Scanned By	Date	DOC ID	Permit
Backus	10/04/2011	15252	32-F

Fogleman & Fogleman Soils, Inc.

4005 Intermere Road
Durham, NC 27704
Office: (919) 682-0068 Fax: (919) 682-0662

Received
SEP 2011
Waste Management

September 19, 2011

Mr. Edward F. Mussler III, P.E.
Branch Head
Solid Waste Section-NCDENR
1646 Mail Center Service Center
Raleigh, NC 27699

Re: LCID Permit Renewal Application
Fogleman &Fogleman Soils, Inc.(LCID Permit No.32-F)
Durham, NC 27704

Dear Ed,

As the division is aware, Richardson Smith Gardner and Associates have helped Fogleman Soils to prepare the attached application for our five year LCID permit renewal.
Following our pre-application meeting on July 20, 2011 with Ms. Pat Backus, Stacey Smith P.E. (RSG), and Linda and Jay Fogleman we hope the information we have provided is as requested.
The footprint for our Landfill and Mine has not changed since the inception.
James Kent and Linda Fogleman are the current landowners, 100 percent Corporation owners and operators of this facility.

Officers are as follows:

James Kent Fogleman, President 49% shareholder
Linda R. Fogleman, Secretary/Treasurer 51% shareholder
John H. (Jay) Fogleman, Vice-President 0% shareholder

Jay Fogleman is in charge of daily operations. jay.fogleman@frontier.com
919-795-4386
3918 Redmill Rd
Durham, NC 27704

James Kent Fogleman Owner/Operator 919-795-4392

Linda R Fogleman is the correspondence contact for all invoices.

lfogle@frontier.com
919-795-4388 or 919-682-0068
4005 Intermere Rd
Durham, NC 27704

Stacey A. Smith, P.E.
Richardson Smith Gardner & Associates, Inc.
14 N Boylan Ave
Raleigh, NC 27603
stacey@rsgengineers.com
919-828-0577

We appreciate the Division's guidance and assistance through this matter. Should you have any questions or require further clarification, please contact us at your earliest convenience at (919) 682-0068 or by the e-mails listed above.

Sincerely,
Fogleman & Fogleman Soils, Inc

Linda R Fogleman

Linda R Fogleman
lfogle@frontier.com

SOLID WASTE SECTION PERMIT APPLICATION COMPLIANCE REVIEW REQUEST AND PERMIT FEE INVOICE REQUEST

Submit to the Field Operations Branch Head (or Compliance Officer) and to Jeff Skabo

Review Requested by:	LINDA FOGLEMAN	Date Requested:	9/16/11

Name of facility and permit number	FOGLEMAN & FOGLEMAN SOILS, INC LANDFILL
Applicant (Owner) Name	JAMES KENT FOGLEMAN
Description of Permit Request	5 YR RENEWAL WITH MODIFICATION
Permit Fee Action	$1250
Date Application Received	9/19/11
Contact Name and Title	LINDA R FOGLEMAN SEC/TREAS
Company	FOGLEMAN & FOGLEMAN SOILS, INC
911 Address	4005 INTERMERED DURHAM, NC 27704
Mailing Address	SAME
City/State/Zip	DURHAM, NC 27704
Parent Company	SAME
Known Subsidiaries	NONE
Other known names business has operated under	FOGLEMAN LANDFILL
Known Counties of Operation	DURHAM
Does the applicant have a past or current solid waste permit? If Yes:	Yes ☑ No ☐ Unknown ☐ Facility Type: LCID Permit #: 32-F
Does the applicant have other DENR permits? If Yes:	Yes ☑ No ☐ Unknown ☐ Division: LAND ~~RESOURCES~~ Facility Type: BORROW PIT Permit #: 32-09
Did the permit applicant submit Financial Assurance cost estimates?	Yes ☑ No ☐ N/a ☐ Not Needed ☐
Are the cost estimates sufficient?	Yes ☑ No ☐ N/a ☐
Other notes	

Applicant Signature Page

Name of facility FOGLEMAN & FOGLEMAN SOILS, INC LANDFILL

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision and that the information provided in this application is true, accurate, and complete to the best of my knowledge.

I understand that North Carolina General Statute 130A-22 provides for administrative penalties of up to fifteen thousand dollars ($15,000.00) per day per each violation of the Solid Waste Management Rules. I further understand that the Solid Waste Management Rules may be revised or amended in the future and that the facility siting and operations of this solid waste management facility will be required to comply with all such revisions or amendments.

Linda R Fogleman	LINDA R FOGLEMAN	9/16/11
Signature	Print Name	Date
SEC/TREAS	FOGLEMAN & FOGLEMAN SOILS, INC	
Title	Business or organization name	

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

September 15, 2011

Mrs. Linda Fogleman
Fogleman & Fogleman Soils, Inc.
4005 Intermere Road
Durham, NC 27704

Re: Submittal for Fogleman & Fogleman Soils, Inc.
Fogleman and Fogleman Landfill & Recycling Facility
(Solid Waste Permit No. 32-F)
Durham, North Carolina

Dear Mrs. Fogleman,

Richardson Smith Gardner and Associates, Inc. (RSG), is pleased to submit the following documents for the Fogleman LCID Landfill (NC Solid Waste Permit No. 32F) per our Proposal dated March 18, 2011. These documents have been prepared to supplement the permit renewal application to be prepared by Fogleman, as required by North Carolina Administrative Code (NCAC Subchapter 13B .0201).

In reference to the Revised Proposal from RSG dated March 18, 2011, the following tasks were completed by RSG and are addressed herein:

- Task 1: Zoning Approval Documentation;
- Task 6: Property Map and Facility Development Plans;
- Task 7: Surveying;
- Task 8: Operations Manual; and
- Task 11: Pre-application Meeting.

ZONING APPROVAL DOCUMENTATION

RSG contacted Steven Medlin, Durham City-County Planning Director, to receive an updated determination of zoning for the site. RSG sent Mr. Medlin a Request for Zoning Consistency dated April 19, 2011, included as **Attachment A.1**. Mr. Medlin responded to the Request for Zoning Consistency from RSG in a letter dated June 14, 2011 with a subsequent approval included as **Attachment A.2**. An email clarification was sent from Mr. Smith to Mr. Medlin on June 22, 2011. Mr. Medlin responded on June 22, 2011 and his response is included as **Attachment A.3**.

PROPERTY MAP AND FACILITY DEVELOPMENT PLAN

RSG engaged GeoData Corporation to conduct an aerial topographic survey of the property which was flown on July 1, 2011. This survey was used in conjunction with historical site drawings from Mr. William C. Walker, Jr., P.L.S. and latest GIS topography dated 2008 from Durham. Drawings showing the facility development were prepared, with the development and design of current limits and planned expansion of the landfill. The updated facility drawings are included as **Attachment B**.

GROUNDWATER

Historically, the groundwater levels were determined by Mr. Walker by the creek bed elevation. RSG verified this approach by witnessing four test pits excavated by site personnel, measurement of the water level from the non-potable well on-site, and comparing surface waters surrounding the site to establish the groundwater levels shown on the drawings.

BUFFERS

The site solid waste buffer through the northern part of the property represents the pre-1993 demolition landfill buffer. The facility solid waste buffers have varied since the original permit date of March 16, 1992. Original buffers were 50 feet away from the property line but were increased to 100 feet on January 1, 1998. The variation of the buffers on the drawings have been shown to reflect these conditions.

FINAL COVER GRADES

Please note that the final cover shown is at a maximum of 3 horizontal to 1 vertical which is generally accepted as the steepest slope suitable for LCID landfills. At this time, the final grades have been shown in a general fashion absent stormwater controls. In the future, a more detailed design of stormwater conveyances must be completed prior to closure.

SURVEYING

An aerial survey was performed by GeoData Corporation, Zebulon, NC dated July 1, 2011 and is incorporated into the facility drawing set. Survey Solutions provided ground targets.

OPERATIONS MANUAL

RSG prepared an operations plan in accordance with 15A NCAC 13B.0565, .0300 and guidance documents prepared by the NCDENR Division of Waste Management. The Operations Manual is included as **Attachment C**.

PRE-APPLICATION MEETING

A pre-application meeting was held at the NC DENR offices on Oberlin Road at 9 a.m. on July 20, 2011. In attendance was Pat Backus from NC DENR, Linda Fogleman, Jay Fogleman,

Stacey Smith from RSG, and Lindsay Quant from RSG.

EXISTING AND FUTURE AIRSPACE SURVEY

As you are aware, GeoData Corporation completed an aerial topographic survey of the Fogleman Landfill facility. This survey was compared with the permitted site base grades, originally prepared by William C. Walker, Jr. P.L.S., P.E., to determine the landfill volume consumed since operations began. Likewise, the survey was also compared to proposed final grades to determine remaining capacity (gross). The resulting volumes are included in the summary table below.

Volume Summary

Volume	Gross*	Net*	Acreage
Consumed	1,912,000**	1,912,000	24.8
Remaining	2,204,000	2,138,000	13.9
Total	4,116,000	4,050,000	38.7
2012-2017 Anticipated 5 Year Capacity: 497,000 CY			

Note: * "Gross" is a volume from the bottom of waste to top of final cover. "Net" volume includes a 1 foot reduction over final cover area (adjusted by 5% for slope effects).

** The consumed value does not account for approximately 185,000 CY of overfill that will be monitored, removed as a part of the reclamation program, or relocated prior to final closure of the facility.

We appreciate this opportunity to perform these services for Fogleman & Fogleman Soils, Inc. If you have any questions, or require further information, please contact us at (919) 828-0577 or by email below.

Sincerely,
Richardson Smith Gardner & Associates, Inc.

Lindsay Quant, E.I.
Staff Engineer
Ext. 138
lindsay@rsgengineers.com

Stacey A. Smith, P.E.
Project Manager
Ext. 127
stacey@rsgengineers.com

LAQ/SAS
Att.
cc: File

ATTACHMENT A.1

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES
NC LIC. NO. C-0828 (ENGINEERING)

April 19, 2011

Mr. Steve L. Medlin, AICP
Director
Durham City-County Planning Department
101 City Hall Plaza
Durham, North Carolina 27701

RE: Request for Zoning Consistency (PIN #171276)
Fogleman LCID Landfill (NC Solid Waste Permit No. 32F)

Dear Mr. Medlin:

On behalf of Fogleman & Fogleman Soils, Inc. (Fogleman), Richardson Smith Gardner and Associates, Inc. (RSG), has prepared this request for zoning consistency determination at the above referenced project. As you are aware, the Fogleman operation includes an active soil mining[1] operation with a land clearing and inert debris landfill[2] as final reclamation shown in the **attached** GIS Parcel Report. The site lies within an agricultural district and has operated at this location for approximately 20 years under previous approval[3] by the City-County (**attached**).

Pursuant to our meeting on March 8th of this year, it is the desire of Fogleman to enhance the sustainability of their operation by adding recycling (grinding, screening, and composting) of these and other woody and vegetative materials (such as pallets, yardwaste) which would otherwise be disposed. The recycling operations would occur completely within the limits of the mine/landfill site in accordance with NC Solid Waste Regulations[4] and in accordance with conditions of the current City-County approvals. It is our opinion that these operations are consistent with current operations and respectfully request confirmation by the City-County.

We appreciate you assistance in this matter. If you have any questions, or require further information, please feel free to contact me at (919) 828-0577 or by email below.

