having a drop outlet for
35 loading hauling vehicles directly from the pugmill. Pugmill shall be positioned to allow
36 direct discharge to hauling vehicles.
37 4. Contractor shall not store amended soil in a manner or for a length of time that will cause
38 any degradation of the project or amended soil.

39 **PART 3 - EXECUTION**

40 **3.1 LOW PERMEABILITY SOIL CAP TEST STRIP**

41 A. **Test Strip Installation:**

- 42 1. Prior to actual low permeability soil cap installation, a low permeability soil cap test strip of
43 a dimension no less than 100 FT long by 30 FT wide by 1.5 FT thick shall be constructed by
44 the Contractor over a compacted subgrade within the partial closure area.
45 2. The low permeability soil cap test strip shall be constructed in 6 IN lifts. The final
46 compacted thickness of each lift shall be a maximum of 6 IN. Prior to placement of
47 successive lifts, the surface of the lift in place shall be scarified or otherwise conditioned to
48 eliminate lift interfaces.
49 3. The low permeability soil cap test strip shall be constructed using the same equipment and
50 construction procedures that are anticipated for use during actual cap installation.

- 1 4. During test strip installation, the Contractor in coordination with his CQC Consultant and
2 the CQA Consultant shall determine the field procedures that are best suited for his
3 construction equipment to achieve the requirements specified herein.
- 4 5. If the test strip fails to achieve the desired results, the soil material of the strip shall be
5 completely removed, and additional test strip(s) shall be constructed until the requirements
6 are met.
- 7 6. The CQC Consultant shall document that the subgrade of the test strip low permeability soil
8 cap is properly compacted to at least 95 percent of the maximum dry density, as determined
9 using the Standard Proctor test (ASTM D-698). Field density tests on the subgrade shall be
10 performed by the CQC Consultant and documented at a minimum of three test locations
11 within the test strip area.
- 12 7. At least five field density measurements shall be performed by the CQC Consultant on each
13 lift of the low permeability soil cap test strip. The field density tests shall be conducted
14 using a nuclear gauge (ASTM D-2922) or other method, as approved by the CQA
15 Consultant. Corresponding tests for moisture content to determine dry density shall likewise
16 be performed by using a nuclear gauge (ASTM D-3017), or other approved method. On the
17 test pad, the density measurement if performed by a nuclear gauge shall be verified through
18 performance of one sand cone test (ASTM D-1556) or drive tube test (ASTM D-2937) at a
19 location selected by the CQA Consultant. The moisture content measurement, if performed
20 by a nuclear gauge shall be verified by recovering at least five samples for oven-dry testing
21 (ASTM D-2216) from the test location.
- 22 8. A composite sample will be taken from each lift for recomacted lab permeability (ASTM
23 D-5084).
- 24 9. Upon completion of the low permeability soil cap test strip, the CQC Consultant, as
25 observed by the CQA Consultant, shall measure the thickness of the test strip at a minimum
26 of five random locations.
- 27 10. A minimum of five random samples of the low permeability soil cap construction materials
28 delivered to the site during test strip installation shall be tested by the CQC Consultant for
29 moisture content (ASTM D-2216), sieve analyses (ASTM D-421, D-422) and Atterberg
30 limits (ASTM D-4318).
- 31 11. The CQC Consultant shall conduct at least one standard Proctor (ASTM D-698) and one
32 modified Proctor (ASTM D-1557) compaction test on bag samples of the test strip material
33 to determine the moisture-density relationships.
- 34 12. A minimum of one undisturbed sample shall be taken from each lift of the test strip by the
35 CQC Consultant for laboratory hydraulic conductivity testing. The samples shall be taken
36 within a 2 FT radius of the in-situ density and moisture tests. The CQA Consultant will also
37 conduct at least one confirmatory in-situ hydraulic conductivity testing.
- 38 13. The data gathered from the test strip sampling (i.e., field density, moisture, undisturbed
39 samples, and in-situ hydraulic conductivity) shall be used along with the Proctor curve for
40 the soil to develop a range of acceptable moisture and density test values which are likely to
41 be consistent with the required maximum permeability. This range of moisture/density
42 values will be established by the CQC Consultant and the CQA Consultant and will be
43 utilized as a means to establish Pass/Fail Criteria for the area to be lined by the subject
44 material.
- 45 14. The test strip will be considered acceptable if the measured hydraulic conductivity of the
46 test strip as determined by ASTM D-5084 meets the requirements of the Specifications.
- 47 15. If field and laboratory test data indicate that the installed test strip meets the requirements of
48 this Specification, it may be used as part of the low permeability soil cap provided that it is
49 adequately protected by the Installer from drying and equipment damage after installation.
50 The Installer shall scarify the material along the edge of the test strip. A minimum 2 FT
51 overlap per lift is required for mixing and compaction between the test strip and the low
52 permeability soil cap.
- 53 16. If the test strip fails to meet Specifications, additional mix designs (if bentonite amended)
54 and/or test strips will be constructed until a test strip meets the requirements. No low
55 permeability soil cap may be placed until a test strip has been accepted by the CQA
56 Consultant.

1 17. Upon receipt of the test data from the CQA Consultant, the Project Manager shall inform
2 the Contractor if the test strip can remain in-place as part of the low permeability soil cap.

3 **3.2 INSTALLATION**

- 4 A. The subgrade of the low permeability soil cap shall be smooth and free of vegetation, sticks,
5 roots, foreign objects, and debris. It shall be the responsibility of the Contractor to keep the
6 receiving surfaces in the accepted condition until complete installation of the low permeability
7 soil cap is accomplished.
- 8 B. The subgrade shall be proofrolled with a pneumatic tired vehicle of at least 20 tons GVW,
9 making passes across the area as directed by the CQC and/or CQA Consultants. The low
10 permeability soil cap shall not be placed over areas deemed unacceptable by either the CQC or
11 CQA Consultants based on proofroll observations or inadequate test results.
- 12 C. The low permeability soil cap shall be installed in 6 IN compacted lifts. The material shall be
13 placed consistent with criteria developed from construction of a satisfactory test strip.
- 14 D. When particles exceeding ¾ IN are observed at the final lift surface, they shall be removed by
15 the Contractor prior to final rolling of the surface.
- 16 E. Equipment shall be used such that bonding of the lifts will occur. Equipment shall have cleats or
17 other protrusions of such length necessary to completely penetrate into the loose lift.
18 Compaction shall be performed using appropriately heavy, properly ballasted, penetrating foot
19 compactor making a minimum number of passes as approved by the CQC Consultant and CQA
20 Consultant based on the low permeability soil cap test strip.
- 21 F. If desiccation and crusting of the lift surface occurs prior to placement of the next lift, this area
22 shall be scarified to a minimum depth of 2 IN or until sufficiently moist materials are
23 encountered, whichever is greater. After scarification, the superficial material should be
24 reworked to obtain a moisture content at least 2 percent above optimum moisture content.
25 Alternately, the drier superficial soil may be stripped and mixed with additional moist soil to
26 achieve a moisture content satisfying the project requirements.
- 27 G. No frozen material shall be placed.
- 28 H. Material shall not be placed on a previous lift which is frozen. Frozen in-place material shall be
29 removed prior to placement of additional soil material.
- 30 I. Material which has been subjected to a freeze/thaw cycle(s) shall be disked and recompactd
31 prior to placement of subsequent lifts.
- 32 J. During construction, exposed finished lifts of the low permeability soil cap material should be
33 sprinkled with water to minimize desiccation, as necessary. The Contractor is responsible to
34 protect the low permeability soil cap from rain, drying, desiccation, erosion and freezing. All
35 defective areas shall be repaired by the Contractor to the satisfaction of the CQC Consultant at
36 no extra compensation.
- 37 K. At the end of each day's construction activities, completed lifts or sections of the compacted low
38 permeability soil cap should be sealed. Common sealing methods include rolling with a rubber
39 tired or smooth-drum roller, backdragging with a bulldozer, or placement of temporary cover
40 soil over the compacted low permeability soil cap. The compacted low permeability soil cap
41 should be sprinkled with water, as needed.
- 42 L. If testing shows that a lift is significantly thicker than 6 IN, the top of the lift will be shaved off
43 so that the lift is approximately 6 IN thick.

44 **3.3 FIELD QUALITY CONTROL AND QUALITY ASSURANCE**

- 45 A. Refer to the Specifications and Drawings.
46

1 B. The following field and laboratory quality control tests shall be performed by the CQC
2 Consultant at no additional expense to the Owner during low permeability soil cap construction:

3	<u>Test</u>	<u>Method</u>	<u>Minimum Frequency</u>	<u>Acceptable Criteria</u>
4	1. Field Density	ASTM D2937	1 per every 2 acres	≥ 95%
5		or		
6		ASTM D2937	1/5 D3017 tests	≥ 95%
7		ASTM D3017	1 per every 2 acres	≥ 95%
8	2. Thickness	Surveyor	8 locations/acre	≥ 18 IN
9	3. Atterberg Limits	ASTM D4318	1 per every 2 acres	Liquid Limit ≥ 25
10				Plasticity Index ≥ 10, < 30
11	4. Fines Content	ASTM D1140	1 per every 2 acres	> 30%
12	5. Hydraulic Conductivity	ASTM D5084	1 per every 5 acres	≤ 1x10 ⁻⁵ cm/sec
13	6. Laboratory Moisture	ASTM D698	1 per every 2 acres	NA
14	Density Relationship			

15 C. Test methods shall also conform to criteria set forth in Paragraph 3.1, Low Permeability Soil
16 Cap Test Strip.

17 D. Test frequencies may be modified by the CQA Consultant. If there are indications of declining
18 or failing test results, frequencies may be increased. If hydraulic conductivity test results are well
19 above acceptable, the frequency for Atterberg limit and fine content testing may be waived by
20 the Engineer.

21 E. The acceptable criteria may be modified by the CQA Consultant if supported by the test strip
22 results and approved by the Engineer.

23 F. Holes in the compacted low permeability soil cap created as a result of destructive testing (eg.,
24 thin-walled Shelby tube sampling and nuclear gauge, field density determinations) shall be
25 backfilled and tamped by rod uniformly in 2 IN thick lifts. The backfill material shall be the
26 same low permeability soil cap construction material or hydrated bentonite powder, if approved
27 by the CQA Consultant. On the surface, the backfill material shall extend slightly beyond the
28 holes to make sure that a good tie-in with the surrounding low permeability soil cap is achieved.
29 Repaired areas shall be observed and documented by the CQC Consultant.

30 G. Give minimum of 24 HR advance notice to CQA Consultant when ready for soil testing and
31 inspection in completed area of the low permeability soil cap.

32 H. For areas not meeting field and laboratory testing criteria, the Contractor shall scarify the full
33 depth of the lift or replace the material as needed. The material shall be reshaped, rewetted as
34 needed, rehomogenized and recompact to the specified density. Areas not meeting the
35 thickness requirements shall be augmented with additional materials. The added materials shall
36 be reworked with the soil layer to ensure homogeneity and proper bonding. This may be done by
37 scarification of the surface prior to addition of new material. The repaired area shall be properly
38 documented, and field and laboratory quality control testing shall be performed to ensure the
39 repaired low permeability soil cap section meets the requirements specified herein.

40 I. The Contractor shall pay for all costs associated with corrective work and retesting resulting
41 from failing tests. The CQA Consultant shall be informed immediately of all failing tests.

42 **END OF SECTION**

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1 **SECTION 02485**
2 **SEEDING**

3 **PART 1 - GENERAL**

4 **1.1 DESCRIPTION**

- 5 A. General:
- 6 1. Furnish all labor, materials, tools, equipment and services for seeding in accordance with
 - 7 provisions of Contract Documents.
 - 8 2. Completely coordinate with work of all other trades.
 - 9 3. See Division 1 for General Requirements.
- 10 B. Related work specified elsewhere:
- 11 1. Section 02220 - Earthwork.
 - 12 2. Section 02270 – Soil Erosion and Sediment Control.
- 13 C. Location of work: All disturbed areas, exclusive of road surfaces.

14 **1.2 QUALITY ASSURANCE**

- 15 A. Fertilizer testing: Current methods of Association of Official Agricultural Chemists.
- 16 1. Testing will be conducted at discretion of Engineer.

17 **1.3 SUBMITTALS**

- 18 A. See Section 01340.
- 19 B. Shop drawing submittals:
- 20 1. Soil test results with recommendations of lime and nutrient needs.
 - 21 2. Grass seed mix that will be used for the project and application rate.
 - 22 3. Mulch type.
 - 23 4. A plan view drawing that depicts the areas to be seeded with areas measured.
 - 24 5. Certificates for each grass seed mixture, stating botanical and common name, percentage by
 - 25 weight, and percentages of purity, germination, and weed seed.
- 26 C. Miscellaneous Submittals:
- 27 1. Copies of fertilizer and lime invoices, showing grade furnished and total quantity applied.
 - 28 2. A plan view drawing that depicts the areas that were seeded with concurrence from the
 - 29 CQA.
 - 30 3. Soil test results as required by Section 3.3 of this specification.
 - 31 4. Written warranty as required by Section 3.4 of this specification.

32 **PART 2 - PRODUCTS**

33 **2.1 MATERIALS**

- 34 A. Establish a smooth, healthy, uniform, close strand of grass from specified seed.
- 35 B. Grass seed: Fresh, clean, latest available crop.
- 36 1. Seeds shall meet state seed requirements and those of the Federal Seed Act.
 - 37 2. Species, proportions and minimum percentage of purity, germination, and maximum
 - 38 percentage of weed seed, as specified.
 - 39 a. Minimum percent purity 96%.
 - 40 b. Minimum percent germination 80%.
 - 41 c. Maximum percent weed seed 1%.
 - 42 3. All seed used shall comply with state noxious weed seed requirements.

- 1 C. Mulch: Clean, seed-free, threshed straw of oats, wheat, barley, rye, beans, or other locally
 2 available mulch material.
- 3 1. Straw mulch:
- 4 a. Do not use mulch containing a quantity of matured noxious weed seeds or other species
 5 that will be detrimental to seeding, or provide a menace to surrounding land.
- 6 b. Do not use mulch material which is fresh or excessively brittle, or which is decomposed
 7 and will smother or retard growth of grass.
- 8 2. Wood fiber and cellulose fiber mulch:
- 9 a. Materials: Wood fiber, cellulose fiber, dark green marker dye.
- 10 b. pH: 5.
- 11 c. Moisture content: 12%.
- 12 d. Wood fiber: 70% minimum.
- 13 e. Cellulose fiber: 30% maximum.
- 14 f. Organic content: 97%.
- 15 g. Ash content: 1.6%.
- 16 h. Water holding capacity: 1100% minimum.
- 17 D. Fertilizer: Commercial grade fertilizer meeting applicable requirements of State and Federal law.
- 18 1. Do not use cyanamic compounds of hydrated lime.
- 19 E. Limestone: agricultural grade ground limestone containing not less than 85 percent of combined
 20 calcium and magnesium carbonates.
- 21 1. 50 percent passing 100 mesh sieve.
- 22 2. 90 percent passing 20 mesh sieve.
- 23 F. Asphalt binder: Rapid setting emulsified asphalt.
- 24 G. Water: Potable, free of substances harmful to growth.
- 25 H. Erosion Control Matting: Material shall be placed as shown on the Drawings.

26 **2.2 DELIVERY, STORAGE AND HANDLING**

- 27 A. Deliver seed in standard sealed containers labeled with producer's name and seed analysis, and
 28 in accord with US Department of Agriculture Rules and Regulations under Federal Seed Act.
- 29 B. Deliver fertilizer in original containers labeled with content analysis.

30 **PART 3 - EXECUTION**

31 **3.1 JOB CONDITIONS**

- 32 A. This project shall comply with the planting regime for the Piedmont Region.
- 33 B. Perform spring seeding between March 1 and May 15, and fall seeding between September 1
 34 and November 1, or upon approval of the Engineer.
- 35 C. Permanent Seeding
- 36 1. Spring (March 1 – April 30) and Fall (September 1 – November 15)
- 37 a. Kentucky-31: 175 lbs/ac.
- 38 b. Unhulled sercia lespedeza: 50 lbs/ac.
- 39 c. Rye grain: 1 bushel/ac.
- 40 2. Winter (November 16 – February 28)
- 41 a. Kentucky-31: 200 lbs/ac.
- 42 b. Unhulled sercia lespedeza: 50 lbs/ac.
- 43 c. Rye Grain: 3 bushels/ac.
- 44 3. Summer (May 1 – August 31)
- 45 a. Kentucky-31: 50 lbs/ac.
- 46 b. Unhulled sercia lespedeza: 50 lbs/ac.
- 47 c. Korean or kobe lespedeza: 50 lbs/ac.

- 1 d. Weeping love grass: 5 lbs/ac.
- 2 e. Bermuda grass: 10 lbs/ac.
- 3 f. Millet: 1 bushel/ac.
- 4 D. Temporary Seeding
- 5 1. Provide winter rye at a rate of 224 lbs/acre.

6 **3.2 SOIL PREPARATION**

- 7 A. Project manager (as defined in Section 01040) to approve area after the surface is prepared and
- 8 prior to seeding. If area is seeded without approval from project manager and the project
- 9 manager requires the area to be disturbed, the Contractor shall reseed the area without additional
- 10 cost to the Owner.
- 11 B. Limit preparation to areas which will be planted soon after preparation.
- 12 C. Loosen surface to minimum depth of four (4) IN.
- 13 D. Remove stones over one (1) IN in any dimension, sticks, roots, rubbish and other extraneous
- 14 matter.
- 15 E. Test soil pH using test kits approved by USDA NRCS. Use test results to determine rate of lime
- 16 application needed to make soil circumneutral. Provide application rate to Engineer for approval
- 17 prior to its application.
- 18 F. Spread lime uniformly over designated areas at rate determined by soil testing.
- 19 G. After application of lime, prior to applying fertilizer, loosen areas to be seeded with double disc
- 20 or other suitable device if soil has become hard or compacted. Correct any surface irregularities
- 21 in order to prevent pocket or low areas which will allow water to stand.
- 22 H. Test soil fertility according to USDA NRCS approved methods. Use test results to determine
- 23 rate of fertilizer application. Engineer will approve fertilizer application rate prior to application.
- 24 I. Distribute fertilizer uniformly over areas to be seeded at a rate determined by soil testing.
- 25 1. Use suitable distributor.
- 26 2. Incorporate fertilizer into soil to depth of at least two (2) IN.
- 27 3. Remove stones or other substances which will interfere with turf development or subsequent
- 28 mowing.
- 29 J. Grade seeded areas to smooth, even surface with loose, uniformly fine texture.
- 30 1. Roll and rake, remove ridges and fill depressions, as required to meet finish grades.
- 31 2. Fine grade just prior to planting.
- 32 K. Restore seeded areas to specified condition if eroded or otherwise disturbed between fine
- 33 grading and planting.
- 34 L. If fertilizer or lime application rate is determined (by invoices submitted) to be less than that
- 35 specified, apply additional fertilizer and/or lime.
- 36 M. Protect seeded areas.

37 **3.3 SEEDING**

- 38 A. Do not use seed which is wet, moldy, or otherwise damaged.
- 39 B. Use approved mechanical power driven drills or seeders, or mechanical hand seeders, or other
- 40 approved equipment.
- 41 C. Distribute seed evenly over entire area at not less than 7LB/1000 SF, 50 percent sown in one
- 42 direction, remainder at right angles to first sowing.

- 1 D. Stop work when work extends beyond most favorable planting season for species designated, or
2 when satisfactory results cannot be obtained because of drought, high winds, excessive
3 moisture, or other factors.
- 4 E. Resume work only when favorable condition develops.
- 5 F. Lightly rake seed into soil followed by light rolling or Culti-packing.
- 6 G. Immediately protect seeded areas against erosion by mulching or placing erosion control
7 matting. Use erosion control matting for all repair areas. Use mulching only in areas requiring
8 overseeding due to sparse or damaged vegetation, such as temporary construction access routes,
9 where placing matting over existing vegetation is impractical.
- 10 1. Spread mulch in a continuous blanket using 1-1/2 TON/ACRE to depth of 4 or 5 straws.
11 2. Immediately following spreading mulch, secure with evenly distributed emulsified asphalt
12 at rate of 200 gal/acre or use mulch anchoring tool or netting.
13 3. Protect all repair areas with approved erosion control matting. Install in accordance with
14 manufacturer's recommendations.
- 15 H. Immediately after planting, water to a reasonable depth.
- 16 I. Clean-up: Remove any soil or similar material from paved areas within same working day.
17 Upon completion of seeding, remove all excess soil, stones, and other debris from site or
18 dispose as directed by Owner. Repair all damages to existing construction caused by lawn
19 operations to the satisfaction of Engineer and Owner at no additional cost to Owner

20 **3.4 MAINTENANCE**

- 21 A. Remulch with new mulch or place new erosion control matting in areas where mulch or matting
22 has been disturbed by wind or maintenance operations sufficiently to nullify its purpose. Anchor
23 as required to prevent displacement.
- 24 B. Replant bare areas using same materials specified.
- 25 C. Contractor shall supply sufficient water until grass is established.
- 26 D. Contractor shall warranty work for one year from date of project final completion.
- 27 E. If stand is over 40% damaged for any reason either during construction or within one year of
28 project final completion, re-establish stand in the area damaged and extend warranty for that
29 area by six months from the date stand is established.
- 30 F. Restore seeded areas to specified condition if eroded or otherwise disturbed during construction.

31 **3.5 WARRANTY**

- 32 A. Contractor shall warranty the work for one year from date of final acceptance by the Owner.

33 **END OF SECTION**

WHITE STREET LANDFILL

Greensboro, North Carolina

CONSTRUCTION QUALITY ASSURANCE PLAN PHASE II CLOSURE

Prepared for:



Prepared by:

HDR

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HDR Project No. 06770-109019-018

August 2011

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SECTION 1.0 GENERAL

1.1 INTRODUCTION

This Construction Quality Assurance (CQA) Plan (Plan) has been prepared to provide the Owner, Engineer, and CQA Consultant the means to govern the construction quality and to satisfy landfill certification requirements under current solid waste management regulations.

More specifically, this Plan addresses the soils components of the closure cap system. The cap system, as referenced herein, generally consists of a compacted low permeability soil layer and a topsoil layer. General references to the various components in this Plan as the "cap system" is intended to be as described herein.

The Plan is divided into the following sections:

Section 1.0	General
Section 2.0	Low Permeability Soil Cap Construction Quality Assurance
Section 3.0	Topsoil Layer Construction Quality Assurance
Section 4.0	Surveying Construction Quality Control
Section 5.0	Construction Quality Assurance Documentation

1.2 DEFINITIONS RELATING TO CONSTRUCTION QUALITY

1.2.1 Construction Quality Assurance (CQA)

In the context of this Plan, CQA is defined as a planned and systematic program employed by the Owner to assure conformity of the cap system installation with Contract Drawings and the project specifications. CQA is provided by the CQA Consultant as a representative of the Owner and is independent from the Contractor and all manufacturers. The CQA program is designed to provide adequate confidence that items or services meet contractual and regulatory requirements and will perform satisfactorily in service.

1.2.2 Construction Quality Control (CQC)

Construction Quality Control (CQC) refers to actions taken the Contractor to ensure that the materials and the workmanship meet the requirements of this Plan and the project specifications. In the case of the cap system, CQC is provided by the Contractor's CQC Consultant.

1.2.3 CQC/CQA Certification Document

At the completion of construction, a certification document will be prepared by the CQA Consultant and be submitted to State Solid Waste Regulators. The certification report will include all CQC testing performed by the CQC Consultant and all CQA conformance testing performed by the CQA Consultant.

1.2.4 Discrepancies Between Documents

The Plan is intended to be a supporting document to improve the overall documentation of the Work. The Plan is less specific from the project specifications, and conflicts may exist between the documents. The Contractor is instructed to bring discrepancies to the attention of the Engineer or CQA Consultant for resolution. The Engineer has the sole authority to determine resolution of discrepancies existing within the Contract Documents. Unless otherwise determined by the Engineer, the more stringent requirement shall be the controlling resolution. Reference is made to the project specifications, Section 00700 - General Conditions.

1.3 PARTIES TO CONSTRUCTION QUALITY ASSURANCE

1.3.1 Description of the Parties

The parties to CQA and QC include the Owner, Project Manager, Engineer, Contractor, CQA Consultant, soils CQA laboratory, CQC Consultant, and soils CQC laboratory. The lines of authority and communications between each of the parties involved in the CQA and CQC are illustrated in Figure 1 (see page 4).

1.3.1.1 Owner

The Owner is the City of Greensboro (City), who owns and/or is responsible for the facility.

1.3.1.2 Project Manager

The Project Manager is the official representative of the Owner. The Project Manager serves as communications coordinator for the project, initiating the resolution, preconstruction, and construction meetings outlined in Section 1.7. The Project Manager shall also be responsible for proper resolution of all quality issues that arise during construction.