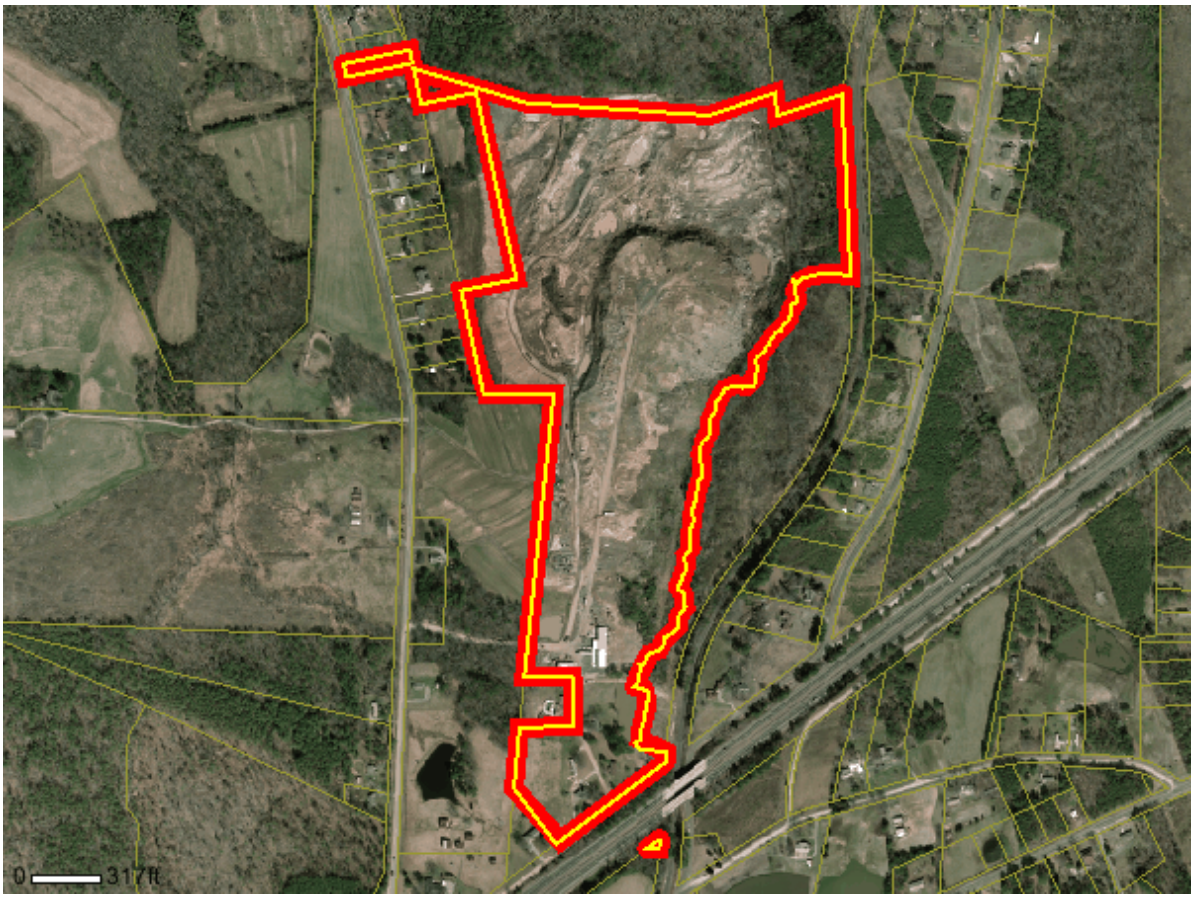
Sincerely,
Richardson Smith Gardner & Associates, Inc.

Stacey A. Smith, P.E.
Project Manager, ext. 127
stacey@rsgengineers.com
Att.
cc: Ms. Linda Fogleman, Fogleman & Fogleman Soils, Inc.
Mr. Edward F. Mussler III, P.E., NCDENR
Mr. Christopher Marriott, NCDENR
File

Y:\Projects\Fogleman Landfill (Durham County)\Zoning\Medlin Letter 4-18-2011.doc

[1] NCDENR Division of Land Resources Land Quality Section Permit No. 32-09
[2] NCDENR Division of Waste Management Permit to Operate No. 32F dated December 19, 2006.
[3] Correspondence dated October 15, 1991 by Mr. Lockwood Chamberlain, Director of Inspections, Durham County and correspondence dated May 27, 1998 by Mr. Dennis Doty, Zoning Enforcement Office, Durham City/County Planning Department.
[4] 15A NCAC 13B .0300 (Treatment and Processing) and .1400 (Compost).

Parcel Report:



Quick Information with 2005 Orthophoto

PIN Number: 0853-02-58-6456

Parcel ID: 171276

Acreage: 70.09500000

Land Use: PRESENT-USE/AGRICULTURAL

Deed Book: 2001-E

Deed Page: 000765

Plat Book: 000157

Plat Page: 000223

Subdivision: N/A - NO SUBDIVISION

Site Address: 4001 INTERMERE RD

Owner Name: FOGLEMAN JAMES KENT

Owner Address: 4005 INTERMERE RD

DURHAM , NC, 27704

City of Durham, NC
Tax Parcel Report

County of Durham

120 E. PARRISH STREET
DURHAM, N.C. 27701
919-560-0600

INSPECTIONS &
ZONING DEPARTMENT

October 15, 1991

SOLID WASTE SECTION
OCT 18 1991

TO WHOM IT MAY CONCERN:

RE: Property Located on Durham County Tax Map 726-1-1 & 1B

The above referenced property is zoned Rural District. After discussion with Gerald Kelley at City-County Planning Department; we see no problem with a demolition landfill holding only stumps, trees, untreated wood, concrete, rock, asphalt and clean soil on said property provided a permit is obtained from N.C. State Authority and monitored by N.C. State Authority.

Sincerely,

Lockwood Chamberlain
Director of Inspections
Durham County

LFC:jh

W 682-6060
682-0[illegible]2

Durham City/County Planning Department

101 City Hall Plaza
Durham, NC 27701
Phone: (919) 560-4137
Fax: (919) 560-4641

May 27, 1998

Mr. John H. Fogleman
Route 5, Box 170
Durham, NC 27705

Richard N. Watson, Esq.
Pulley, Watson, King & Lischer
P.O. Drawer 3600
Durham, NC 27702

Re: Fogleman Mine, Red Mill Road
Durham Tax Parcel 726-01-001
Durham Board of Adjustment Case B97-34

Dear Mr. Fogleman and Mr. Watson:

Further to our letter of December 29, 1997, we have reviewed your claim that the entire Fogleman tract (Tax Parcel 726-01-001) should be considered a legal nonconforming use for mining activities under the concept of "diminishing asset" as outlined in the various court cases you provided. After examining the documentation provided, we offer the following determination:

1. Future expansion of the current mining/resource extraction operations onto the northernmost area of this tract does not constitute an illegal expansion of a nonconforming use. Since the land itself is the primary asset and not any structures or uses on top of the land, the entire tract noted above encompasses the mining/resource extraction use.

2. Any expansion of this use onto land outside the boundaries of Tax Parcel 726-01-001 will be considered an illegal expansion of a nonconforming use and will be treated as a violation of the Durham Zoning Ordinance.

3. As noted previously, demolition land fill activities on this parcel are only allowed in conjunction with the mining/resource extraction activities permitted by the State, which activities are directly related to the land reclamation plan under the State mining permit. A "stand alone" demolition land fill is not allowed on this site due to the Durham Watershed regulations.

Should you have any questions regarding this matter, please call the undersigned at the number listed below.

Dennis Duffy, Zoning Enforcement Officer

Tel. No. 560-4137, Ext. 252

ATTACHMENT A.2

DURHAM
1869
CITY OF MEDICINE

CITY OF DURHAM | DURHAM COUNTY
City-County Planning Department
101 CITY HALL PLAZA | DURHAM, NC 27701
919.560.4137 | F 919.560.4641

www.durhamnc.gov

June 14, 2011

RECEIVED JUN 21 2011

Mr. Stacey A. Smith
Richardson Smith Gardner & Associates
14 N. Boylan Avenue
Raleigh, NC 27607

Re: Request for Zoning Consistency (PID 171276)
Fogleman LCID Landfill (NC Solid Waste Permit No. 32F)

Dear Mr. Smith:

I am in receipt of your letter dated April 19, 2011 regarding a request for zoning consistency determination at the above referenced site. It is my understanding that your client wishes to enhance their current operation by recycling (grinding, screening, and composting) of wood and vegetative materials currently being disposed on site under NC Solid Waste Permit No. 32F issued by NCDENR. The current operations of the site include an active soil mining operation with a land clearing and inert debris landfill. It is further my understanding that the proposed recycling operation would occur completely within the limits of the current mine/landfill site.

Based on a review of all appropriate public records concerning this site, a review of all applicable provisions of the Durham Unified Development Ordinance and the prior letter issued by the Durham City-County Planning Department dated May 22, 1998 it is my determination that the addition of a recycling component to the existing operations is allowable even though the existing use is considered a legal non-conforming use. The proposed extension of operations to include a recycling component is not considered to be a significant expansion of the existing use and an ancillary component of the operations. (UDO Section 14)

This determination is made based on the following factors:

1) That the recycling operation is contained totally within the boundaries of the current limits of activity.
2) That the existing legal non-conforming use cannot be expanded beyond the boundaries as established in the departments letter of May 27, 1998.
3) That the proposed recycling operation will be limited to woody and vegetative materials only.

4) That the site will operate consistent with all regulations and requirements of NCDENR. And all permits issued and still in effect.
5) All operations must cease should the NCDENR permit is voided, expires or lapses.

I appreciate your patience while we have worked through the nuances of your request. Should you require anything additional please do not hesitate to contact me at (919) 560-4137 ext 28223.

Sincerely,

Steven L. Medlin, AICP
Durham City-County Planning Director

ATTACHMENT A.3

Stacey Smith

From: Medlin, Steve <Steve.Medlin@durhamnc.gov>
Sent: Wednesday, June 22, 2011 2:55 PM
To: Stacey Smith
Subject: RE: Fogleman Landfill

You are correct – I was simply trying to duplicate the language in the request letter.

Steven L. Medlin, AICP
City-County Planning Director
Durham City-County Planning Department
101 City Hall Plaza
Durham, NC 27701
(919) 560-4137 ext. 28223
www.durhamnc.gov/departments/planning/

Please note that e-mail correspondence to and from this sender may be subject to the provisions of North Carolina Public Records Law and may be disclosed to third parties on request.

From: Stacey Smith [mailto:stacey@rsgengineers.com]
Sent: Wednesday, June 22, 2011 2:15 PM
To: Medlin, Steve
Cc: lfogle@frontier.com; 'Lindsay Quant'
Subject: Fogleman Landfill

Steve,

I have read through your letter again and wanted to gain one clarification to item 3. We are requesting to recycling LCID (land clearing and inert debris) materials including woody and vegetative materials. All of which is accepted at the current landfill. Please confirm that we are correct.

Thanks,

sas

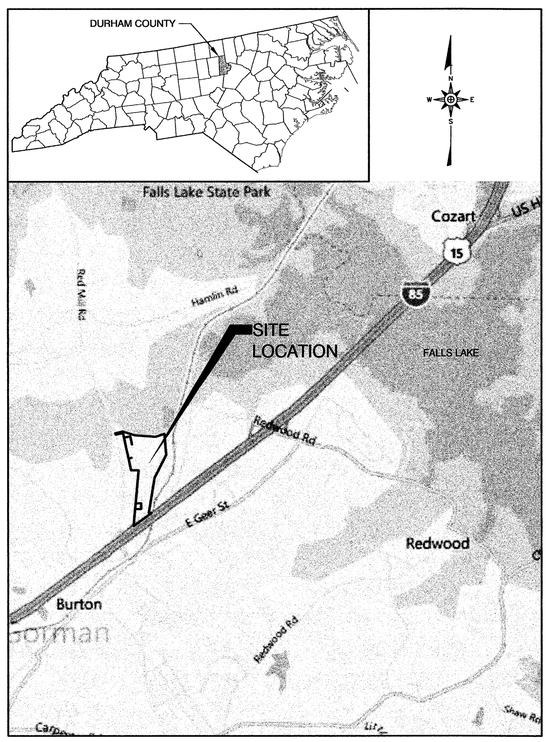
ATTACHMENT B

FOGLEMAN & FOGLEMAN SOILS, INC.