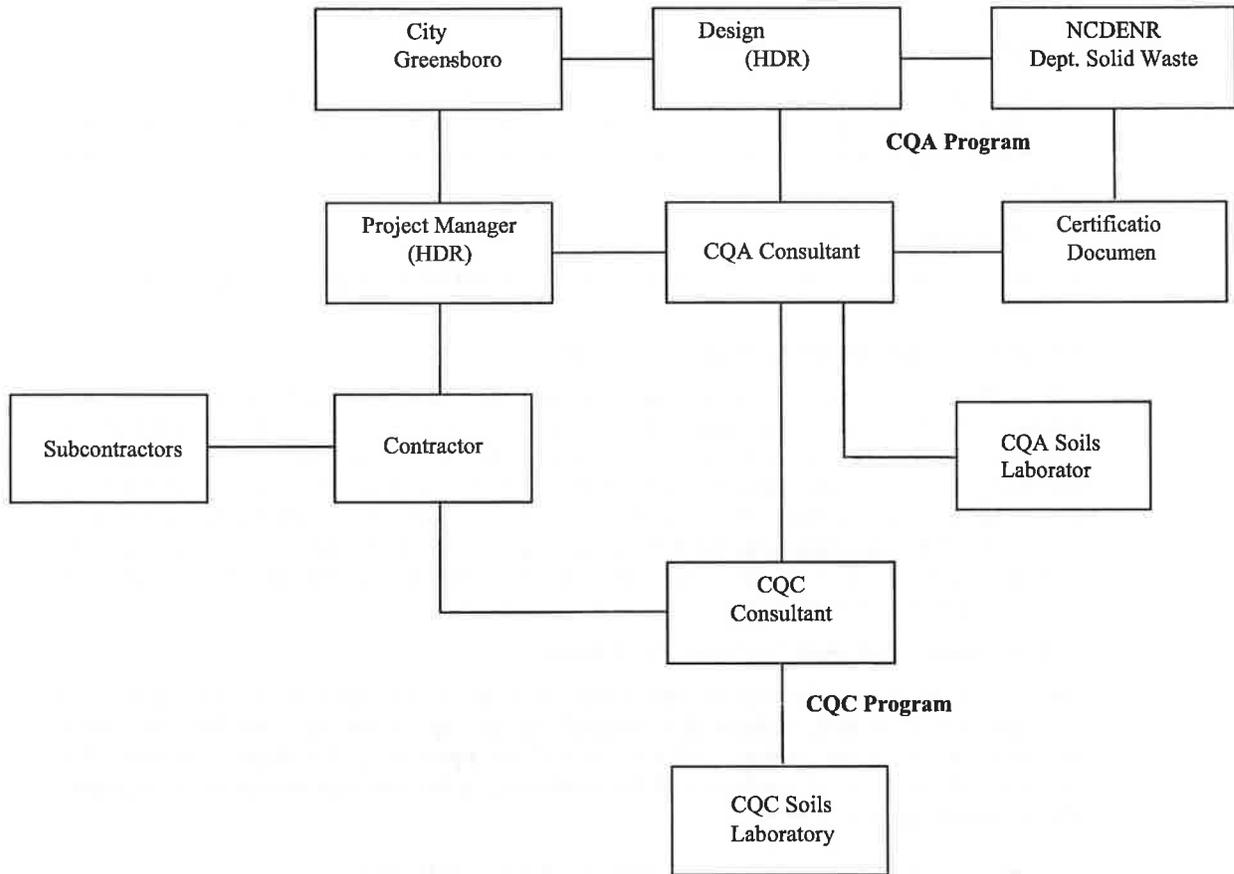
1.3.1.3 Engineer

The Engineer is responsible for the engineering design, drawings, plans, and project specifications for the cap system.

1.3.1.4 Contractor

The Contractor is responsible for the construction of the low permeability soil cap and topsoil layer. The Contractor is responsible for submittal coordination and the overall CQC on the project.

Figure 1 - CQA/CQC Lines of Authority and Communication



1.3.1.5 Construction Quality Assurance Consultant

The CQA Consultant is a representative of the Owner and is responsible for observing, testing, and documenting activities related to the CQC/CQA of the earthworks at the site. The CQA Consultant is also responsible for issuing a facility certification report, sealed by a Professional Engineer registered in North Carolina.

1.3.1.6 Soils Construction Quality Assurance Laboratory

The soils CQA laboratory is a party, independent from the Owner, that is responsible for conducting geotechnical tests on conformance samples of soils used in the cap system. The soils CQA laboratory service cannot be provided by any party involved with the Contractor.

1.3.1.7 Construction Quality Control Consultant

The CQC Consultant is a representative of the Contractor and is responsible for the earthwork and low permeability soil cap quality control sampling and testing. The term CQC Consultant shall be used to designate the Engineer in charge of the QC work. The personnel of the CQC Consultant also includes QC monitors, who are also located at the site for construction observation and monitoring. The CQC Consultant is responsible for the timely conveyance of CQC testing results to the CQA Consultant.

1.3.1.8 Soils Construction Quality Control Laboratory

The Soils CQC laboratory is a party, independent from the Contractor, which is responsible for conducting geotechnical tests on conformance samples of soils used in the cap system.

1.3.2 Qualifications of the Parties

The following qualifications are required of all parties involved with the manufacture, fabrication, installation, transportation, and CQC/CQA of all materials for the cap system. Where applicable, these qualifications must be submitted by the Contractor to the Project Manager for review and approval.

1.3.2.1 Contractor

Qualifications of the Contractor are specific to the construction contract and independent of this CQA Plan.

1.3.2.2 Construction Quality Assurance Consultant

The CQA Consultant will act as the Owner's CQA Representative and will report to the Project Manager. The CQA Consultant will perform conformance testing to satisfy the requirements of this Plan, will observe the CQC work performed by the CQC Consultant, and will prepare the certification document incorporating both CQA and CQC test data. The CQA Consultant will have experience in the CQC/CQA aspects of landfill cap system construction and soils testing, and be familiar with American Society of Testing and Materials (ASTM) and other related industry standards. The activities of the CQA Consultant will be performed under the supervision of a registered Professional Engineer.

1.3.2.3 Construction Quality Control Consultant

The CQC Consultant will be a party, independent from the Contractor. The CQC Consultant will be experienced with soils, including low permeability soil caps. The CQC Consultant will satisfy the requirements of the project specifications and be approved by the Project Manager. The activities of the CQC Consultant will be performed under the supervision of a registered Professional Engineer.

1.4 SCOPE OF CONSTRUCTION QUALITY ASSURANCE PLAN

The scope of this Plan includes the CQA of the soils components of the cap system for the subject facility. The CQA for the selection, evaluation, and placement of the soils is included in the scope. This document is intended to be used in concert with the CQC requirements presented in the project specifications.

1.5 UNITS

In this Plan, all properties and dimensions are expressed in United States units.

1.6 REFERENCES

The Plan includes references to the most recent version of the test procedures of the ASTM.

1.7 SITE AND PROJECT CONTROL

To guarantee a high degree of quality during installation, clear, open channels of communication are essential. To that end, meetings are critical.

1.7.1 CQA/CQC Resolution Meeting

Prior to field mobilization by the Contractor, a Resolution Meeting will be held. This meeting will include all parties then involved, including the Project Manager, the CQA Consultant, the Engineer, the Contractor, and the CQC Consultant.

The purpose of this meeting is to begin planning for coordination of tasks, anticipate any problems which might cause difficulties and delays in construction, and, above all, review the

CQA and CQC Plans to all of the parties involved. It is imperative that the rules regarding testing, repair, etc., be known and accepted by all.

This meeting should include all of the following activities:

- communicate to all parties any relevant documents;
- review critical design details of the project;
- review the site-specific CQA and CQC Plans;
- make any appropriate modifications to the CQA and CQC Plans to ensure that they specify all testing activities that are necessary;
- reach a consensus on the CQA/CQC quality control procedures, especially on methods for determining acceptability of the soils;
- review the proposed cap system;
- select testing equipment and review protocols for testing and placement of general earthwork materials;
- confirm methods for the low permeability soil cap material selection testing, acceptable zone determinations, and test strip installation; and
- confirm the methods for documenting and reporting, for distributing documents and reports, and confirm the lines of authority and communication.

The meeting will be documented by the Project Manager and minutes will be transmitted to all parties.

1.7.2 CQA/CQC Preconstruction Meeting

A Preconstruction Meeting will be held at the site prior to placement of the low permeability soil cap. At a minimum, the meeting will be attended by the Project Manager, Engineer, the CQA Consultant, the Contractor, and the CQC Consultant.

Specific topics considered for this meeting include:

- make any appropriate modifications to the CQA and CQC Plans;
- review the responsibilities of each party;
- review lines of authority and communication;
- review methods for documenting and reporting, and for distributing documents and reports;
- establish protocols for testing;
- establish protocols for handling deficiencies, repairs, and retesting;
- review the time schedule for all operations;
- review repair procedures; and
- establish soil stockpiling locations (if any).

The meeting will be documented by the Project Manager and minutes will be transmitted to all parties. The Resolution Meeting and the Preconstruction Meeting may be held as one meeting or separate meetings, depending on the direction of the Project Manager.

1.7.3 Daily and Weekly CQA/CQC Progress Meetings

A weekly progress meeting will be held between the Project Manager, the CQA Consultant, the Contractor, the CQC Consultant, and representatives from any other involved parties. This meeting will discuss current progress, planned activities for the next week, and any new business or revisions to the work. The CQA Consultant will log any problems, decisions or questions arising at this meeting in his daily report. Any matter requiring action which is raised in this meeting will be reported to the appropriate parties.

A daily meeting will be held between the CQA Consultant, the CQC Consultant, and representatives from any other involved parties. This meeting will discuss current progress, planned activities for the next shift, and any new business or revisions to the work. The CQA Consultant will log any problems, decisions, or questions arising at this meeting in his daily report. Any matter requiring action which is raised in this meeting will be reported to the appropriate parties.

Meeting frequency will depend on the schedule of the project and the mutual agreement of all parties involved.

1.7.4 Problem or Work Deficiency Meetings

A special meeting will be held when and if a problem or deficiency is present or likely to occur. At a minimum, the meeting will be attended by all interested parties, the Contractor, the Project Manager, and the CQA Consultant. If the problem requires a design modification, the Engineer should also be present. The purpose of the meeting is to define and resolve the problem or work deficiency as follows:

- define and discuss the problem or deficiency;
- review alternative solutions; and
- implement an action plan to resolve the problem or deficiency.

The meeting will be documented by the Project Manager and minutes will be transmitted to affected parties.

SECTION 2.0
LOW PERMEABILITY SOIL CAP CONSTRUCTION QUALITY ASSURANCE

2.1 INTRODUCTION

This section of the Plan addresses the low permeability soil cap, and outlines the soils CQA program to be implemented with regard to materials confirmation, laboratory and field confirmation test requirements, overview and interfacing with the Contractor's CQC Program, and resolution of problems.

2.2 LOW PERMEABILITY SOIL CAP

2.2.1 Subgrade

The subgrade material below the low permeability soil cap will be prepared by the Contractor prior to the placement of fill. The CQC Consultant will provide density testing of the pre-fill subgrade at the frequency specified in the project specifications. The CQA Consultant will observe the proofroll by the Contractor, review the density test data provided by the CQC Consultant, and provide verification that the pre-fill subgrade is acceptable. The CQA Consultant may conduct confirmation density testing as deemed appropriate. The CQA Consultant will visually examine the surface of the subgrade to verify that any potentially deleterious materials have been removed.

The subgrade material below the low permeability soil cap is composed of controlled fill and in situ soils. The Contractor shall place controlled fill as required to cover exposed waste and to fill depressions in the subgrade in accordance with the project specifications. The CQC Consultant shall provide testing of the controlled fill material in accordance with the project specifications. The CQA Consultant will provide confirmation testing of the controlled fill as deemed appropriate.

2.2.2 Low Permeability Soil Cap Material

The low permeability soil cap shall be placed and compacted in accordance with the project specifications. The CQC Consultant shall conduct field density and moisture tests at the frequency presented in the project specifications. The CQA Consultant shall provide conformance tests at a frequency of approximately 10 percent of the required CQC tests. Additional CQA conformance testing may be performed at the discretion of the CQA Consultant.

Hydraulic Conductivity, Atterberg Limits, and Percent Fines testing of the low permeability soil cap material shall be performed by the CQC Consultant in accordance with the project specifications. Additional CQA conformance testing may be performed at the discretion of the CQA Consultant.

Thickness measurement shall be conducted in accordance with the project specifications by the CQC Consultant and observed by the CQA Consultant.

2.3 SOILS TESTING

2.3.1 Test Methods

All testing used to evaluate the suitability or conformance of soils materials will be carried out in accordance with the project specifications.

2.3.2 Soils Testing Requirements

The soil CQC testing must comply with the minimum frequencies presented in the project specifications. The frequency of CQA testing required will be determined by the CQA Consultant in light of the potential variability of materials and the acceptance/failure rate of the CQC testing.

2.4 LOW PERMEABILITY SOIL CAP CONSTRUCTION QUALITY ASSURANCE

CQA will be performed on low permeability soil cap construction. CQA evaluation will consist of: (1) monitoring the work and observing the CQC testing; and (2) performing laboratory and field conformance tests. Laboratory CQA conformance tests will be conducted on samples taken at the borrow source, stockpile, and during the course of the work prior to construction. Field CQA conformance tests will be conducted during the course of the work.

2.4.1 Monitoring

The CQA Consultant shall monitor and document the construction of the low permeability soil cap. Monitoring the construction work for the subgrade and the soil cap includes the following:

- observing CQC testing to determine the water content and other physical properties of the subgrade and low permeability soil cap during compaction and compilation of the data;
- monitoring the loose thickness of lifts as placed;
- monitoring the action of the compaction and/or heavy hauling equipment on the construction surface (i.e., penetration, pumping, cracking, etc.); and
- monitoring the number of passes used to compact each lift.

2.4.2 Construction Quality Assurance Judgmental Testing

During construction, the frequency of conformance testing may be increased at the discretion of the CQA Consultant when visual observations of construction performance indicate a potential problem. Additional testing for suspected areas will be considered when:

- the rollers slip during rolling operation;
- the lift thickness is greater than specified;
- the fill material is at an improper moisture content;
- fewer than the specified number of roller passes are made;
- dirt-clogged rollers are used to compact the material;
- the rollers may not have used optimum ballast;
- the fill materials differ substantially from those specified; or
- the degree of compaction is doubtful.

2.4.3 Perforations in Cap

Perforations that must be filled will include, but not be limited to, the following:

- nuclear density test probe locations;
- permeability sampling locations; and/or
- thickness checks.

Unless otherwise noted, or as directed by the Project Manager, all perforations of the subgrade and low permeability soil cap by probes or sample tubes will be backfilled in accordance with project specifications. The CQA Consultant will observe and confirm that adequate procedures are being employed.

2.4.4 Deficiencies

If a defect is discovered in the low permeability soil cap product, the CQC Consultant will immediately determine the extent and nature of the defect. If the defect is indicated by an unsatisfactory test result, the CQC Consultant will determine the extent of the deficient area by additional tests, observations, a review of records, or other appropriate means. If the defect is related to adverse site conditions, such as overly wet soils or surface desiccation, the CQC Consultant will define the limits and nature of the defect.

2.4.4.1 Notification

After determining the extent and nature of a defect, the CQC Consultant will notify the Project Manager, the CQA Consultant, and Contractor and schedule appropriate retests when the work deficiency is corrected. The CQA Consultant shall observe all retests on defects.

2.4.4.2 Repairs and Retesting

The Contractor will correct the deficiency to the satisfaction of the CQA Consultant. If a project specification criterion cannot be met, or unusual weather conditions hinder work, then the CQC Consultant will develop and present to the Project Manager and CQA Consultant suggested solutions for approval.

All retests recommended by the CQC Consultant must verify that the defect has been corrected before any additional work is performed by the Contractor in the area of the deficiency. The CQA Consultant will verify that all installation requirements are met and that all submittals are provided.

SECTION 3.0
TOPSOIL LAYER CONSTRUCTION QUALITY ASSURANCE

3.1 INTRODUCTION

This section of the Plan addresses the topsoil layer of the cap system and outlines the CQA program to be implemented with regard to materials confirmation, laboratory and field test requirements, overview and interfacing with the Contractor's CQC Program, and resolution of problems.

3.2 TOPSOIL LAYER

3.2.1 Topsoil Layer Material

The topsoil layer shall be placed in accordance with the project specifications. The CQC Consultant will provide thickness testing of the material at the frequency specified in the project specifications.

3.3 MATERIALS TESTING

3.3.1 Test Methods

All testing used to evaluate the suitability or conformance of topsoil layer materials will be carried out in accordance with the project specifications.

3.3.2 Material Testing Requirements

The material CQC testing must comply with the minimum frequencies presented in the project specifications. The frequency of CQA testing will be determined by the CQA Consultant in light of the potential variability of the materials and the acceptance/failure rate of the CQC testing.

3.4 TOPSOIL LAYER CONSTRUCTION QUALITY ASSURANCE

CQA evaluation of the topsoil layer will consist of monitoring the work and observing the CQC testing.

3.4.1 Monitoring

The CQA Consultant shall monitor and document the construction of the topsoil layer. Monitoring the construction work for the topsoil layer includes the following:

- verifying material meets specification requirements for topsoil;
- monitor placement of material to ensure that it is accomplished in a manner that does not damage the low permeability soil cap;
- review CQC Consultant thickness testing results and conduct confirmation thickness testing as deemed appropriate; and,
- verify that the finished surface is free of stones, sticks, or other material 1 IN or more in any dimension and suitable for seeding.

3.4.2 Deficiencies

If a defect is discovered in the topsoil layer product, the CQC Consultant will immediately determine the extent and nature of the defect and report it to the CQA Consultant. If the defect is indicated by an unsatisfactory test result, the CQC Consultant will determine the extent of the deficient area by additional tests, observations, a review of records, or other means that the CQA Consultant deems appropriate.

3.5.2.1 Notification

After determining the extent and nature of a defect, the CQC Consultant will notify the Project Manager and Contractor and schedule appropriate retests when the work deficiency is corrected. The CQA Consultant shall observe all retests on defects.

3.5.2.2 Repairs and Retesting

The Contractor will correct the deficiency to the satisfaction of the CQA Consultant. If a project specification criterion cannot be met, or unusual weather conditions hinder work, then the CQC Consultant will develop and present to the Project Manager suggested solutions for his approval.

All retests recommended by the CQC Consultant must verify that the defect has been corrected before any additional work is performed by the Contractor in the area of the deficiency. The CQA Consultant will verify that all installation requirements are met and that all submittals are provided.

SECTION 4.0 SURVEYING CONSTRUCTION QUALITY CONTROL

4.1 INTRODUCTION

Surveying of lines and grades is conducted on an ongoing basis during construction of the cap system. Close CQC of the surveying is absolutely essential to ensure that slopes are properly constructed. The surveying conducted at the site shall be performed by the Contractor.

4.2 SURVEY CONTROL

Permanent benchmarks and baseline control points are to be established for the site at locations convenient for daily tie-in. The vertical and horizontal controls for this benchmark will be established within normal land surveying standards.

4.3 SURVEYING PERSONNEL

The Contractor's survey crew will consist of a senior surveyor, and as many surveying CQC monitors as are required to satisfactorily undertake the requirements for the work. All surveying CQC Personnel will be experienced in the provision of these services, including detailed, and accurate documentation.

All surveying will be performed under the direct supervision of a registered Professional Engineer or Licensed Land Surveyor licensed in the state in which the project is located. The Licensed Land Surveyor may be the senior surveyor.

4.4 PRECISION AND ACCURACY

A wide variety of survey equipment is available to meet the requirements of this project. The survey instruments used for this work should be sufficiently precise and accurate to meet the needs of the project. All survey instruments should be capable of reading to a precision of 0.01-foot and with a setting accuracy of 20 seconds (5.6×10^{-3} degrees).

4.5 LINES AND GRADES

The following surfaces shall be surveyed to verify the lines and grades achieved during construction. The survey should at least include (as deemed appropriate by the Engineer and CQA Consultant):

- one or more construction baselines;
- a working grid with a sufficient number of benchmarks;
- surface of the subgrade;
- all existing structures within closure area;
- surface of the low permeability soil cap component;
- surface of the topsoil layer;
- elevations and locations of temporary berms;
- top/toe of all perimeter berms, roads, and channels;
- location of edge of final cover; and
- locations and invert elevations of slope drains.

Laser planes are highly recommended for achieving the correct lines and grades during construction of each surface.

4.6 FREQUENCY AND SPACING

All surveying will be carried out immediately upon completion of a given installation to facilitate progress and avoid delaying commencement of the next installation. In addition, spot checks, as determined by the senior surveyor, CQA Consultant, or Project Manager, during construction may be necessary to assist the Contractor in complying with the required grades.

The following spacings and locations will be provided by the CQC surveyor, as a minimum, for survey points:

- surfaces with slopes less than 10 percent will be surveyed on a square grid not wider than 100 feet;
- on slopes greater than 10 percent, a square grid not wider than 100 feet will be used; however in any case, a line of survey points at the crest, midpoint, and toe of the slope will be taken; and
- a line of survey points no farther apart than 100 feet will be taken along any slope break (this will include the inside edge and outside edge of any bench on a slope).

4.7 THICKNESS MEASUREMENTS

The CQC surveyor, as a representative of the Contractor, shall obtain top and bottom elevations of the low permeability soil cap and topsoil layer at a maximum 100-foot grid points and at all grade break lines. The procedure for obtaining top and bottom elevations shall be agreed to by the CQA Consultant and Engineer prior to construction. The CQC surveyor shall review the survey information with the Contractor to ensure that the survey demonstrates compliance with the project technical specifications. The Contractor is responsible for identifying and reporting to the CQA Consultant any areas of non-compliance evidenced by the survey, and for repairing such areas. The CQA Consultant and Contractor shall review the thickness measurements of the low permeability soil cap component prior to placement of the topsoil layer.

4.8 TOLERANCES

Except for soil cap components where no minus tolerances are acceptable, following is the maximum tolerance for survey points:

- on surfaces, the maximum tolerances shall be 0.2 foot. This tolerance must be set to the record elevation of the surface below it and not the design elevation.

4.9 DOCUMENTATION

All field survey notes will be retained by the senior surveyor. The results from the field surveys will be documented on a set of Survey Record (As-Built) Drawings by the Contractor for submittal to the CQA Consultant. The Contractor shall certify to the CQA Consultant and Engineer that the results of the survey demonstrates compliance with the Contract Documents. These drawings shall, at a minimum, show the final elevations and locations of all surfaces and appurtenances surveyed in Subsection 4.5 of this Plan.

SECTION 5.0

CONSTRUCTION QUALITY ASSURANCE DOCUMENTATION

5.1 DOCUMENTATION

An effective Plan depends largely on recognition of all construction activities that should be monitored and on assigning responsibilities for the monitoring of each activity. This is most effectively accomplished and verified by the documentation of QA activities. The CQA Consultant will document that all QA requirements have been addressed and satisfied.

This Plan integrates the testing and inspection performed by the CQC Consultant in accordance with the project specifications with the CQA overview and conformance testing performed by the CQA Consultant, in accordance with this Plan.

The CQA Consultant will provide the Project Manager with the CQC Consultant's daily and weekly reports including signed descriptive remarks, data sheets, and logs to verify that all CQC monitoring activities have been carried out. The CQA Consultant will also provide the Project Manager with a weekly report summarizing CQA activities and identifying potential QA problems. The CQA Consultant will also maintain, at the job site, a complete file of plans, reports, project specifications, a CQA Plan, checklists, test procedures, daily logs, and other pertinent documents.

5.2 RECORDKEEPING

The CQC Consultant's reporting procedures will include preparation of a daily report which, at a minimum, will consist of: a) field notes, including memoranda of meetings and/or discussions with the Contractor; b) observation logs and testing data sheets; and c) construction problem and solution data sheets. The daily report must be completed at the end of each CQC Consultant's shift, prior to leaving the site. This information will be submitted weekly to the CQA Consultant for review.

The CQC Consultant's weekly reports must summarize the major events that occurred during that week. Critical problems that occur shall be communicated verbally to the Project Manager or CQA Consultant immediately, as well as being included in the weekly reports. The CQC Consultant's weekly report must be submitted to the CQA Consultant no later than the Monday following the week reported.

The CQA Consultant's weekly report must summarize the CQC Consultant's weekly and daily reports, CQA conformance testing activities, construction problems that occurred, and the resolution of construction problems. The CQA Consultant's weekly report should identify all potential or actual compliance problems outstanding. The CQA Consultant's weekly report must be submitted to the Project Manager on the Wednesday following the week reported.

5.2.1 Memorandum of Discussion with CQC Consultant

A report will be prepared summarizing each discussion between the CQA Consultant. At a minimum, the report will include the following information:

- date, project name, location, and other identification;
- name of parties to discussion at the time;
- relevant subject matter or issues;
- activities planned and schedule; and
- signature of the CQA Consultant.