DURHAM, NORTH CAROLINA

LCID LANDFILL (PERMIT NO. 32-F)
5 YEAR PERMIT RENEWAL

SEPTEMBER 2011

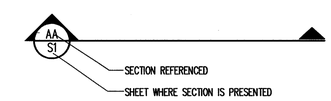


SITE LOCATION MAP
NOT TO SCALE

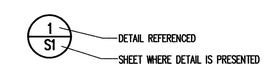
SHEET NO.	DRAWING NO.	DRAWING TITLE
1		TITLE – COVER SHEET
2	S1	EXISTING CONDITIONS
3	S2	BASE GRADING PLAN
4	S3	FINAL COVER GRADING PLAN
5	X1	CROSS SECTIONS (SHEET 1 OF 2)
6	X2	CROSS SECTIONS (SHEET 2 OF 2)
7	D1	DETAILS
8	P1	5 YEAR PHASE GRADING PLAN

PERMIT ISSUE
NOT FOR CONSTRUCTION

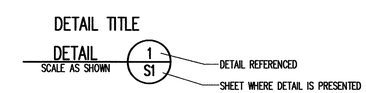
STANDARD SECTION LOCATION CALLOUT (SHEET AND DETAIL)



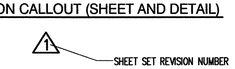
STANDARD DETAIL CALLOUT

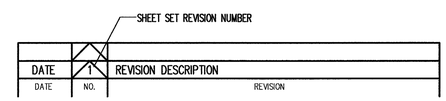


STANDARD DETAIL LABEL AND CALLOUT



STANDARD REVISION CALLOUT (SHEET AND DETAIL)





NORTH CAROLINA PROFESSIONAL SEAL 023002 ENGINEER STACEY A. SMITH
9-14-11

RICHARDSON SMITH GARDNER & ASSOCIATES
14 N. Boylan Ave.
Raleigh, N.C. 27603
NC LIC. NO. C-0828 (Engineering)
www.rsgengineers.com
ph: 919-828-0577
fax: 919-828-3899

FILE NAME
FOGLE-D0010

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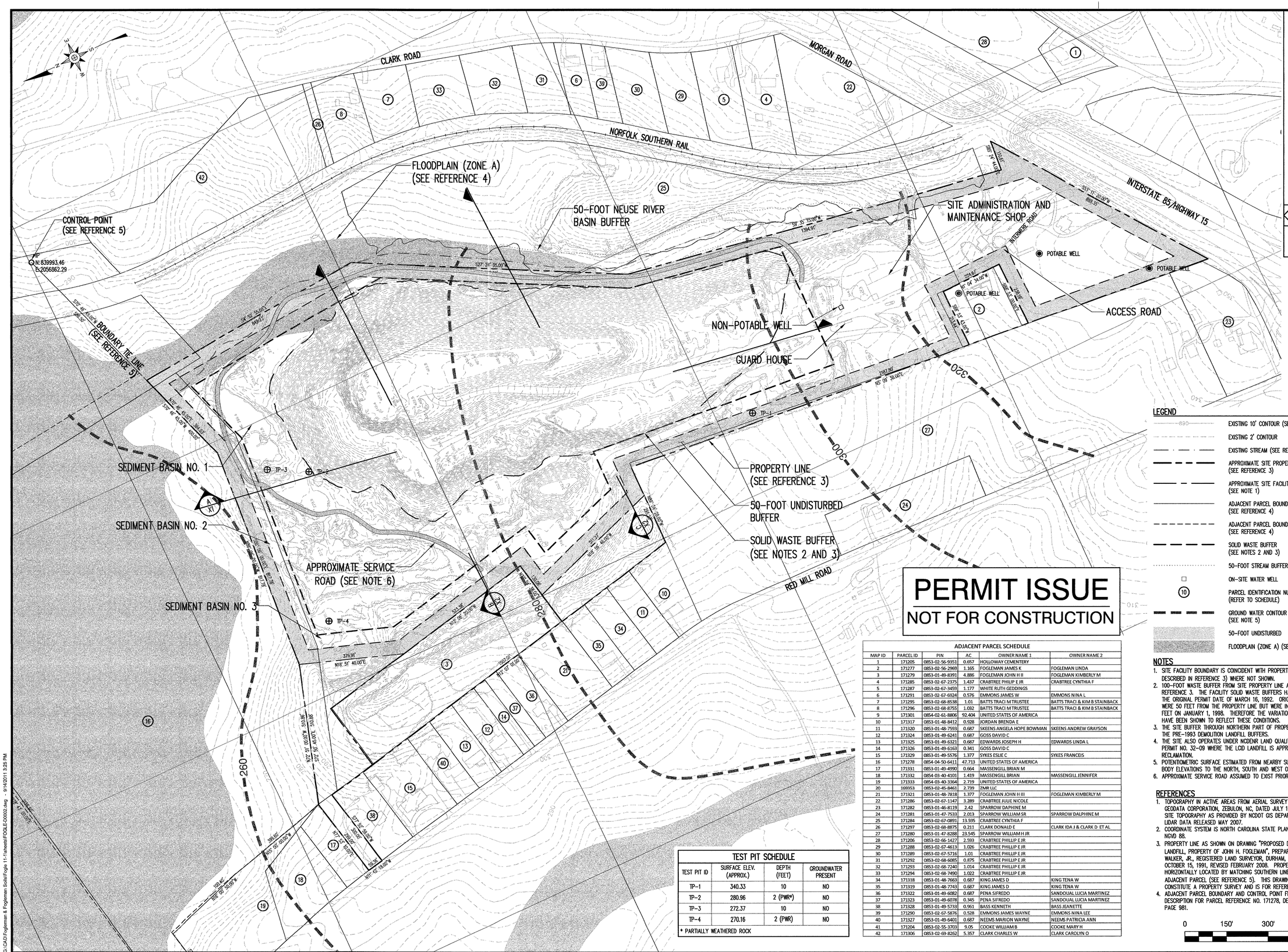

PERMIT ISSUE
NOT FOR CONSTRUCTION

LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- EXISTING STREAM (SEE REFERENCE 1)
- APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
- APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
- 50-FOOT STREAM BUFFER
- ON-SITE WATER WELL
- PARCEL IDENTIFICATION NUMBER (REFER TO SCHEDULE)
- GROUND WATER CONTOUR (SEE NOTE 5)
- 50-FOOT UNDISTURBED
- FLOODPLAIN (ZONE A) (SEE REFERENCE 4)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.
5. POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.
6. APPROXIMATE SERVICE ROAD ASSUMED TO EXIST PRIOR TO 1998.

REFERENCES

1. TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
3. PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.

0 150' 300' 450'

TEST PIT SCHEDULE

TEST PIT ID	SURFACE ELEV. (APPROX.)	DEPTH (FEET)	GROUNDWATER PRESENT
TP-1	340.33	10	NO
TP-2	280.96	2 (PWR*)	NO
TP-3	272.37	10	NO
TP-4	270.16	2 (PWR)	NO

* PARTIALLY WEATHERED ROCK

ADJACENT PARCEL SCHEDULE

MAP ID	PARCEL ID	PIN	AC	OWNER NAME 1	OWNER NAME 2
1	171205	0853-02-56-9351	0.657	HOLLOWAY CEMENTERY	
2	171277	0853-02-56-2969	1.165	FOGLEMAN JAMES K	FOGLEMAN LINDA
3	171279	0853-01-49-8391	4.886	FOGLEMAN JOHN H II	FOGLEMAN KIMBERLY M
4	171285	0853-02-67-2375	1.437	CRABTREE PHILLIP E JR	CRABTREE CYNTHIA F
5	171287	0853-02-67-3459	1.177	WHITE RUTH GEDDINGS	
6	171291	0853-02-67-6924	0.576	EMMONS JAMES W	EMMONS NINA L
7	171295	0853-02-68-8538	1.01	BATTS TRACI M TRUSTEE	BATTS TRACI & KIM B STAINBACK
8	171296	0853-02-68-8755	1.032	BATTS TRACI M TRUSTEE	BATTS TRACI & KIM B STAINBACK
9	171301	0854-02-61-8806	92.404	UNITED STATES OF AMERICA	
10	171317	0853-01-48-8412	0.928	JORDAN BRENDA E	
11	171320	0853-01-48-7593	0.687	SKEENS ANGELA HOPE BOWMAN	SKEENS ANDREW GRAYSON
12	171324	0853-01-49-6241	0.687	GOSS DAVID C	
13	171325	0853-01-49-6321	0.687	EDWARDS JOSEPH H	EDWARDS LINDA L
14	171326	0853-01-49-6163	0.341	GOSS DAVID C	
15	171329	0853-01-49-5576	1.377	SYKES ESLIE C	SYKES FRANCEIS
16	171278	0854-04-50-6411	47.713	UNITED STATES OF AMERICA	
17	171331	0853-01-49-4990	0.664	MASSENGILL BRIAN M	
18	171332	0854-03-40-4101	1.419	MASSENGILL BRIAN	MASSENGILL JENNIFER
19	171333	0854-03-40-3364	2.719	UNITED STATES OF AMERICA	
20	169353	0853-02-45-8461	2.739	ZMR LLC	
21	171321	0853-01-48-7818	1.377	FOGLEMAN JOHN H III	FOGLEMAN KIMBERLY M
22	171286	0853-02-67-1147	3.289	CRABTREE JULIE NICOLE	
23	171282	0853-01-46-8119	2.42	SPARROW DAPHINE M	
24	171281	0853-01-47-7533	2.013	SPARROW WILLIAM SR	SPARROW DALPHINE M
25	171284	0853-02-67-0891	13.595	CRABTREE CYNTHIA F	
26	171297	0853-02-68-8875	0.211	CLARK DONALD E	CLARK IDA J & CLARK D ET AL
27	171280	0853-01-47-8288	23.545	SPARROW WILLIAM H JR	
28	171206	0853-02-66-1427	2.593	CRABTREE PHILLIP E JR	
29	171288	0853-02-67-4613	1.026	CRABTREE PHILLIP E JR	
30	171289	0853-02-67-5716	1.01	CRABTREE PHILLIP E JR	
31	171292	0853-02-68-6085	0.875	CRABTREE PHILLIP E JR	
32	171293	0853-02-68-7240	1.014	CRABTREE PHILLIP E JR	
33	171294	0853-02-68-7490	1.022	CRABTREE PHILLIP E JR	
34	171318	0853-01-48-7663	0.687	KING JAMES D	KING TENA W
35	171319	0853-01-48-7743	0.687	KING JAMES D	KING TENA W
36	171322	0853-01-49-6082	0.687	PENA SIFREDO	SANDOUAL LUCIA MARTINEZ
37	171323	0853-01-49-6078	0.945	PENA SIFREDO	SANDOUAL LUCIA MARTINEZ
38	171328	0853-01-49-5733	0.961	BASS KENNETH	BASS JEANETTE
39	171290	0853-02-67-5876	0.528	EMMONS JAMES WAYNE	EMMONS NINA LEE
40	171327	0853-01-49-6401	0.687	NEEMS MARION WAYNE	NEEMS PATRICIA ANN
41	171204	0853-02-55-3703	9.05	COOKE WILLIAM B	COOKE MARY H
42	171306	0853-02-69-8262	5.357	CLARK CHARLES W	CLARK CAROLYN O

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NO.	DATE	REVISION

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023002 ENGINEER STACEY A. SMITH 9-14-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
EXISTING CONDITIONS

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY:	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0002	
SHEET NO. 2	DRAWING NO. S1