5.2.2 CQA Observation Logs and Testing Data Sheets

CQA observation logs and conformance testing data sheets will be prepared by the CQA Consultant on a weekly basis. At a minimum, these logs and data sheets will include the following information:

- an identifying sheet number for cross-referencing and document control;
- date, project name, location, and other identification;

- data on weather conditions;
- a reduced-scale Site Plan showing all proposed work areas and test locations;
- descriptions and locations of ongoing construction;
- descriptions and specific locations of areas, or units, of work being tested and/or observed and documented;
- locations where tests and samples were taken;
- a summary of test results;
- calibrations or recalibrations of test equipment, and actions taken as a result of recalibration;
- off-site materials received, including quality verification documentation;
- decisions made regarding acceptance of units of work, and/or corrective actions to be taken in instances of substandard quality; and
- the CQA Consultant's signature.

5.2.3 CQA Construction Problem and Solution Data Sheets

CQA sheets describing special construction situations will be cross-referenced with specific CQA observation logs and testing data sheets, and must include the following information, where available:

- an identifying sheet number for cross-referencing and document control;
- a detailed description of the situation or deficiency;
- the location and probable cause of the situation or deficiency;
- how and when the situation or deficiency was found or located;
- documentation of the response to the situation or deficiency;
- final results of any responses;
- any measures taken to prevent a similar situation from occurring in the future; and
- the signatures of the CQA Consultant the Project Manager, indicating concurrence, if required by this Plan.

The Project Manager will be made aware of any significant recurring nonconformance with the project specifications. The Project Manager will then determine the cause of the non-conformance and recommend appropriate changes in procedures or specification. When this type of evaluation is made, the results will be documented, and any revision to procedures or project specifications will be approved by the Owner and Engineer.

5.3 CQA PHOTOGRAPHIC REPORTING DATA SHEETS

Photographic reporting data sheets, where used, will be cross-referenced with CQA observation logs and testing data sheets and/or CQA construction problem and solution data sheets. Photographs shall be taken at regular intervals during the construction process and in all areas deemed critical.

These photographs will serve as a pictorial record of work progress, problems, and mitigation activities. The basic file will contain color prints; digital copies will be stored in a separate file in chronological order. These records will be presented to the Project Manager upon completion of the project.

In lieu of photographic documentation, videotaping may be used to record work progress, problems, and mitigation activities. The Project Manager may require that a portion of the documentation be recorded by photographic means in conjunction with videotaping.

5.4 DESIGN AND/OR PROJECT TECHNICAL SPECIFICATION CHANGES

Design and/or project specification changes may be required during construction. In such cases, the CQA Consultant will notify the Project Manager and the Engineer. The Project Manager will then notify the appropriate agency, if necessary.

Design and/or project specification changes will be made only with the written agreement of the Project Manager and the Engineer, and will take the form of an addendum to the project specifications. All design changes shall include a detail (if necessary) and state which detail it replaces in the plans.

5.5 CQA PROGRESS REPORTS

The CQA Consultant will prepare a summary progress report each week, or at time intervals established at the pre-construction meeting. As a minimum, this report will include the following information;

- a unique identifying sheet number for cross-referencing and document control;
- the date, project name, location, and other information;
- a summary of work activities during progress reporting period;
- a summary of construction situations, deficiencies, and/or defects occurring during the progress reporting period; and
- summary of all test results, failures and retests, and signature of the CQA Consultant.

5.6 SIGNATURE AND FINAL REPORT

At the completion of each major construction activity at the Landfill, the CQA Consultant will certify all required forms, observation logs, field and laboratory testing data sheets including sample location plans, construction problems, and solution data sheets. The CQA Consultant will also provide a final report, which will certify that the work has been performed in compliance with the plans and project technical specifications, and that the supporting documents provide the necessary information.

The CQA Consultant will also provide summaries of all the data listed above with the report. The Record Drawings will include scale drawings depicting the location of the construction and details pertaining to the extent of construction (e.g., depths, plan dimensions, elevations, soil component thicknesses, etc.). All surveying and base maps required for development of the Record Drawings will be done by the Construction surveyor. These documents will be certified by the Contractor and CQC Consultant and delivered to the CQA Consultant and included as part of the CQA documentation (Certification) report.

It may be necessary to prepare interim certifications, as allowed by the regulatory agency to expedite completion and review.

5.7 STORAGE OF RECORDS

All handwritten data sheet originals, especially those containing signatures, will be stored by the Project Manager in a safe repository on site. Other reports may be stored by any standard method which will allow for easy access. All written documents will become property of the Owner.

Phase II Groundwater Corrective Actions Selection of Remedies Approval



North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary

June 24, 2008

Ms. Jeryl Covington
City of Greensboro
Environmental Services Department
P.O. Box 3136
Greensboro, NC 27402

Re: Approval of Selected Remedy
White Street Landfill, Phase II, Permit #41-03

Dear Ms. Covington:

The North Carolina Solid Waste Section recently completed a review of the Assessment of Corrective Measures report, the North Carolina Solid Waste Groundwater Corrective Action Permit Modification Application, and a June 10, 2008 correspondence regarding selection of remedy for the White Street Phase II Landfill, Permit Number 41-03, located in Greensboro, Guilford County. Pursuant to 15A NCAC 13B .1635, a public meeting was conducted on December 20, 2007 and June 9, 2008 to discuss the Assessment of Corrective Measures. Pursuant to 15A NCAC 13B .1636, the owner or operator shall select a remedy, and the Solid Waste Section will evaluate and approve the selected remedy. The City of Greensboro has selected Monitored Natural Attenuation (MNA), Phytoremediation, and maintaining a consistent contour within Phase II as the remedy to restore groundwater quality and effectively reduce the contamination at the facility. Groundwater pumping and discharge to the public owned treatment works has been selected as the contingency plan. As a result, the Solid Waste Section hereby approves the selected remedy for the White Street Landfill, Phase II. Please submit a Corrective Action Plan (CAP) to the Solid Waste Section by July 1, 2008 pursuant to 15A NCAC 13B .0547. If you have any questions or concerns regarding this letter, please contact me at 919-508-8500. Thank you for your continued cooperation in this matter.

Sincerely,

Jaclynne Drummond
Hydrogeologist
Environmental Compliance
Solid Waste Section

cc: Connel Ware, S&ME, Inc.
Mark Poindexter, Field Operations Supervisor
Jason Watkins, Central District Supervisor
Hugh Jernigan, Environmental Specialist
Solid Waste Section Central Files



North Carolina Department of Environment and Natural Resources

Dexter Matthews, Director

Division of Waste Management

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

May 14, 2009

Ms. Jeryl Covington
City of Greensboro Environmental Services Department
P.O. Box 3136
Greensboro, NC 27402

Re: Approval of Corrective Action Plan (CAP)
White Street Landfill, Phase II, Guilford County, Permit #41-03

Dear Ms. Covington:

The Solid Waste Section has reviewed the *June 30, 2008 White Street Landfill Phase II Corrective Action Plan (CAP)* and the *April 2009 Revised White Street Landfill Phase II Corrective Action Plan (CAP)* submitted on behalf of the City of Greensboro by S&ME, Inc. Pursuant to 15A NCAC 13B .1636, the City of Greensboro selected Monitored Natural Attenuation (MNA), Phytoremediation, and maintaining a consistent contour within Phase II as the remedy to restore groundwater quality and effectively reduce the groundwater contamination at the facility. The Solid Waste Section approved the selected remedy for the White Street Landfill, Phase II on June 24, 2008.

The Corrective Action Plan (CAP) proposes implementation of the following activities:

- Monitored Natural Attenuation (MNA)
- Phytoremediation
- Maintaining a consistent contour within Phase II

A comprehensive MNA baseline will be established at the facility consisting of four consecutive quarterly sampling events. In addition, hybrid poplars and willows will be used in a phytoremediation system by enhancing the corrective action of the metal thallium and volatile organic compounds impacting groundwater downgradient from the facility. As a result, the Solid Waste Section hereby approves the Corrective Action Plan for immediate implementation. The implementation of the approved selected remedy shall now take place in accordance with 15A NCAC 13B .1637, .0547, and as outlined in the Corrective Action Plan. If the selected remedy proves to be ineffective, then the contingency plan located within the Corrective Action Plan shall be implemented. If you have any questions or concerns regarding this letter, please contact me at 919-508-8500. Thank you for your continued cooperation with this matter.

Sincerely,

Jaclynne Drummond
Hydrogeologist
Environmental Compliance
Solid Waste Section

1

cc: Connel Ware, S&ME, Inc.
Greg Thomasson, City of Greensboro
Mark Poindexter, Field Operations Supervisor
Jason Watkins, Central District Supervisor
Hugh Jernigan, Environmental Senior Specialist
Ming Tai Chao, Permitting Engineer
Ellen Lorscheider, Planning and Programs Manager
Solid Waste Section Central Files

Phase II Corrective Action Plan
Prepared By
S&ME, Inc.

SEE DOCUMENT DIN 7393
4103-MSWLF-1987

**WHITE STREET LANDFILL
PHASE II CORRECTIVE ACTION PLAN
GREENSBORO, NORTH CAROLINA
S&ME Project No. 1584-98-081**

Prepared For:



The City of Greensboro

Prepared By:



S&ME, Inc.
3718 Old Battleground Road
Greensboro, North Carolina 27410

June 2008
Revised April 2009

**Phase II Groundwater Corrective Actions
December 20, 2007 Public Meeting
Press Release**

News & Record

Published by
News & Record, Inc.
Greensboro, North Carolina

North Carolina, Guilford County

AFFIDAVIT OF PUBLICATION

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified and authorized by law to administer oaths, personally appeared the Publisher's Representative who being first duly sworn, deposed and says:

1. That he/she is the Publisher's Representative of the Greensboro News & Record, Inc. a corporation, engaged in the publication of newspapers known as "News & Record", published, issued and entered as second class mail in the City of Greensboro in said County and State.
2. That he/she is authorized to make this affidavit and sworn statement; that the notice or other legal advertisement, a copy of which is attached hereto, was published in the News & Record on the dates listed below.
3. That the said newspaper (or newspapers) in which such notice, paper, document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all of the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

Publisher's Representative Valerie McNeil

Sworn to and subscribed before me, this 14th day of November 2007.

Valerie McNeil
Notary Public

VALERIE McNEIL
NOTARY PUBLIC
GUILFORD COUNTY, NC
COMM. EXP. 8-23-2010

My commission expires: August 23, 2010

<u>Name</u>	<u>Ad #</u>	<u>Date</u>	<u>Edition</u>	<u>Class</u>	<u>PO</u>	<u>Ad Copy</u>
CITY OF GREENSBORO	30681295	11/18/07	News & Record	400	WHITE ST MS	PUBLIC MEETING TO REVIEW GROUNDWA

RECD NOV 26 2007

**PUBLIC MEETING
TO REVIEW
GROUNDWATER
FINDINGS AND
CORRECTIVE MEASURES
FOR THE WHITE STREET
MUNICIPAL SOLID
WASTE LANDFILL**

**City of Greensboro -
Environmental Services
Department
P.O. Box 3136
Greensboro, North
Carolina 27402-3136**

In accordance with Title 15A NCAC 13B .1635(d), the City of Greensboro-Environmental Services Department is holding a public meeting to review the findings and to discuss corrective measures related to impacted groundwater associated with the formerly operated Phase II municipal solid waste landfill. The former Phase II landfill operated from 1978 to 1997. Phase II is within the White Street Landfill which is located at 2503 White Street.

After the public meeting, the City of Greensboro will select a remedy(ies) in accordance with the requirements of 15A NCAC 13B .1636 and submit the corrective measure(s) in a Corrective Action Plan for approval by the Solid Waste Section of the NC Department of Environment and Natural Resources.

The public meeting will be held on December 20, 2007 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The groundwater studies are available for public inspection at the following locations during normal business hours:

**City of Greensboro
Central Library
219 North Church Street**

**McGirt-Horton
Branch Library
2509 Phillips Avenue**

News & Record

Published by
News & Record, Inc.
Greensboro, North Carolina

AFFIDAVIT OF PUBLICATION

North Carolina, Guilford County

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified and authorized by law to administer oaths, personally appeared the Publisher's Representative who being first duly sworn, deposed and says:

1. That he/she is the Publisher's Representative of the Greensboro News & Record, Inc. a corporation, engaged in the publication of newspapers known as "News & Record", published, issued and entered as second class mail in the City of Greensboro in said County and State.
2. That he/she is authorized to make this affidavit and sworn statement; that the notice or other legal advertisement, a copy of which is attached hereto, was published in the News & Record on the dates listed below.
3. That the said newspaper (or newspapers) in which such notice, paper, document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all of the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

Publisher's Representative Valerie McNeil

Sworn to and subscribed before me, this 19th day of November 2007.