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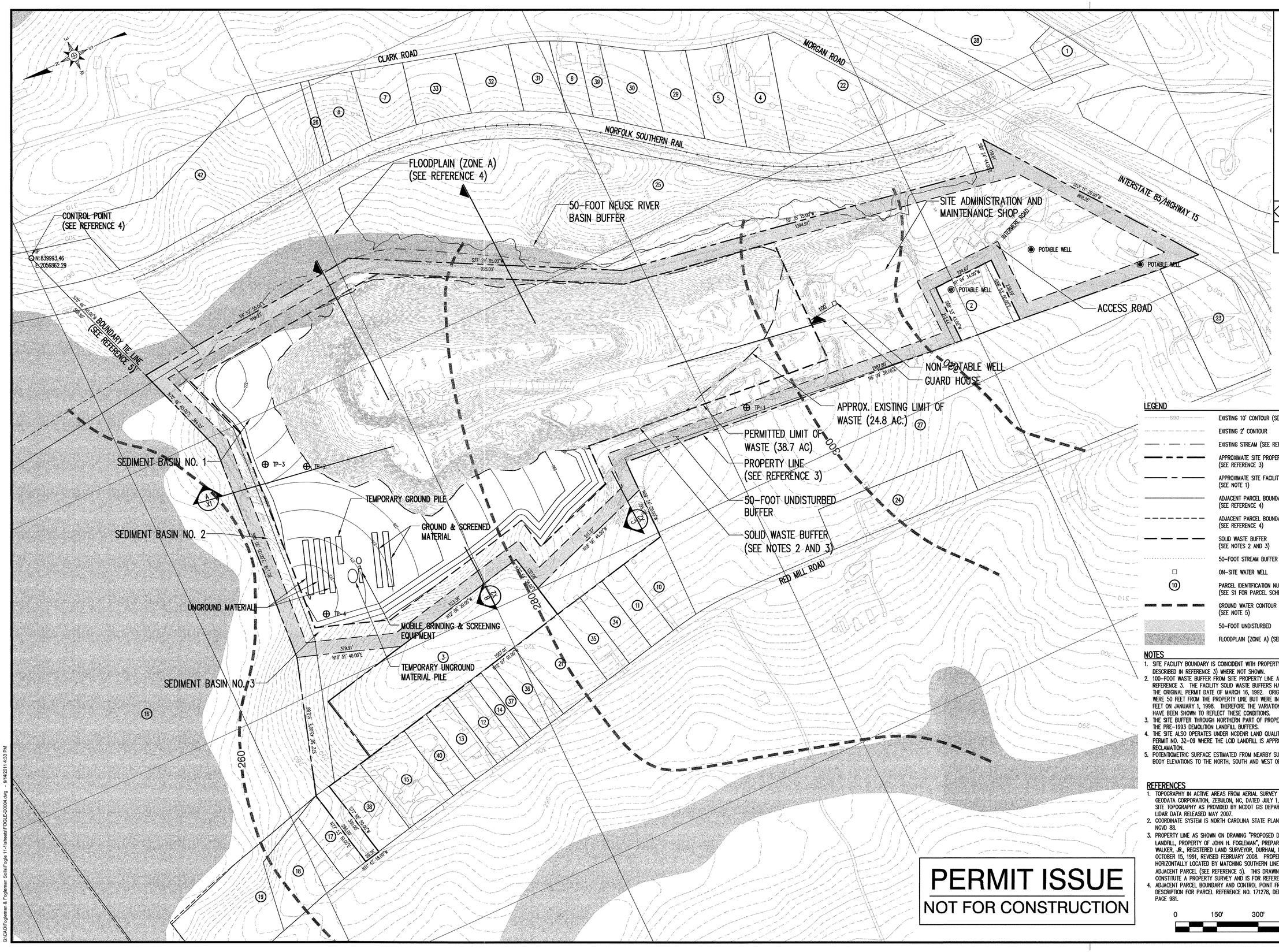

LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- EXISTING STREAM (SEE REFERENCE 1)
- APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
- APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
- 50-FOOT STREAM BUFFER
- ON-SITE WATER WELL
- PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
- GROUND WATER CONTOUR (SEE NOTE 5)
- 50-FOOT UNDISTURBED
- FLOODPLAIN (ZONE A) (SEE REFERENCE 4)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.
5. POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.

REFERENCES

1. TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
3. PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.

0 150' 300' 450'

PERMIT ISSUE

NOT FOR CONSTRUCTION

NO.	DATE	REVISION

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SEAL: NORTH CAROLINA PROFESSIONAL SEAL 022002 ENGINEER STACEY A. HUNT 9-14-11

PROJECT TITLE: FOGLEMAN & FOGLEMAN SOILS, INC. LCID LANDFILL (PERMIT NO. 32-F) DURHAM, NORTH CAROLINA 5 YEAR PERMIT RENEWAL

DRAWING TITLE: BASE GRADING PLAN

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY:	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0004	
SHEET NO. 3	DRAWING NO. S2

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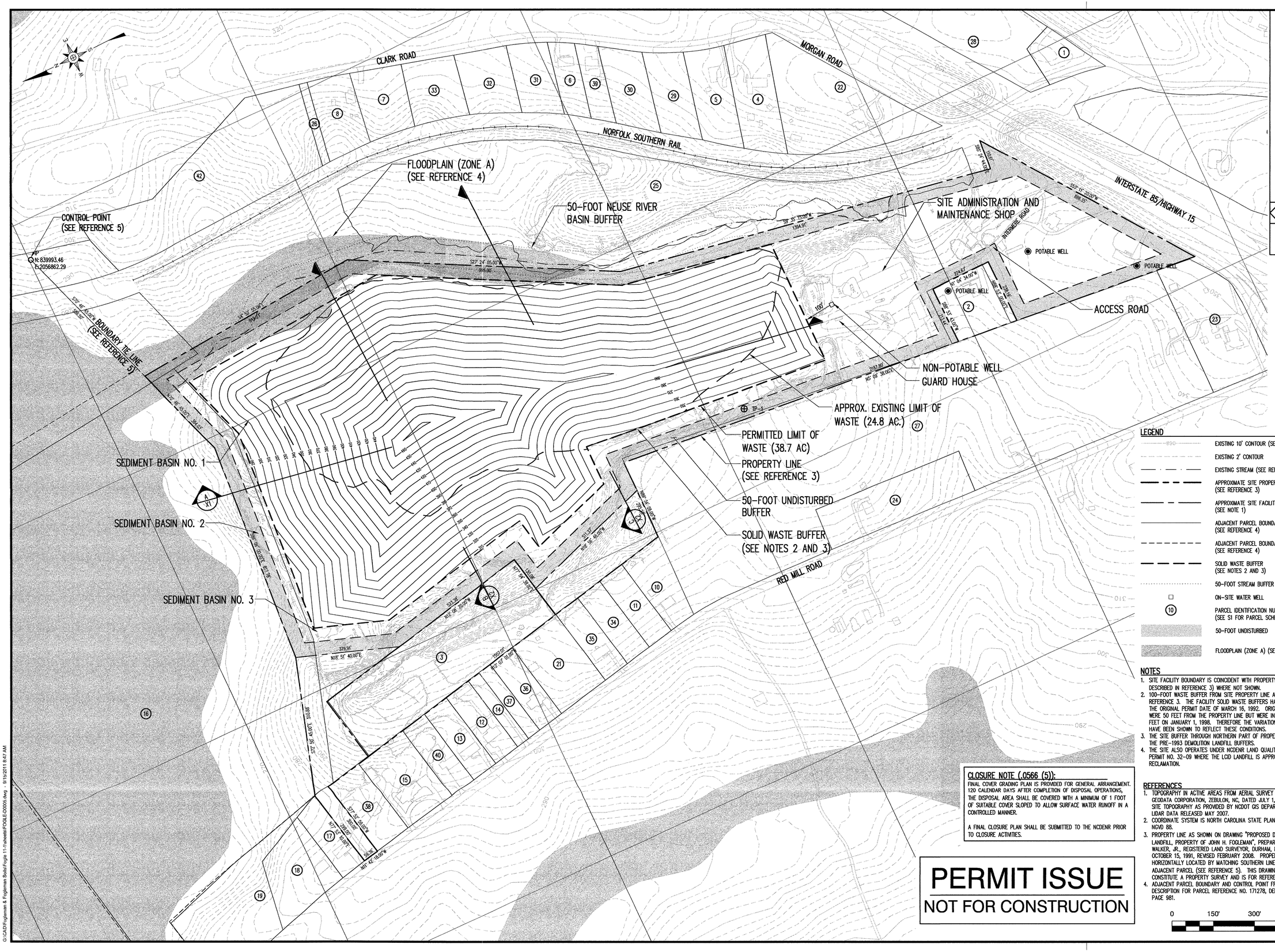

LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- EXISTING STREAM (SEE REFERENCE 1)
- APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
- APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
- 50-FOOT STREAM BUFFER
- ON-SITE WATER WELL
- PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
- 50-FOOT UNDISTURBED
- FLOODPLAIN (ZONE A) (SEE REFERENCE 4)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.

CLOSURE NOTE (.0566 (5)):

FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER.

A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.

REFERENCES

1. TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
3. PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.

0 150' 300' 450'

PERMIT ISSUE
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REVISION | DATE | NO.

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 030702 ENGINEER STACEY A. SMITH
4-14-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
FINAL COVER GRADING PLAN

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY:	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0005	
SHEET NO. 4	DRAWING NO. S3

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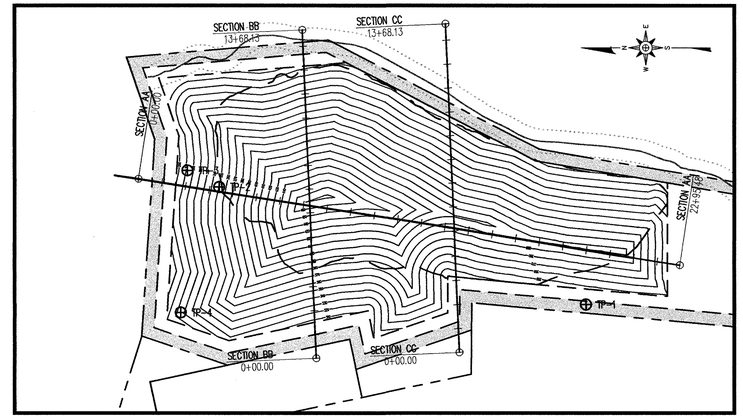

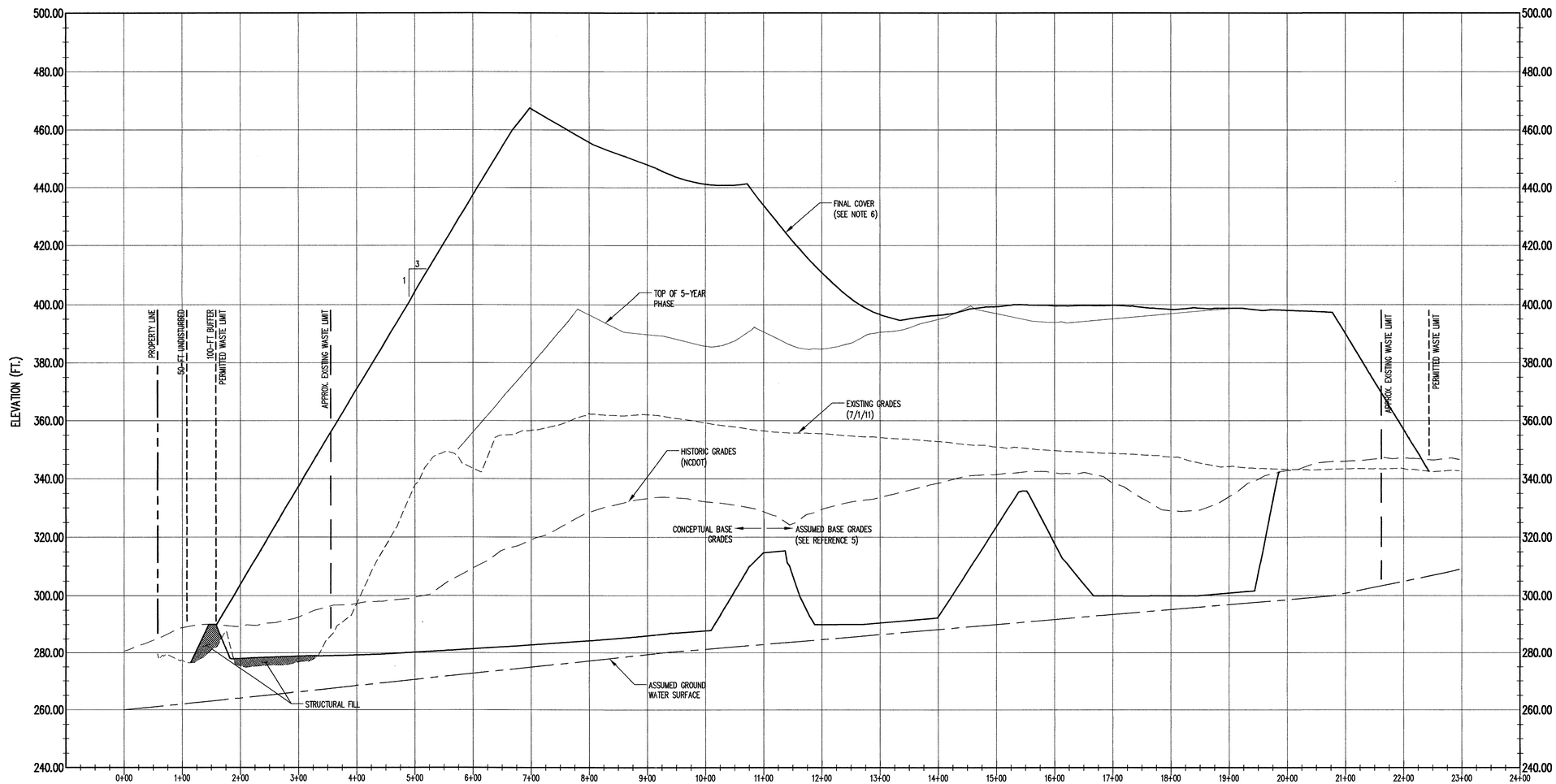

SECTION AA
SCALE: AS SHOWN
X1

LEGEND

- EXISTING GROUND (SEE REFERENCE 1)
- EXISTING GROUND (NCDOT, SEE REFERENCE 1)
- DESIGN GRADES
- ASSUMED GROUNDWATER SURFACE (SEE NOTE 3)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.
5. POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.
6. FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER.
   A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.