Valerie McNeil
Notary Public

VALERIE McNEIL
NOTARY PUBLIC
GUILFORD COUNTY, NC
COMM. EXP. 8-23-2010

My commission expires: August 23, 2010

<u>Name</u>	<u>Ad #</u>	<u>Date</u>	<u>Edition</u>	<u>Class</u>	<u>PO</u>	<u>Ad Copy</u>
CITY OF GREENSBORO	30681295	11/18/07	News & Record	400	WHITE ST MS	PUBLIC MEETING TO REVIEW GROUNDWA

REC'D NOV 26 2007

**PUBLIC MEETING
TO REVIEW
GROUNDWATER
FINDINGS AND
CORRECTIVE MEASURES
FOR THE WHITE STREET
MUNICIPAL SOLID
WASTE LANDFILL**

**City of Greensboro -
Environmental Services
Department
P.O. Box 3136
Greensboro, North
Carolina 27402-3136**

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Central Library
219 North Church Street**

**McGirt-Horton
Branch Library
2509 Phillips Avenue**



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: News 45 WXLV

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-723-8217

Pages: 2 (including cover sheet)

Phone: 336-722-4545

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: Curtis Media

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 517-2448

Pages: 2 (including cover sheet)

Phone: 336-

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: News & Record

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-373-7382

Pages: 2 (including cover sheet)

Phone: 336-373-7000

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: News 14 Carolina

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-856-9499

Pages: 2 (including cover sheet)

Phone: 336-856-9497

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WFMY News 2

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336-230-0971

Pages: 2 (including cover sheet)

Phone: 336-379-9369

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WGHP Fox News

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 841-5169

Pages: 2 (including cover sheet)

Phone: 336- 275-1850

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro

PO Box 3136
Greensboro, NC 27402-3136
Phone: 336-373-2787
Fax: 336-373-2988

Fax

To: WXII News

From: Jeryl W. Covington, Director

Environmental Services Department

Fax: 336- 721-0856

Pages: 2 (including cover sheet)

Phone: 336-

Date: 11/19/2007

Re: News Release

CC:

Public Meeting Notice – Dec. 20, 2007



City of Greensboro
North Carolina

Public Meeting to Review Groundwater Findings and Corrective Measures
for the White Street Municipal Solid Waste Landfill

City of Greensboro- Environmental Services Department
P.O. Box 3136
Greensboro, North Carolina 27402-3136

In accordance with Title 15A NCAC 13B .1635(d), the City of Greensboro-Environmental Services Department is holding a public meeting to review the findings and to discuss corrective measures related to impacted groundwater associated with the formerly operated Phase II municipal solid waste landfill. The former Phase II landfill operated from 1978 to 1997. Phase II is within the White Street Landfill which is located at 2503 White Street.

After the public meeting, the City of Greensboro will select a remedy(ies) in accordance with the requirements of 15A NCAC 13B .1636 and submit the corrective measure(s) in a Corrective Action Plan for approval by the Solid Waste Section of the NC Department of Environment and Natural Resources.

The public meeting will be held on December 20, 2007 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The groundwater studies are available for public inspection at the following locations during normal business hours:

City of Greensboro Central Library
219 North Church Street

McGirt-Horton Branch Library
2509 Phillips Avenue

Activity Report

TX Date/Time	Function	No.	Destination	Duration	P. #	Result
OCT-19	07:12 Send	*925	AON CLAIMS	0*00'47"	002	OK
OCT-23	07:08 Send	*928	AON CLAIMS	0*00'42"	002	OK
OCT-25	15:08 Send	*933	ECOFLO	0*00'31"	005	OK
OCT-29	14:18 Send	*936	336 333 0000000	0*00'26"	001	OK
OCT-31	10:08 Send	*942	ECOFLO	0*00'13"	002	OK
	12:02 Send	*943	ECOFLO	0*00'19"	003	OK
NOV-06	09:45 Send	*947	703 790 2672	0*00'26"	002	OK
NOV-09	13:49 Send	*952	336 373 4812	0*00'17"	001	OK
NOV-12	10:22 Send	*954	AON CLAIMS	0*00'43"	002	OK
NOV-13	11:07 Send	*957	336+373+5964	0*00'16"	002	OK
	16:54 Send	959	AON CLAIMS	0*00'38"	002	OK
NOV-14	10:50 Send	962	918668873195	0*00'43"	002	OK
NOV-19	08:47 Send	967	7238217	0*00'13"	002	OK
	08:48 Send	968	336 517 2448	0*00'18"	002	OK
	08:49 Send	969	336+373+7382	0*00'14"	002	OK
	08:50 Send	970	3368569499	0*00'34"	002	OK
	08:52 Send	972	336 841 5169	0*00'34"	002	OK
	08:54 Send	971	336 230 0971	0*00'21"	002	OK
	08:55 Send	973	336 721 0856	0*00'13"	002	OK
OCT-19	01:45 Reception	*924	866 575 5783	0*01'07"	002	OK
	11:27 Reception	*926	9528316550	0*01'13"	006	OK
OCT-22	07:38 Reception	*927		0*00'34"	001	OK
OCT-23	21:17 Reception	*929		0*00'55"	001	OK
OCT-24	01:07 Reception	*930	336 3877219	0*02'01"	004	OK
	16:41 Reception	*931	6417392825	0*00'31"	001	OK
OCT-25	14:21 Reception	*932	ECOFLO	0*00'40"	005	OK
OCT-26	15:45 Reception	*934	ECOFLO	0*00'25"	002	OK
OCT-27	13:09 Reception	*935		0*00'54"	001	OK
OCT-30	00:49 Reception	*937		0*00'53"	001	OK
	01:25 Reception	*938		0*00'53"	001	OK
	20:15 Reception	*939		0*00'53"	001	OK
OCT-31	07:17 Reception	*940	ECOFLO	0*00'31"	003	OK
	09:25 Reception	*941		0*00'34"	001	OK
	22:09 Reception	*944		0*00'59"	001	OK
NOV-04	23:32 Reception	*945		0*01'13"	002	OK
NOV-06	00:33 Reception	*946		0*00'48"	001	OK
	10:09 Reception	*948		0*00'43"	001	OK
NOV-07	13:57 Reception	*949		0*00'43"	001	OK
NOV-08	10:01 Reception	*950	336 375 0046	0*00'30"	001	OK
NOV-09	09:39 Reception	*951	816 595 5357	0*00'25"	001	OK
NOV-11	22:18 Reception	*953		0*00'48"	001	OK
NOV-12	11:16 Reception	*955		0*00'33"	001	OK
NOV-13	07:49 Reception	*956	336 373 4812	0*00'37"	001	OK
	16:50 Reception	958	336 885 9038	0*00'20"	001	OK
	16:52 Reception	960	336 885 9038	0*00'18"	001	OK
	21:37 Reception	961		0*00'49"	001	OK
NOV-15	19:56 Reception	963		0*00'58"	001	OK
NOV-19	05:23 Reception	964		0*01'04"	001	OK
	07:36 Reception	965	1202 280 1239	0*01'28"	002	OK
	07:56 Reception	966		0*00'54"	001	OK

**December 20, 2007 Public Meeting
Attendees List**

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name <i>E. R. H. M. Clough</i>	Do you want a copy of the presentation?
Address <i>15 Elite Court</i>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City <i>Greensboro</i> State <i>N.C.</i> Zip Code <i>27405-5546</i>	

Name <i>Chris Marriott</i>	Do you want a copy of the presentation?
Address <i>2503 White St.</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City <i>Greensboro</i> State <i>NC</i> Zip Code <i>27405</i>	

Name <i>Cornel D. Ware (SOME)</i>	Do you want a copy of the presentation?
Address <i>378 Old Butteground Rd</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City <i>Greensboro</i> State <i>NC</i> Zip Code <i>27410</i>	

Name <i>Ed Henriquez (SOME)</i>	Do you want a copy of the presentation?
Address <i>378 Old Butteground Rd</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City <i>Greensboro</i> State <i>NC</i> Zip Code <i>27410</i>	

Name <i>Craig Thompson</i>	Do you want a copy of the presentation?
Address <i>105 Trincastle Ct.</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City <i>Greensboro</i> State <i>NC</i> Zip Code <i>27455</i>	

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name	Tim Kee			Do you want a copy of the presentation?
Address	4302 Cord Jeff Dr.			Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State	NC	Zip Code
				27405

Name	Goldie F. Wells			Do you want a copy of the presentation?
Address	4203 Belfield Drive			Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State	NC	Zip Code
				27405

Name	Harold C. Fields			Do you want a copy of the presentation?
Address	1903 Belden Dr.			Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State	NC	Zip Code
				27405

Name	Samuel Vincent			Do you want a copy of the presentation?
Address	1415 Wardside Dr			Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State	NC	Zip Code
				27405

Name	James H. Ferguson			Do you want a copy of the presentation?
Address	1918 Belden Dr			Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State	NC	Zip Code
				27405

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name	Wesley Mc Guire		Do you want a copy of the presentation?
Address	4300 BelField Dr		Yes <input type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State NC	Zip Code 27405

Name	ROBERT DAVIS		Do you want a copy of the presentation?
Address	1407 Lord Foxley Dr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State NC	Zip Code 27405

Name	Carolyn Allen		Do you want a copy of the presentation?
Address	2611 David Caldwell Dr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	State NC	Zip Code 27408

Name	JAMES HAYS		Do you want a copy of the presentation?
Address	102-A WOODWINDS IND. CRT		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City	CARY	State NC	Zip Code 27511

Name	Rachel Kirkman, P.E. Golder Associates Inc.		Do you want a copy of the presentation?
Address	4900 Koger Boulevard Suite 140		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City	Greensboro	State NC	Zip Code 27402

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name	Lila Clark	Do you want a copy of the presentation?
Address	1707 Woodhewer Rd	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	Zip Code
	State NC	27405

Name	Belinda Sellers	Do you want a copy of the presentation?
Address	3901 Hope Valley Lane	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	Zip Code
	State NC	27401

Name	Sibyl M. Hicks	Do you want a copy of the presentation?
Address	1700 GORDON ST	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	Zip Code
	State NC	27405

Name	Billie Jean White	Do you want a copy of the presentation?
Address	1905 Rayston DR	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	Zip Code
	State NC	27405

Name	Paul Hickerson	Do you want a copy of the presentation?
Address	4118 Ashmore DR	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro	Zip Code
	State NC	27405

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name	Bileen King		Do you want a copy
Address	404 - Franklin Blvd		of the presentation?
City	State	Zip Code	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	NC	27401	

Name	Delores McEachern		Do you want a copy
Address	2425 Birchwood Rd		of the presentation?
City	State	Zip Code	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	NC	27405	

Name	Ralph Johnson		Do you want a copy
Address	2402 BOTTWELL ST		of the presentation?
City	State	Zip Code	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Greensboro	27401	

Name	Melde Rutledge		Do you want a copy
Address	400 Summit Ave		of the presentation?
City	State	Zip Code	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	NC	27401	

Name	JONAH SMITH, SR.		Do you want a copy
Address	1605 WOODRIDGE AVE.		of the presentation?
City	State	Zip Code	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	NC	27405	

Public Meeting to Review Groundwater Findings and Corrective Measures for the White Street MSW Landfill
 December 20, 2007
 Peeler Recreation Center
 6:30 p.m.

Name	David Damsby	Do you want a copy of the presentation?
Address	1420 Richmond Drive	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro State N.C.	Zip Code 27400

Name	Paris Johnson	Do you want a copy of the presentation?
Address	1908 Weiland Dr	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro State N.C.	Zip Code 27405

Name	Zenobia Damsby	Do you want a copy of the presentation?
Address	4218 Kildare Dr	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	Greensboro State NC	Zip Code 27405

Name	CYNTHIA PINNIX	Do you want a copy of the presentation?
Address	1302 HALETHILL DR	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
City	G'boro State N.C.	Zip Code 27405

Name	Jeryl K. Covington	Do you want a copy of the presentation?
Address	City of GSO Box 336	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City	GSO State NC	Zip Code 27401-3134

**December 20, 2007 Public Meeting
Transcript**

**Groundwater Findings and Corrective Measures
Public Meeting Minutes
City of Greensboro – Environmental Services Department**

Attendees:

Jeryl W. Covington, Director, Environmental Services Department
Scott Boss, Acting Solid Waste Disposal Manager
Greg Thomasson, Technical & Planning Support Manager
Chris Marriott, Environmental Compliance Manager
Connel Ware, S&ME
Ed Henriques, S&ME

A copy of the sign-in sheet which identifies who attended from the public is attached.

Meeting Summary:

At 6:30 PM on December 20, 2007, the Environmental Services Department of the City of Greensboro held a public meeting to discuss the groundwater findings and potential corrective measures associated with the formerly operated Phase II municipal solid waste landfill at the White Street Landfill. The public meeting was located at the Peeler Recreation Facility located at 1300 Sykes Avenue.