REFERENCES

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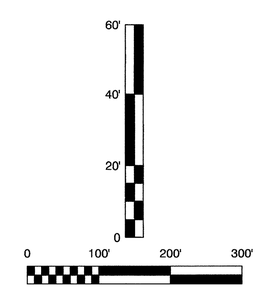
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.
5. ASSUMED BASE GRADES FROM DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008.



NO.	DATE	REVISION

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 020002 ENGINEER STACEY A. HUNT
9-7-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
CROSS SECTIONS
(SHEET 1 OF 2)

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY: LQ	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0006	
SHEET NO. 5	DRAWING NO. X1

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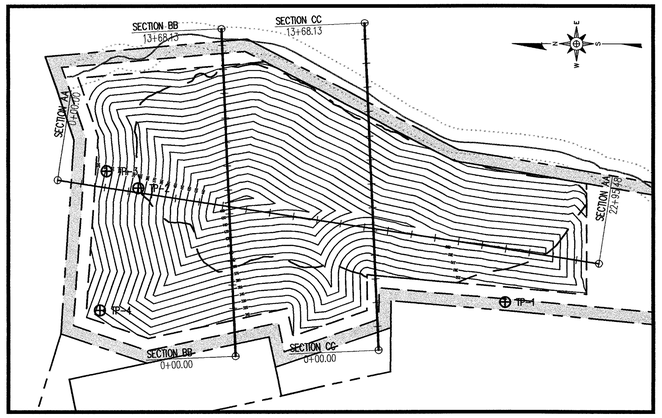

LEGEND

- EXISTING GROUND (SEE REFERENCE 1)
- EXISTING GROUND (NCDOT, SEE REFERENCE 1)
- DESIGN GRADES
- ASSUMED GROUNDWATER SURFACE (SEE NOTE 3)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LCID LANDFILL IS APPROVED AS FINAL RECLAMATION.
5. POTENTIOMETRIC SURFACE ESTIMATED FROM NEARBY SURFACE WATER BODY ELEVATIONS TO THE NORTH, SOUTH AND WEST OF THE SITE.
6. FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER. A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.

REFERENCES

1. TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
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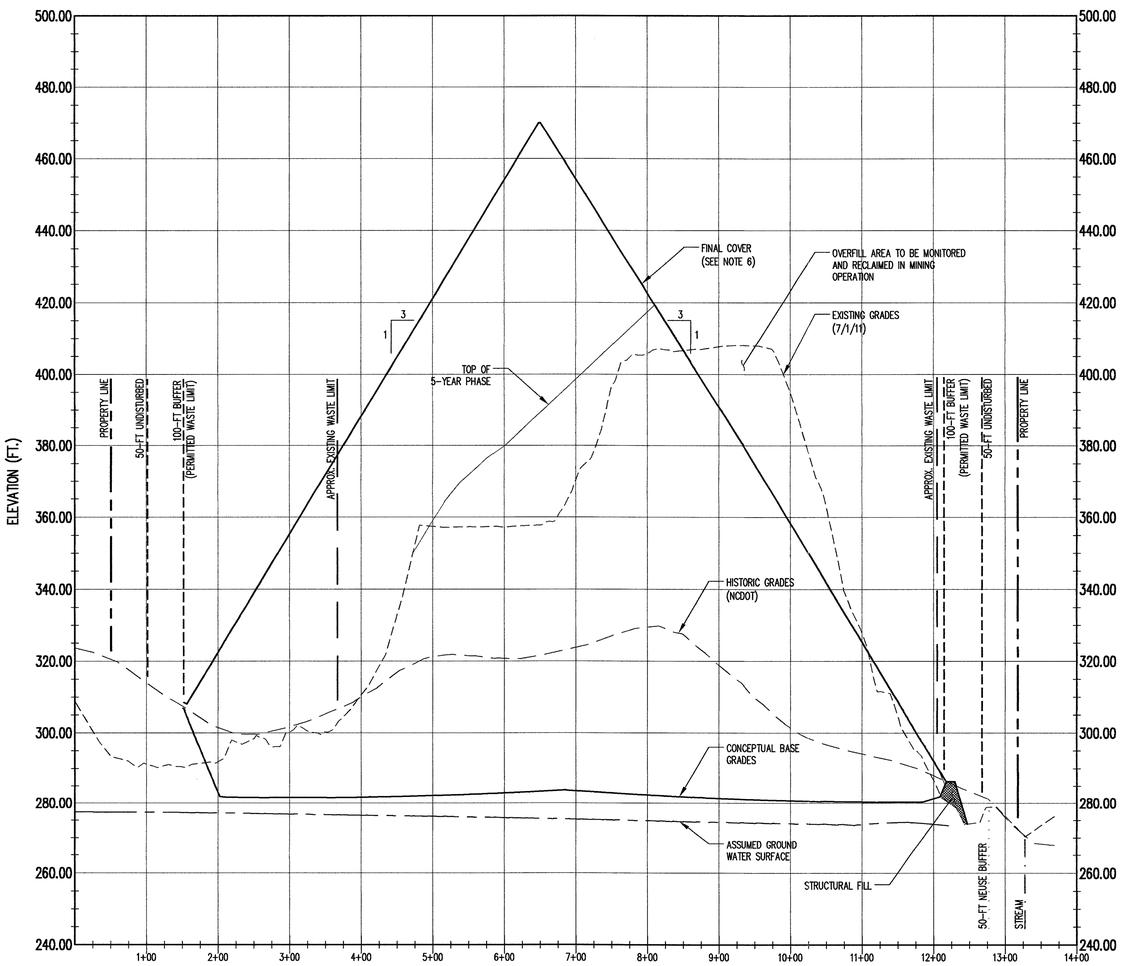
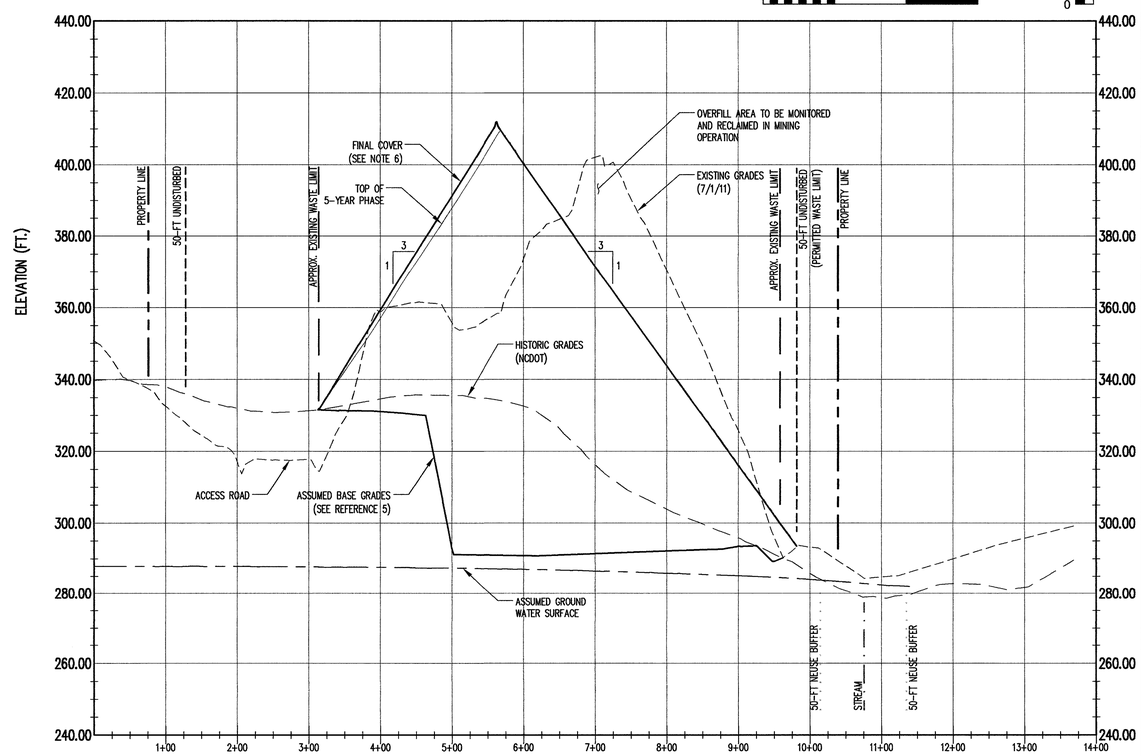
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.
5. ASSUMED BASE GRADES FROM DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008.



SECTION BB
SCALE: AS SHOWN
X2



SECTION CC
SCALE: AS SHOWN
X2

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REVISION | NO. | DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 020003 ENGINEER STACEY A. SMITH 4-14-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
CROSS SECTIONS
(SHEET 2 OF 2)

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY: LQ	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0007	
SHEET NO.: 6	DRAWING NO.: X2

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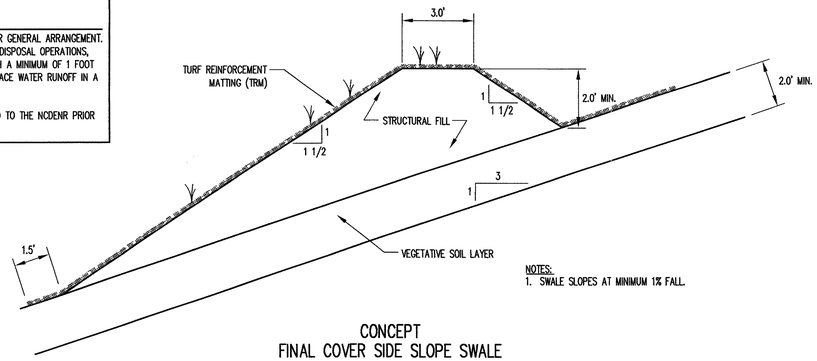
CONCEPTUAL
(FOR INFORMATION ONLY) 1/D1 2/D1 3/D1 4/D1

CLOSURE NOTE (.0566 (5)):

FINAL COVER GRADING PLAN IS PROVIDED FOR GENERAL ARRANGEMENT. 120 CALENDAR DAYS AFTER COMPLETION OF DISPOSAL OPERATIONS, THE DISPOSAL AREA SHALL BE COVERED WITH A MINIMUM OF 1 FOOT OF SUITABLE COVER SLOPED TO ALLOW SURFACE WATER RUNOFF IN A CONTROLLED MANNER.

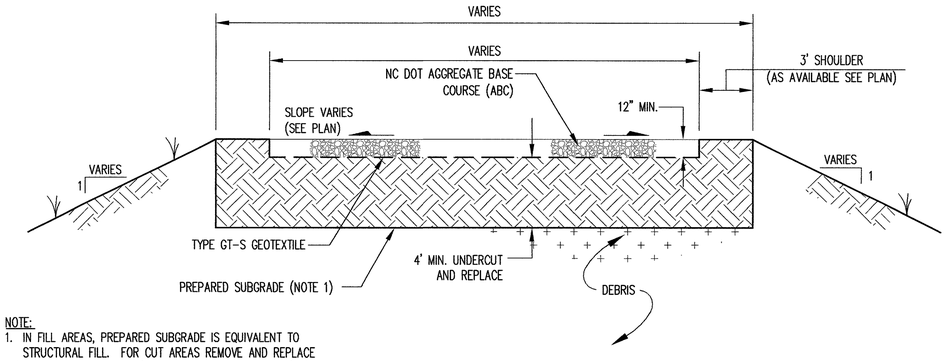
A FINAL CLOSURE PLAN SHALL BE SUBMITTED TO THE NCDENR PRIOR TO CLOSURE ACTIVITIES.