Ms. Jeryl W. Covington opened the public meeting with an introduction of herself and the technical staff present from the City of Greensboro and S&ME. She also provided a brief statement as to the purpose of the meeting and introduced Mr. Ed Henriques of S&ME to give the formal presentation. Mr. Henriques' presentation included the attached slides and several exhibits. One exhibit was an aerial of the general area including Phase II waste boundaries, the approximate plume location, groundwater flow direction, groundwater monitoring wells, and surface water monitoring locations. Other exhibits included a typical well schematic and a cross section view of the waste boundary, groundwater table, and groundwater monitoring well.

At the end of that presentation, Mr. Henriques opened the meeting to questions. The following questions were asked by the public and answered by Ms. Covington and Mr. Henriques.

- Is this meeting a requirement of the regulations?
- One attendee wanted to discuss the potential corrective measure of building a wall to protect Buffalo Creek.
- Is Buffalo Creek in danger from the landfill?
- Once the corrective measure is chosen, will the corrective measure be an on-going process?
- If you install a barrier or wall, will it be designed for wet weather as well as dry weather?
- Would there be a barrier or wall on the southern end of Phase II?

Groundwater Findings and Corrective Measures
Public Meeting Minutes
City of Greensboro – Environmental Services Department

No written comments were received from the public before, during, or after the meeting.

At the end of the public meeting, Ms. Jeryl Covington proceeded to discuss some of the financial issues regarding the landfill and transfer station and future development of Phase IV for C&D disposal at the White Street Landfill.

**Phase II Groundwater Corrective Actions
June 9, 2008 Public Meeting
Press Release**

News & Record

Published by
News & Record, Inc.
Greensboro, North Carolina

AFFIDAVIT OF PUBLICATION

North Carolina, Guilford County

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified and authorized by law to administer oaths, personally appeared the Publisher's Representative who being first duly sworn, deposed and says:

- 1. That he/she is the Publisher's Representative of the Greensboro News & Record, Inc. a corporation, engaged in the publication of newspapers known as "News & Record", published, issued and entered as second class mail in the City of Greensboro in said County and State.
- 2. That he/she is authorized to make this affidavit and sworn statement; that the notice or other legal advertisement, a copy of which is attached hereto, was published in the News & Record on the dates listed below.
- 3. That the said newspaper (or newspapers) in which such notice, paper, document, or legal advertisement was published was, at the time of each and every such publication, a newspaper meeting all of the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

Publisher's Representative Valerie McNeil

Sworn to and subscribed before me, this 8th day of May, 2008.

Valerie McNeil
Notary Public

My commission expires: August 23, 2010

 NOTARY PUBLIC
 VALERIE McNEIL
 GUILFORD COUNTY, NC
 My Commission Expires August 23, 2010

<u>Name</u>	<u>Ad #</u>	<u>Date</u>	<u>Edition</u>	<u>Class</u>	<u>PO</u>	<u>Ad Copy</u>
CITY OF GSO ENVIRONMENTAL	30917445	05/08/08	News & Record	400	MTG 6/9/08	Public Meeting to Review Groundwater Cor

**Public Meeting
to Review
Groundwater
Corrective Measures
for the
White Street Municipal
Solid Waste Landfill**

**City of Greensboro-
Environmental Services
Department
P.O. Box 3136
Greensboro, North
Carolina 27402-3136**

In accordance with Title 15A NCAC 13B .1635(d), the City of Greensboro-Environmental Services Department is holding a public meeting to discuss the implementation of phytoremediation as an additional corrective measure related to impacted groundwater associated with the formerly operated Phase II municipal solid waste landfill. The former Phase II landfill operated from 1978 to 1997. Phase II is within the White Street Landfill which is located at 2503 White Street.

After the public meeting, the City of Greensboro will select a remedy(ies) in accordance with the requirements of 15A NCAC 13B .1636 and submit the corrective measure(s) in a Corrective Action Plan for approval by the Solid Waste Section of the NC Department of Environment and Natural Resources.

The public meeting will be held on June 9, 2008 at the Peeler Recreational Facility, 1300 Sykes Ave., at 6:30 p.m.

The groundwater studies are available for public inspection at the following locations during normal business hours:

City of Greensboro
Central Library
219 North Church Street

McGirt-Horton
Branch Library
2509 Phillips Avenue

Aerial Photo

F-07 AB40mm #600 Steinkopf Canyon

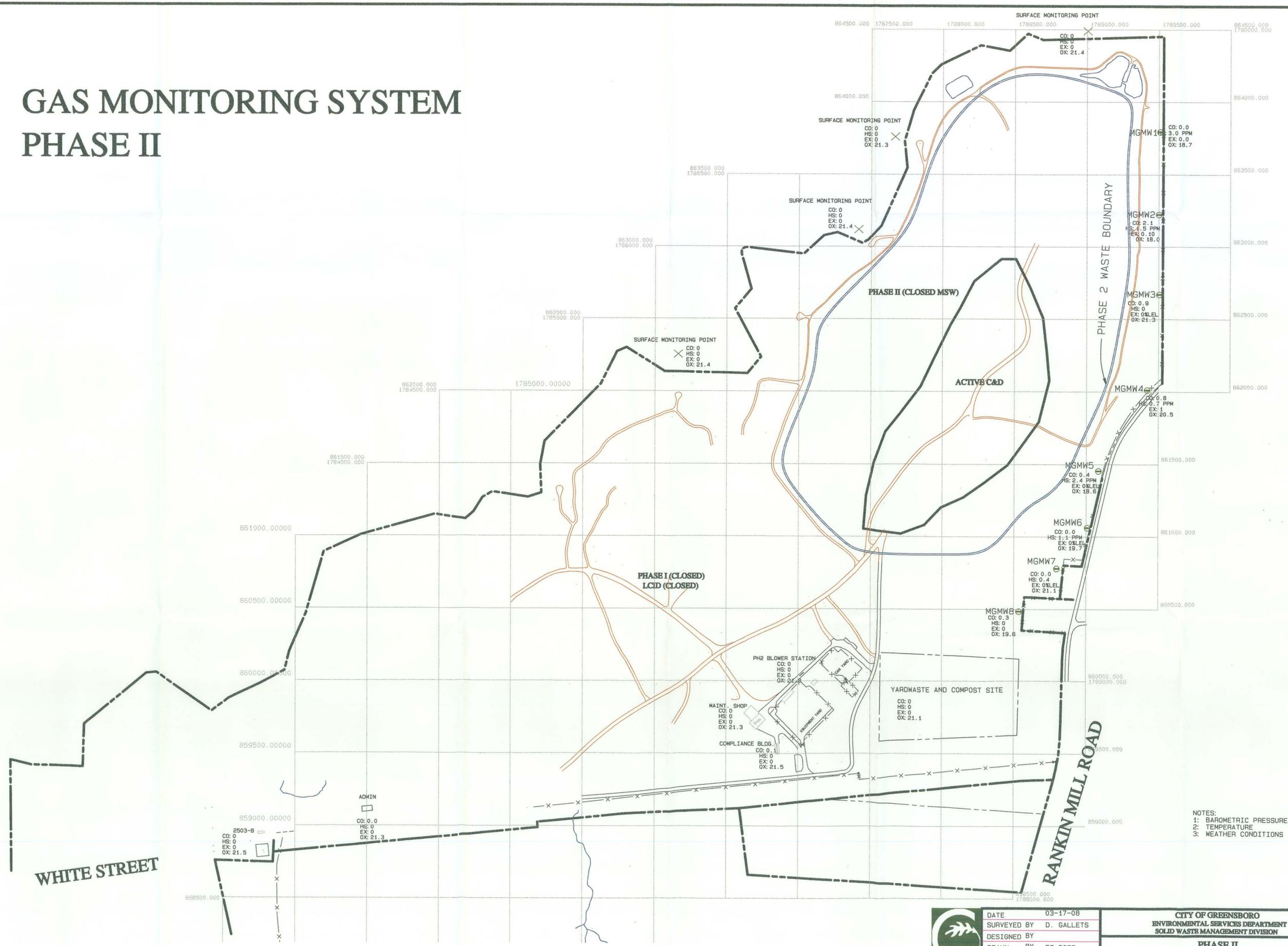
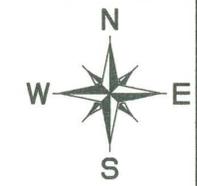


89735 LK 07/000150 03/25/07 16:44:14 1:200 N36.152 W079.7188 002 - 14

WILD 16/4 UA-S
No 13281 16340

Drawings

GAS MONITORING SYSTEM PHASE II

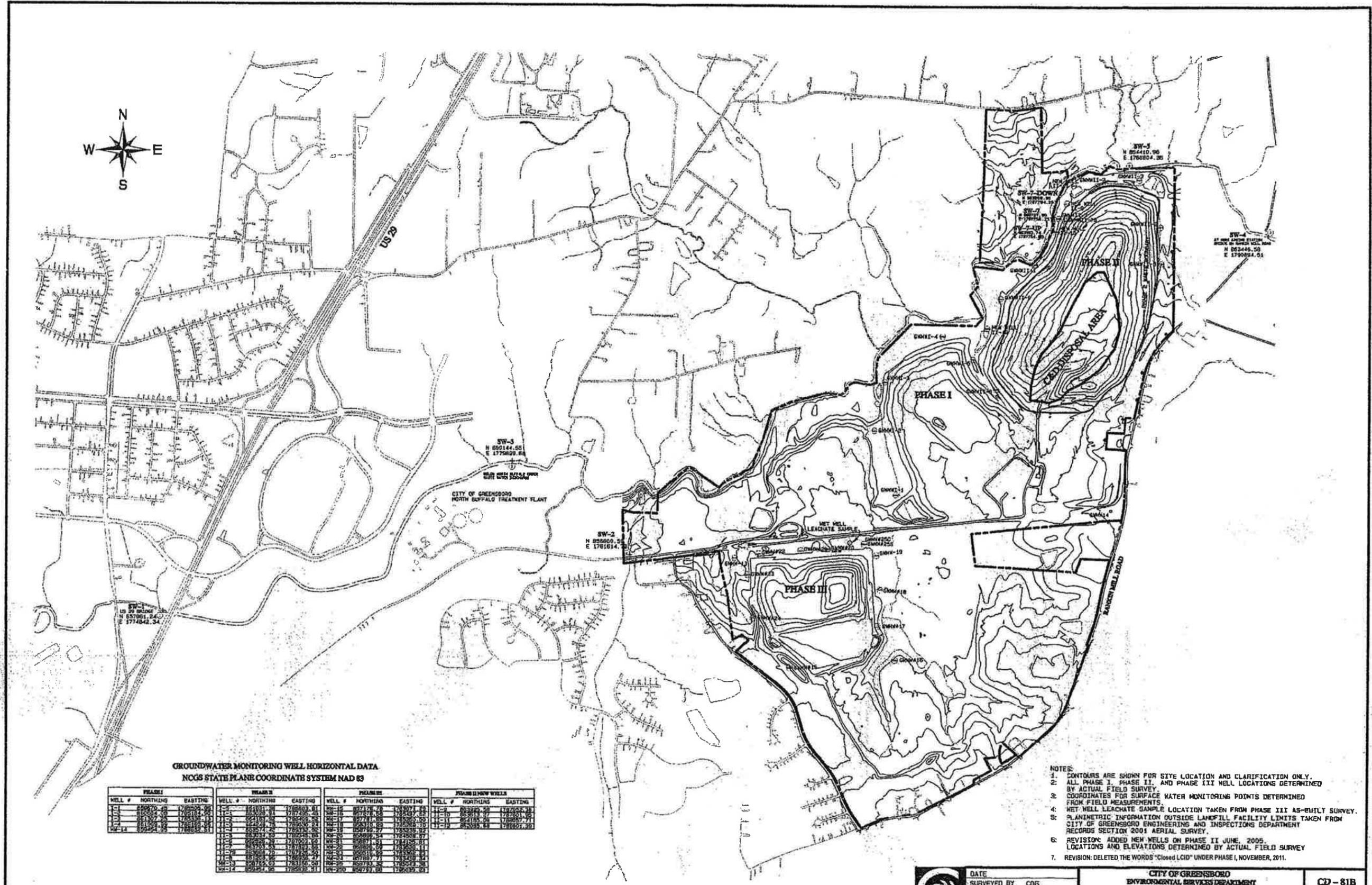
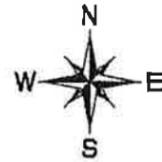


NOTES:
 1: BAROMETRIC PRESSURE 29.8
 2: TEMPERATURE 55
 3: WEATHER CONDITIONS CLEAR

DATE	03-17-08
SURVEYED BY	D. GALLETTS
DESIGNED BY	
DRAWN BY	DS BOST
CHECKED BY	

CITY OF GREENSBORO ENVIRONMENTAL SERVICES DEPARTMENT SOLID WASTE MANAGEMENT DIVISION	
PHASE II LANDFILL GAS MONITORING SYSTEM	