NOTES:
1. SWALE SLOPES AT MINIMUM 1% FALL.

CONCEPT
FINAL COVER SIDE SLOPE SWALE

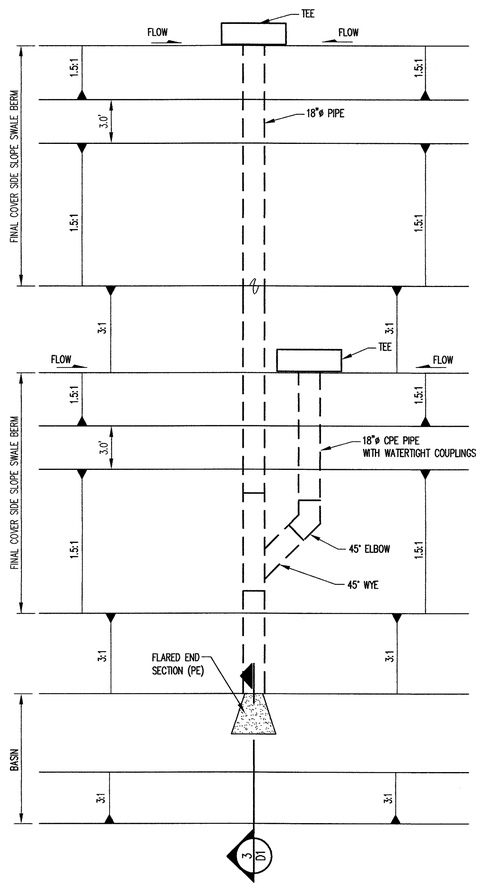
DETAIL 1/D1
SCALE: N.T.S.



NOTE:
1. IN FILL AREAS, PREPARED SUBGRADE IS EQUIVALENT TO STRUCTURAL FILL. FOR CUT AREAS REMOVE AND REPLACE WITH STRUCTURAL FILL (SEE PROJECT SPECIFICATIONS.)

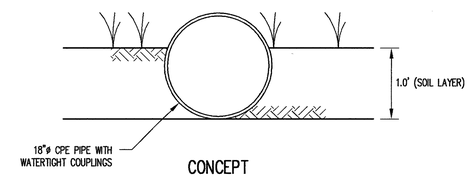
TYPICAL ALL WEATHER ROADWAY CROSS SECTION

DETAIL 5/D1
SCALE: N.T.S.



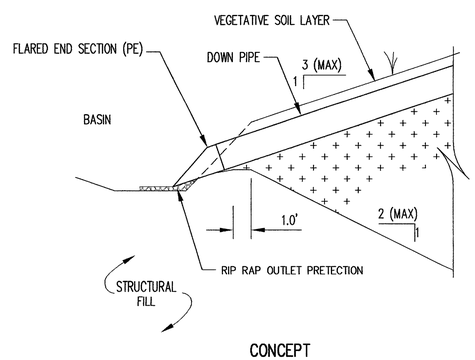
CONCEPT
DOWN PIPE INLETS AND OUTLETS

DETAIL 2/D1
SCALE: N.T.S.



CONCEPT
DOWNPIPE ON SLOPE

DETAIL 4/D1
SCALE: N.T.S.



CONCEPT
DOWNPIPE OUTLET

DETAIL 3/D1
SCALE: N.T.S.

PERMANENT SEEDING SCHEDULE		
DATES	SPECIES	APPLICATION RATE
FEBRUARY 15 – APRIL 1	KOBE LESPEDEZA BAHIAGRASS REDTOP WINTER RYE (GRAIN)	10 LBS/ACRE 50 LBS/ACRE 1 LBS/ACRE 15 LBS/ACRE
APRIL 1 – JULY 31	COMMON BERMUDA	50 LBS/ACRE
AUGUST 1 – OCTOBER 25	LESPEDEZA (UNSCARIFIED) GERMAN MILLET	30 LBS/ACRE 40 LBS/ACRE
OCTOBER 25 – FEBRUARY 15	RYE (GRAIN – TEMPORARY)	120 LBS/ACRE
SOIL AMENDMENTS	SPECIFICATIONS	APPLICATION RATE
LIME	–	2,000 LBS/ACRE
MULCH	SMALL GRAIN STRAW	2,000 LBS/ACRE
FERTILIZER	8–8–8 OR 10–10–10 OR FOLLOW SOIL ANALYSIS	1,000 LBS/ACRE

NOTES:
1. APPLICATION RATES AND/OR CHEMICAL ANALYSIS SHALL BE CONFIRMED OR ESTABLISHED BY A SOIL TEST.

SEEDING SCHEDULE

DETAIL 6/D1
SCALE: N.T.S.

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REVISION | NO. | DATE

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 025002 ENGINEER STACEY A. SMITH 9-14-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
DETAILS

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY: LQ	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0008	
SHEET NO. 7	DRAWING NO. D1

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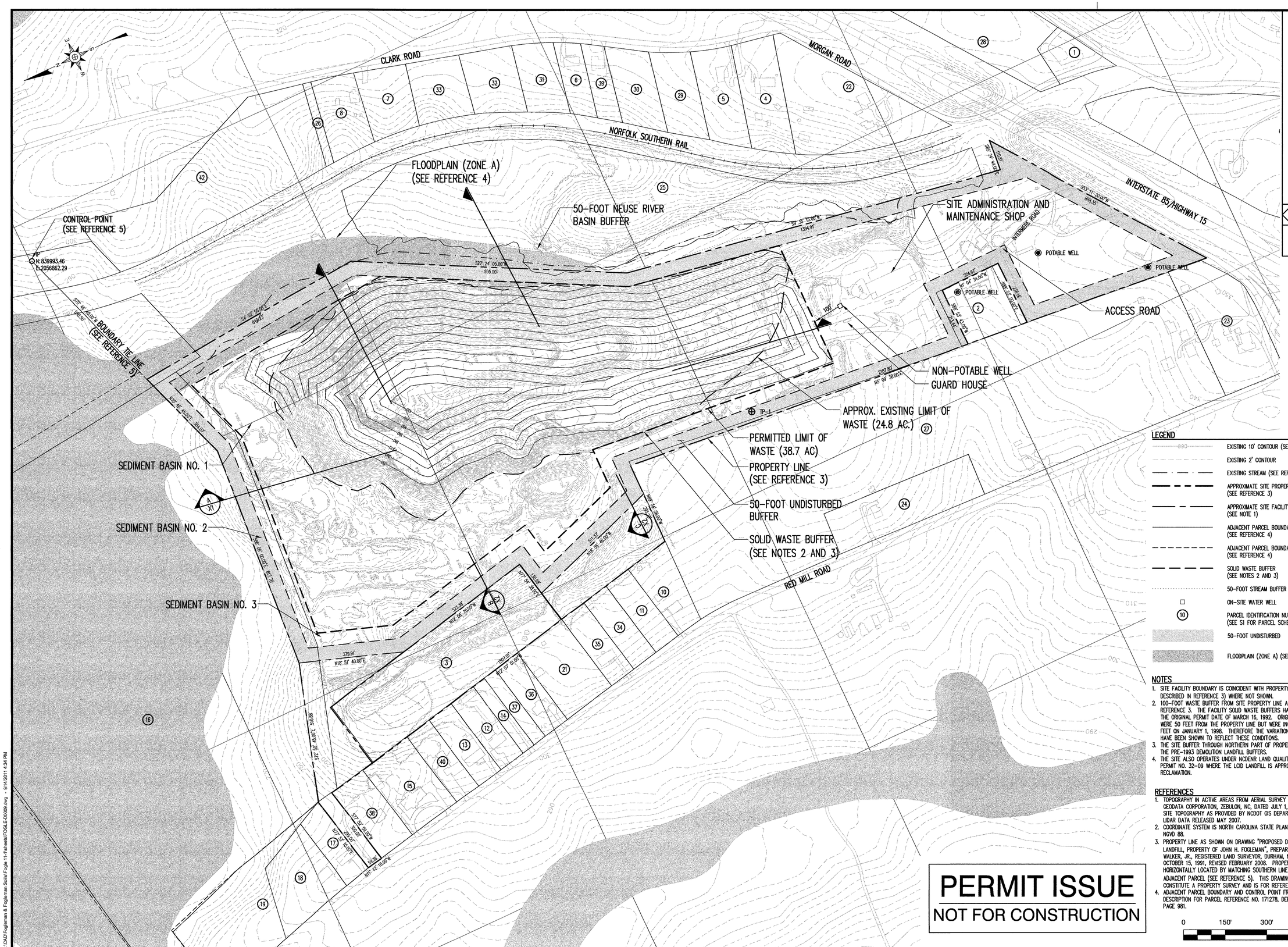

LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- EXISTING STREAM (SEE REFERENCE 1)
- APPROXIMATE SITE PROPERTY LINE (SEE REFERENCE 3)
- APPROXIMATE SITE FACILITY BOUNDARY (SEE NOTE 1)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- ADJACENT PARCEL BOUNDARY (SEE REFERENCE 4)
- SOLID WASTE BUFFER (SEE NOTES 2 AND 3)
- 50-FOOT STREAM BUFFER
- ON-SITE WATER WELL
- PARCEL IDENTIFICATION NUMBER (SEE S1 FOR PARCEL SCHEDULE)
- 50-FOOT UNDISTURBED
- FLOODPLAIN (ZONE A) (SEE REFERENCE 4)

NOTES

1. SITE FACILITY BOUNDARY IS COINCIDENT WITH PROPERTY LINE (AS DESCRIBED IN REFERENCE 3) WHERE NOT SHOWN.
2. 100-FOOT WASTE BUFFER FROM SITE PROPERTY LINE AS DESCRIBED IN REFERENCE 3. THE FACILITY SOLID WASTE BUFFERS HAVE VARIED SINCE THE ORIGINAL PERMIT DATE OF MARCH 16, 1992. ORIGINAL BUFFERS WERE 50 FEET FROM THE PROPERTY LINE BUT WERE INCREASED TO 100 FEET ON JANUARY 1, 1998. THEREFORE THE VARIATION OF BUFFERS HAVE BEEN SHOWN TO REFLECT THESE CONDITIONS.
3. THE SITE BUFFER THROUGH NORTHERN PART OF PROPERTY REPRESENTS THE PRE-1993 DEMOLITION LANDFILL BUFFERS.
4. THE SITE ALSO OPERATES UNDER NCDENR LAND QUALITY SECTION MINE PERMIT NO. 32-09 WHERE THE LOD LANDFILL IS APPROVED AS FINAL RECLAMATION.

REFERENCES

1. TOPOGRAPHY IN ACTIVE AREAS FROM AERIAL SURVEY PERFORMED BY GEODATA CORPORATION, ZEBULON, NC, DATED JULY 1, 2011. OVERALL SITE TOPOGRAPHY AS PROVIDED BY NCDOT GIS DEPARTMENT FROM LIDAR DATA RELEASED MAY 2007.
2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE GRID, NAD 83, NGVD 88.
3. PROPERTY LINE AS SHOWN ON DRAWING "PROPOSED DEMOLITION LANDFILL, PROPERTY OF JOHN H. FOGLEMAN", PREPARED BY WILLIAM C. WALKER, JR., REGISTERED LAND SURVEYOR, DURHAM, NC, DATED OCTOBER 15, 1991, REVISED FEBRUARY 2008. PROPERTY LINE HORIZONTALLY LOCATED BY MATCHING SOUTHERN LINE OF NORTHERN ADJACENT PARCEL (SEE REFERENCE 5). THIS DRAWING DOES NOT CONSTITUTE A PROPERTY SURVEY AND IS FOR REFERENCE ONLY.
4. ADJACENT PARCEL BOUNDARY AND CONTROL POINT FROM DEED DESCRIPTION FOR PARCEL REFERENCE NO. 171278, DEED BOOK 1026, PAGE 981.

0 150' 300' 450'

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NORTH CAROLINA PROFESSIONAL SEAL 025300 ENGINEER STACEY A. SMITH 9-14-11

PROJECT TITLE:
FOGLEMAN & FOGLEMAN SOILS, INC.
LCID LANDFILL (PERMIT NO. 32-F)
DURHAM, NORTH CAROLINA
5 YEAR PERMIT RENEWAL

DRAWING TITLE:
5 YEAR PHASE
GRADING PLAN

DESIGNED BY: S.A.S.	DRAWN BY: J.A.L.
CHECKED BY:	PROJECT NO.: FOGLE 11-1
SCALE: AS SHOWN	DATE: SEPT. 2011
FILE NAME: FOGLE-D0009	
SHEET NO. 8	DRAWING NO. P1

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ATTACHMENT C

OPERATIONS PLAN

Fogleman and Fogleman Landfill & Recycling Facility
NC Solid Waste Permit No. 32-F
Durham, North Carolina

Prepared for:

FOGLEMAN & FOGLEMAN SOILS, INC.
Durham, North Carolina

September 2011

PERMIT ISSUE DOCUMENTS

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

14 N. BOYLAN AVENUE
RALEIGH, NORTH CAROLINA 27603

NC LIC. No. C0828 (ENGINEERING)

PRINTED ON 100% RECYCLED PAPER

Operations Manual

Fogleman and Fogleman Landfill & Recycling Facility
Durham, North Carolina

Prepared for:

Fogleman & Fogleman Soils, Inc.
Durham, North Carolina

To the Attention of:

Mrs. Linda Fogleman
Fogleman & Fogleman Soils, Inc.

RSG Project No. FOGLEMAN-11-1

Lindsay Quant, E.I.
Staff Engineer

Stacey A. Smith, P.E.
Project Manager

September 2011

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

NC LIC. No. C0828 (ENGINEERING)

PRINTED ON 100% RECYCLED PAPER

FOGLEMAN AND FOGLEMAN LANDFILL & RECYCLING FACILITY
LCID LANDFILL

OPERATIONS MANUAL

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SECTION 1.0
GENERAL FACILITY OPERATIONS

1.1 OVERVIEW

This Operations Manual was prepared for the Fogleman and Fogleman Landfill & Recycling Facility (FLM) Land Clearing and Inert Debris (LCID) Landfill located off of Red Mill Road in Durham, North Carolina as shown in **Figure 1**. This document discusses the operation of the following solid waste management activities:

- LCID Landfill;
- Wood Waste Processing; and
- Brick, block, and concrete crushing.

The continued use of the site will be conducted complying with the rules stated under 15A NCAC 13B 0.500. It is also noted that the site also operates under a NCDENR Division of Land Resources Mine Permit (No. 32-09).

The information contained herein was prepared to provide facility personnel with a clear understanding of how the Design Engineer assumed that the completed facility would be operated. While deviations from the operations outlined here may be acceptable, they should be reviewed and approved by the Design Engineer.

1.2 CONTACT INFORMATION

All correspondence and questions concerning the operation of the FLM LCID Landfill should be directed to the appropriate Site and State personnel listed below. For fire or police emergencies dial 911.

1.2.1 <u>Owner</u>

Fogleman & Fogleman Soils, Inc.
4005 Intermere Road
Durham, NC 27704
Phone: (919) 682-0068
Contact: Linda Fogleman
lfogle@frontier.com
Jay Fogleman

1.2.2 Engineer

Richardson Smith Gardner & Associates Inc.
14 North Boylan Avenue
Raleigh, NC 27603
Phone: (919) 828-0577
Fax: (919) 828-3899
Contact: Stacey A. Smith, P.E.
stacey@rsgengineers.com

1.2.3 North Carolina Department of Environment and Natural Resources

North Carolina DENR - Raleigh Central Office
401 Oberlin Road, Suite 150
Raleigh, NC 27605
Phone: (919) 508-8400
Fax: (919) 715-3605

Division of Waste Management (DWM) - Solid Waste Section:

Permitting Branch Head	Ed Mussler III, P.E. ed.mussler@ncdenr.gov
Field Operations Branch Head	Mark Poindexter mark.poindexter@ncdenr.gov

1.2.4 Emergency Response

Redwood Fire Department Station
4901 Cheek Road
Durham, NC 27704
Phone: (919) 688-8422

1.2.5 Mine Contact

Division of Land Resources - Raleigh Regional Office
3800 Barrett Drive
Raleigh, NC 27609
Phone: (919) 791-4200
Fax: (919) 571-4718

Regional Supervisor	John Holley, P.E. john.holley@ncdenr.gov

1.3 ACCESS CONTROL

Limiting access to the solid waste management facility is important for the following reasons:

- Unauthorized and illegal dumping of waste materials is prevented.
- Trespassing, and injury resulting therefrom, is avoided and discouraged.
- The risk of vandalism is greatly reduced.

Access to active areas of the landfill will be controlled by a combination of fences and natural barriers, and strictly enforced operating hours. An attendant will be on duty at all times when the facility is open for public use to enforce access restrictions.

1.3.1 Physical Restraints

The site will be primarily accessed by the existing entrance on Intermere Road. The primary entrance has a gate which will be securely locked during non-operating hours. A guard house is provided at the main entrance. All managers of FLM operations live on or adjacent to the landfill. All waste will be initially screened at the guard house prior to being placed in the facility.

1.3.2 Security

The facility is secured by fencing, security gates, and natural buffers. Evidence of trespassing, vandalism, or illegal operations will be reported to the Manager in order to coordinate the repair or replacement of the damaged property and to ensure the integrity of the facility's security.

1.4 SIGNAGE

A prominent sign(s) containing the information required by the DWM will be placed at the main facility entrance. This sign(s) will provide contact name, a phone number in case of emergency, and the permit number. Additional signage will be provided within the landfill complex to distinctly distinguish the roadway to the active landfill unit(s). Service and maintenance roads for use by operations personnel will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required. Site personnel will routinely inspect the conditions of the posted signage to ensure that they are clearly visible and intact. Damaged or missing signage will be replaced.

1.5 COMMUNICATIONS

The guard house and office have a telephone in case of emergency and to conduct day-to-day business. Emergency telephone numbers are displayed in the guard house.

1.6 FACILITY OPERATING HOURS

Waste disposal activities will be conducted between 7:00 A.M. to 5:00 P.M. Monday to Friday. The facility will be closed on weekends and most recognized County holidays. In the event of disaster or other emergency situations, the supervisor will request approval from the

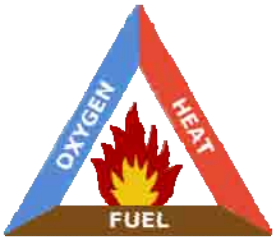
commission's regional office to allow additional temporary operating hours during these events.

1.7 FIRE AND SAFETY

The possibility of fire at the landfill must be anticipated in the scope of daily operations. Potential fire hazards results from surface conditions and subsurface conditions. Surface conditions include waste receipts and equipment operations. Subsurface conditions include underground fires caused by decomposition of the waste materials previously landfilled. Smoking is prohibited on the working face of the landfill.

1.7.1 Fire Triangle

The "triangle" illustrates the rule that in order to ignite and burn, a fire requires three (3) elements: heat, fuel, and oxygen. A fire is prevented or extinguished by "removing" any one of them. A fire naturally occurs when the elements are combined in the right mixture (e.g., more heat needed for igniting some fuels, unless there is concentrated oxygen). These principles are integral in the prevention and management of potential fire situations.



1.7.2 Equipment Safety

A combination of factory installed fire suppression systems and/or portable fire extinguishers will be operational on all pieces of heavy equipment at all times. Potential fire hazards at the landfill are created from the build-up of fine, dry dust particles on and around operational motors and control panels. The presence of these build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenance are not practiced.

Sources of fire at the facility can result from 'hot' loads or combustible materials being discharged within the facility, the build-up of fine particulates inside the facility, or from the mixing of incompatible materials during the transfer procedures.

Portable fire extinguishers should be maintained in a state of readiness at the screen location and on each piece of moving equipment and equipment should be cleaned periodically. Staff shall be periodically trained on the proper utilization of the fire extinguishers. The fire extinguishers are checked on a regular basis to ensure their utilization. The date of the units' inspections is document on each tag. The facility is governed by the Durham County Fire Marshal and the certificate is displayed in the facility office.

1.7.3 Fire Management Strategies

Each fire situation is site/event specific; however, general strategies for active fire management include, but is not limited to the following (in no particular order):

- Accelerated high temperature combustion (displacing fuel);
- Covering of the landfill burn area with soil (reduce oxygen);
- Covering of the burn area with foams (reduce oxygen);
- Flooding the burn area with water (reduce heat);
- Injecting an inert gas such as CO_2 (reduce oxygen); and
- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas.

1.7.4 Coordination

A copy of the site Operations Manual shall be filed with the local fire department including all contact information for the facility.

The occurrence of fire will be reported verbally to the Waste Management Specialist staff member of DWM within 24 hours. Subsequent written notification will be provided to DWM within 15 days of the event utilizing the NC DENR-DWM *Fire Occurrence Notification* form provided in **Appendix B**.

1.8 LITTER CONTROL

The vegetative trees/bushes act as a barrier to keep litter contained within the site boundaries. Staff and operators pick up litter in and around the site on a daily basis and respond to weather and heavy wind conditions that may compromise the appearance of the property. Two (2) dumpsters are located on site for litter control. Waste Management empties the dumpsters weekly.

Customers are encouraged to contain and cover all waste within their vehicles/trailers prior to entering the facility in an effort to reduce litter. Any load that is not secured in a manner that would prevent material from leaving the vehicle while it is in motion is subject to an additional fee. Trailers are encouraged to be covered by heavy tarp lids to minimize litter and reduce the potential for the entrance of vectors into the disposal operations.

1.9 SEVERE WEATHER CONDITIONS

Inclement weather conditions can directly affect the operation of the landfill. Some of these weather conditions and recommended operational responses are as follows.

1.9.1 Ice Storms

An ice storm can make access to the facility and disposal locations dangerous, prevent movement or placement of cover soil, and, thus, may require closure of the landfill until the ice is removed or has melted. The determination to discontinue activities due to inclement weather conditions will be made by the Site Manager.

1.9.2 Heavy Rains

Rainy periods can create a muddy situation in areas of exposed soil surfaces. The control

of drainage and use of crushed stone on unpaved roads should provide adequate all weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, new aggregate should be used for repair.

Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by site personnel will be initiated and corrective measures taken to repair any damage found before the next rainfall.

1.9.3 Electrical Storms

Employees working on heavy equipment and open areas of the landfill and recovery areas are susceptible to the hazards of an electrical storm. If necessary, disposal activities will be temporarily suspended during such an event. To guarantee the safety of all field personnel, refuge will be taken in the on-site buildings or in rubber-tired vehicles.

1.9.4 Windy Conditions

Landfill operations during a particularly windy period may require that the working face be temporarily shifted to a more sheltered area. When this is done, the previously exposed face will be immediately covered with soil.

1.9.5 Violent Storms

In the event of hurricane, tornado, or severe winter storm warning issued by the National Weather Service, landfill operations may be temporarily suspended until the warning is lifted. Cover will be placed on exposed waste and buildings and equipment will be properly secured.

1.10 EQUIPMENT REQUIREMENTS

Periodic maintenance of all equipment, and minor and major repair work will be performed at designated maintenance zones outside of the facility.

1.11 HEALTH AND SAFETY

All aspects of the landfill operations were developed with the health and safety of the operating staff, customers, and neighbors in mind. Prior to commencement of operations at the facility, a member of the operating staff will be designated the site's safety officer. This individual, together with the facility's management will modify the site's safety and emergency response program to ensure consistency with the Occupational Safety and Health Administration (OSHA) guidance.

Safety equipment provided on-site includes equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Facility personnel

will be encouraged to complete the American Red Cross Basic First Aid Course. Other safety requirements as designated by the Owner will also be implemented.

1.11.1 Personal Hygiene

The following items are recommended as a minimum of practice:

- Wash hands before eating, drinking, or smoking.
- Wear personal protective equipment
- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

1.11.2 Personal Protective Equipment

Personal Protective Equipment (PPE) must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and/or required in a landfill facility workplace.