CD-79B
SHEET NO.
OF



GROUNDWATER MONITORING WELL HORIZONTAL DATA
NCGS STATE PLANE COORDINATE SYSTEM NAD 83

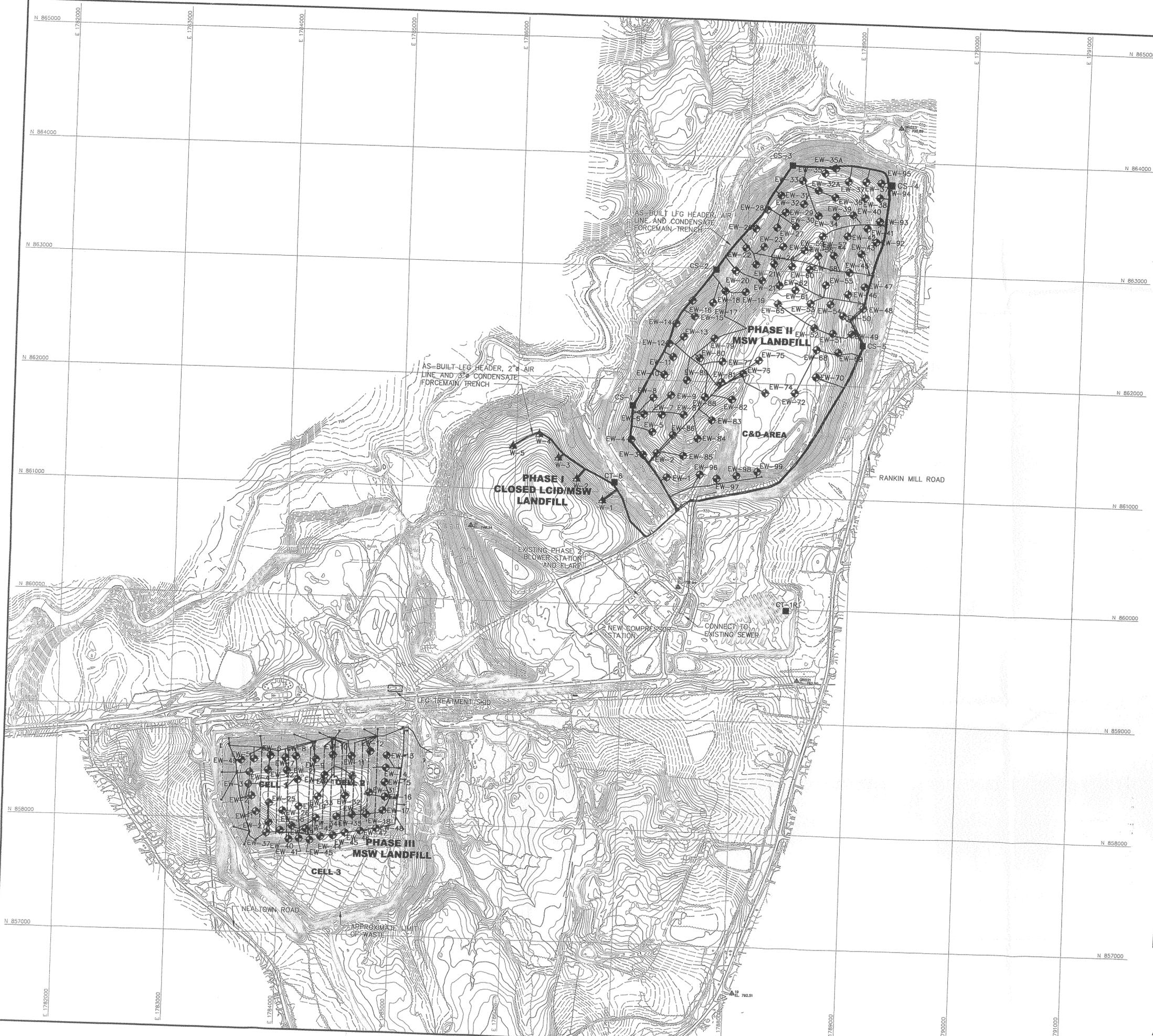
PHASE I			PHASE II			PHASE III			PHASE II NEW WELLS		
WELL #	NORTHING	EASTING	WELL #	NORTHING	EASTING	WELL #	NORTHING	EASTING	WELL #	NORTHING	EASTING
CI-1	857081.24	1774842.34	SW-1	850144.95	1775899.84	SW-2	858600.3	1781814	HC-6	853446.55	1790021.51
CI-2	857081.24	1774842.34	SW-3	850144.95	1775899.84	SW-4	853446.55	1790021.51	HC-7	854410.90	1780804.26
CI-3	857081.24	1774842.34	SW-5	854410.90	1780804.26	SW-6	854410.90	1780804.26	HC-8	854410.90	1780804.26
CI-4	857081.24	1774842.34	SW-7	857081.24	1774842.34	SW-8	857081.24	1774842.34	HC-9	857081.24	1774842.34
CI-5	857081.24	1774842.34	SW-9	857081.24	1774842.34	SW-10	857081.24	1774842.34	HC-10	857081.24	1774842.34
CI-6	857081.24	1774842.34	SW-11	857081.24	1774842.34	SW-12	857081.24	1774842.34	HC-11	857081.24	1774842.34
CI-7	857081.24	1774842.34	SW-13	857081.24	1774842.34	SW-14	857081.24	1774842.34	HC-12	857081.24	1774842.34
CI-8	857081.24	1774842.34	SW-15	857081.24	1774842.34	SW-16	857081.24	1774842.34	HC-13	857081.24	1774842.34
CI-9	857081.24	1774842.34	SW-17	857081.24	1774842.34	SW-18	857081.24	1774842.34	HC-14	857081.24	1774842.34
CI-10	857081.24	1774842.34	SW-19	857081.24	1774842.34	SW-20	857081.24	1774842.34	HC-15	857081.24	1774842.34

- NOTES:
1. CONTOURS ARE SHOWN FOR SITE LOCATION AND CLARIFICATION ONLY.
 2. ALL PHASE I, PHASE II, AND PHASE III WELL LOCATIONS DETERMINED BY ACTUAL FIELD SURVEY.
 3. COORDINATES FOR SURFACE WATER MONITORING POINTS DETERMINED FROM FIELD MEASUREMENTS.
 4. NET WELL LEACHATE SAMPLE LOCATION TAKEN FROM PHASE III AS-BUILT SURVEY. PLANIMETRIC INFORMATION OUTSIDE LANDFILL FACILITY LIMITS TAKEN FROM CITY OF GREENSBORO ENGINEERING AND INSPECTIONS DEPARTMENT RECORDS SECTION 2001 AERIAL SURVEY.
 5. REVISION: ADDED NEW WELLS ON PHASE II JUNE, 2005. LOCATIONS AND ELEVATIONS DETERMINED BY ACTUAL FIELD SURVEY.
 6. REVISION: DELETED THE WORDS "Closed LCID" UNDER PHASE I, NOVEMBER, 2011.

SCALE 1" = 600'

	DATE	CITY OF GREENSBORO	CD - 81B SHEET NO.
	SURVEYED BY	COG	
	DESIGNED BY		
	DRAWN BY	DS BOST	
CHECKED BY		WHITE STREET LANDFILL GROUNDWATER MONITORING SYSTEM	OF

PROJECT FILING: 888-780-1111 FILE FILING: 888-780-1111



- LEGEND**
- ▲ W-1 AS-BUILT PH. I LANDFILL GAS EXTRACTION WELL
 - ◆ EW-13 AS-BUILT PH. II LANDFILL GAS EXTRACTION WELL
 - R-72 AS-BUILT REMOTE LANDFILL GAS EXTRACTION WELLHEAD
 - AS-BUILT LFG HEADER PIPE
 - EXISTING LFG HEADER PIPE
 - AS-BUILT 2" HDPE (SDR-11) AIR LINE
 - AS-BUILT LFG CONDENSATE FORCEMAIN
 - CS-5 AS-BUILT CONDENSATE SUMP AND PUMP
 - ▽ V-2 AS-BUILT LFG ISOLATION VALVE
 - ▽ V-A1 AS-BUILT AIR RELEASE VALVE
 - ROAD CROSSING
 - ← REDUCER SIZE VARIES
 - △ SURVEY CONTROL POINT

REFERENCE:

- TOPOGRAPHIC MAPPING WAS PROVIDED BY KIMBALL ASSOCIATES, P.A., OF EDENSBURG, PA. DATE OF AERIAL SURVEY APRIL 21, 2005.
- COMPILATION OF LFG SYSTEM PIPING WAS PROVIDED BY DUKE ENGINEERING & SERVICES, CHARLOTTE, NC.
- WELL LOCATIONS ARE FROM A SURVEY CONDUCTED BY THE CITY OF GREENSBORO, NC. SURVEY CONDUCTED IN JULY 2006.

NO.	REVISION	DATE
SHEET TITLE PHASES II & III LFG SYSTEM MODIFICATIONS		PROJECT TITLE WHITE STREET LANDFILL PHASES I, II & III LFG SYSTEM EXPANSION - 2007
CLIENT CITY OF GREENSBORO ENVIRONMENTAL SERVICES DEPT. 2503 WHITE STREET GREENSBORO, NC 27402-3136		
CADD FILE: 3layout		DATE: JAN. 2007
SCALE: 1" = 400'		DRAWING NO. 1 of 3
PROJ. NO. 02203314.03	DATE 01/03/07	APP. BY SCL
DRAWN BY SCL	CHEK BY SCL	DATE 01/03/07
DESIGNED BY LKH	DATE 01/03/07	APP. BY SCL

AS-BUILT JANUARY 2008

NOTES:
1. TOPOGRAPHICAL INFORMATION FROM AERIAL SURVEY
APRIL 11, 2005.

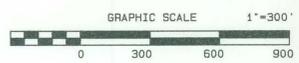
OUTFALL #	DRAINAGE AREA OF INFLUENCE
#001	67 ACRES
#002	28 ACRES
#003	30 ACRES
#004	137 ACRES
#005	423 ACRES
#006	111 ACRES

**BUILDINGS AND ACTIVITIES FOR FIGURE 1
CITY OF GREENSBORO - WHITE STREET LANDFILL
STORM WATER POLLUTION PREVENTION PLAN**

SITE (LETTER)	BUILDING OR ACTIVITY
A	COMPLIANCE OFFICE
B	SCALE HOUSE
C	CONFERENCE CENTER
D	LEACHATE STORAGE
E	POSTHOLE STORAGE (WASTE COVERING MATERIAL)
F	PHASE III LANDFILL GAS COLLECTION SYSTEM
G	MAINTENANCE SHOP
H	OPERATIONS BUILDING
I	EQUIPMENT STORAGE YARD
J	PILE YARD
K	PHASE II LANDFILL GAS COLLECTION SYSTEM
L	PHASE III - ACTIVE MSW DISPOSAL
M	PHASE II - CLOSED MSW - CLOSED LID
N	PHASE II - CLOSED MSW - ACTIVE CRO DISPOSAL
O	ACTIVE COMPOST OPERATION
P	MAINTENANCE SHED
Q	PHASE III BORROW AREA - ACTIVE



- PROPERTY LINE
- 720 INDEX CONTOUR LINE - 10' INTERVAL
- EDGE OF WATER
- DIRT OR GRAVEL ROAD
- PAVED ROAD
- x-x-x- FENCE LINE
- DRAINAGE AREA INFLUENCE LIMITS



NOTE:
1. TOPO UPDATED MARCH, 2007

	DATE 3-18-2008 (12-20-2005)	CITY OF GREENSBORO	CD-808
	SURVEYED BY DS BOST	ENVIRONMENTAL SERVICES DEPARTMENT	SHEET NO.
	DESIGNED BY	SOLID WASTE MANAGEMENT DIVISION	
	DRAWN BY DS BOST	STORM WATER POLLUTION PREVENTION PLAN	
CHECKED BY G. THOMASSON	SITE MAP		

PROJECT FILENAME: SWPPP.PRO PLOT FILENAME: SWPPP.PLT



COC MON
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1787481.67
754.94

REBAR
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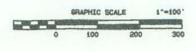
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PANEL 8 REBAR
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REBAR
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718.32

NC65 92W
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774.41



	DATE	3-31-2008	CITY OF GREENSBORO ENVIRONMENTAL SERVICES DEPARTMENT SOLID WASTE MANAGEMENT DIVISION	CD-82B
	SURVEYED BY	DS BOST/COG		
	DESIGNED BY			
	DRAWN BY	DS BOST		
CHECKED BY		PHASE II BENCHMARKS	SHEET NO.	
		HORIZONTAL AND VERTICAL LOCATIONS	OF	