- Safety shoes with steel toes.
- Noise reduction protection should be used in areas where extended exposure to continuous high decibel levels are expected.
- Disposable rubber latex or chemical resistant gloves for handling and/or sampling of waste materials.
- Dust filter masks.
- Safety vests.

Following use, PPE's should be disposed of or adequately cleaned, dried, or readied for reuse.

1.11.3 Mechanical Equipment Hazard Prevention

The loaders and other equipment should be operated with care and caution. All safety apparel, equipment such as horns, backup alarms, and lights should worn at all times and be functional. A Lockout-Tagout program shall be used to identify equipment in need or under repair and insure that operation is "off-limits" prior to maintenance or repair. All operators shall be trained in the proper operation of equipment.

1.11.4 Employee Health and Safety

Some general safety rules are:

- Consider safety first when planning and conducting activities.
- Review the equipment manual prior to attempting repairs/changes.
- Remember the buddy system in case of repair of mechanical equipment
- Post emergency contact phone numbers.

- Provide easy and visible access to the Right to Know materials.
- Provide easy and visible access to the first aid kit and fire extinguishers.

1.11.5 Physical Exposure

Facility personnel may come in contact with the fluids, solids, and airborne constituents found at the landfill operations. Routine training should be conducted regarding individual and collective materials and their associated hazards. Training concerning safe workplace practices around these potential exposures should instruct employees on the proper usage of equipment and proper disposal procedures.

1.11.6 Material Safety Data Sheets

Material Safety Data Sheets (MSDS) shall be collected on every waste (if available) that enters the facility. Information shall also be made available for all chemicals stored on site for use by the facility. MSDS sheets shall be stored in a location with all other Right to Know information for the site.

1.12 UTILITIES

Electrical power, water, and telephones are available and provided at the guard house, office, and restrooms.

1.13 RECORD KEEPING PROGRAM

The Facility shall maintain the following documents in an operating record at the facility in accordance the **Section 5.0** of this document. The operating record will be kept up to date by the Site Manager or his designee. It will be presented upon request to DWM for inspection. A copy of the Operations Manual will be kept at the facility and will be available for use at all times.

SECTION 2.0
WASTE HANDLING OPERATIONS

2.1 OVERVIEW

This section describes the required waste handling and mining operations for the Fogleman and Fogleman Landfill & Recycling facility.

2.2 ACCEPTABLE WASTES

The facility will only accept wastes as allowed below. Certain wastes in italics will be acceptable for processing only. The materials acceptable for waste disposal on the site include:

- Land Clearing and Inert Debris: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.
- Land Clearing Waste: as defined in 15A NCAC 13B.0101(23) means solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- *Wooden Pallets (damaged and undamaged): as defined in G.S. 130A-290(a)(44a) means a wooden object consisting of a flat or horizontal deck or platform supported by structural components that is used as a base for assembling, stacking, handling, and transporting goods (for processing only).*
- Yard trash: as defined in G.S. 130A-290(a)(45) means solid waste consisting solely of vegetative matter resulting from landscaping maintenance.
- Asphalt: as defined in G.S. 130-294 (m).
- Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

Only materials listed above will be disposed. All other identified wastes will be removed and disposed in accordance with **Section 2.6**.

2.3 PROHIBITED WASTES

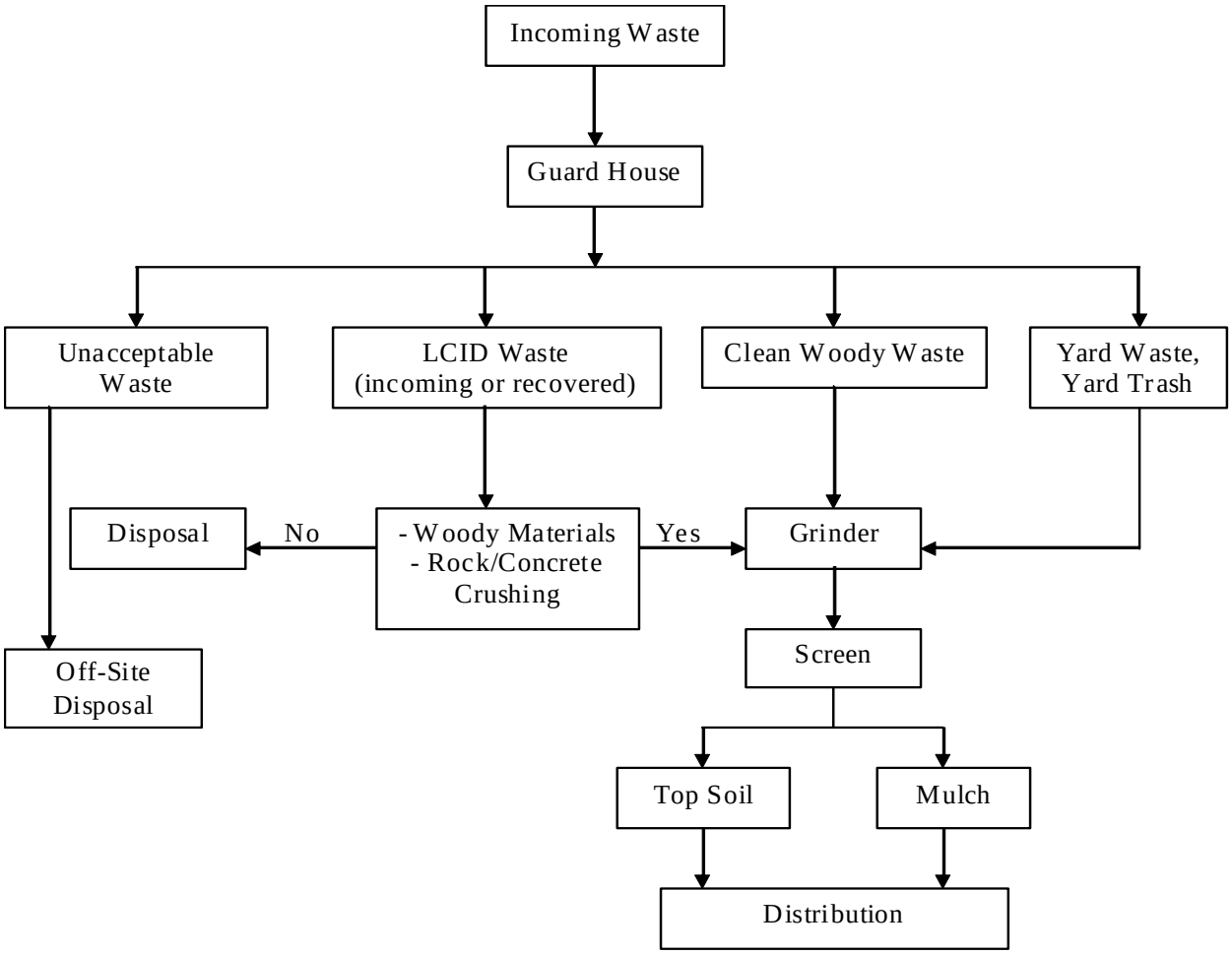
No municipal solid waste (MSW), construction and demolition debris waste (C&D), hazardous waste (as defined by 15A NCAC13A including hazardous waste from conditionally exempt small quantity generators), or liquid waste will be accepted at this facility. In addition, no polychlorinated biphenyl (PCB) waste will be accepted. Fogleman and Fogleman Landfill & Recycling Facility will implement a waste screening program, described in **Section 2.6**, to control these types of wastes.

2.4 FACILITY OPERATIONS

The facility operations have been proposed to facilitate both disposal and recovery to involve a flow through of material at the facility. Generally, the process includes materials from both

customers and mining of the site. This section provides discussion on the major components of the process. Please refer to the below **Figure 2** for a flowchart outlining the overall facility operations. Incoming materials shall follow **Section 3.3** and recovered materials shall follow **Section 3.2** presented below.

Figure 2: Facility Operations Flow Chart



2.41 Operating Capacity

The Operating Capacity for the Fogleman and Fogleman Landfill & Recycling Facility facility is estimated to be approximately 140,000 cy per year based on historical receipts. At this time and in consideration of the current construction industry, we have assumed 100,000 cy per year..

2.4.2 Equipment Requirements

The anticipated equipment requirements for operation and maintenance of the site are

listed in the following table.

Description	Primary Function (Allocation)
1) Excavator	Soil excavation, LCID landfill mining and sorting.
2) Dozer	Waste placement and grading.
3) Front End Loader	Loading, mixing, and turning.
4) Grinder (Contract)	Grinding/shredding of bulky wastes, stumps, limbs, etc.
5) Screening Equipment (Contract)	Processing material to uniform consistency and sorting of various gradations.
6) Dump Truck	Hauling material around site.

2.4.3 Personnel Requirements

The personnel requirements for operation and maintenance of the site are listed in the following table. Augmentations to this listing of on-site personnel will occur as needed.

Description	Primary Function (Allocation)
1) Site Manager (1)	Overall management of the site, receiving and cataloging of incoming loads.
2) Operator (1)	Management of transfer station and the landfill area.
3) Labor (1)	General labor and operational staff around site.

2.5 WASTE ACCEPTANCE

Fogleman and Fogleman Landfill & Recycling Facility estimates, based on historical data, that it will receive approximately 670 tons per week depending on economy and weather. This waste acceptance rate yields approximately 35,000 tons per year. In addition to accepted waste, material will be excavated from the existing LCID landfill for processing (see **Section 3.2**).

2.6 WASTE SCREENING

In order to assure that prohibited wastes are not accepted, waste screening programs will be implemented. Every truck is instructed to remove any tarps covering waste at the scalehouse. The scalehouse is raised for easy access of visual inspection of waste. If any non-acceptable wastes are identified, these wastes will be placed into a stockpile or container and removed from the site for disposal at a solid waste facility permitted to accept the particular waste. All records and receipts for this disposal shall be kept in the operating record for the site. It is anticipated that unacceptable wastes will be minor amounts and either generally classified as MSW or C&D. The operators will be trained on identifying non-conforming/non-acceptable wastes.

2.6.1 Waste Receiving and Inspection

All vehicles must stop at the guard house located near the entrance of the facility and visitors are required to sign-in. All waste transportation vehicles are checked and the content of the load assessed. The attendant(s) requests from the driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the landfill. The attendant(s) then visually checks the vehicle. Signs informing users of the acceptable and unacceptable types of waste are posted at the guard house. Once passing the guard, the vehicles containing LCID wastes are routed to the landfill or the recycling area.

Vehicles are selected for screening at random based on 1% by volume of incoming site acceptance or a minimum of once per month. Selected vehicles are directed to an area of intermediate cover adjacent to the working face where the vehicle will be unloaded. Waste is carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable at the landfill inspects the waste discharged at the screening site. If unacceptable waste is found, including wastes generated from outside of the service area, the load will be isolated and secured by berming off the area. Unacceptable wastes that are non-hazardous will be removed from the facility.

For unacceptable wastes that are hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.6.2** will be followed. The hauler is responsible for removing unacceptable waste from the landfill property. If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell. All random waste inspections will be documented by landfill staff using the waste screening form provided in **Appendix A**.

In addition to random waste screening described above, waste unloaded on the active face will be inspected by the equipment operators, trained to spot unacceptable wastes, before and during spreading and compaction. Any suspicious looking waste is reported immediately to the designated primary inspector for further evaluation.

2.6.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at the landfill, appropriate equipment, protective gear, personnel, and materials as necessary will be employed to isolate the wastes. The DWM will be notified immediately (see **Section 1.2.3**) that an attempt was made to dispose of hazardous waste at the landfill. If the vehicle attempting disposal of such waste is known, all attempts will be made to prevent that vehicle from leaving the site or, if the vehicle has left the site, immediate notice will be served on the owner of the vehicle that hazardous waste, for which they have responsibility, has been disposed of at the landfill.

Fogleman and Fogleman Landfill & Recycling Facility will assist the DWM as necessary and appropriate in the removal and disposition of the hazardous waste and in the prosecution of responsible parties. If needed, the hazardous waste will be covered with

either on-site soils or other tarping material until such time when an appropriate method can be implemented to properly handle the waste. The cost of the removal and disposing of the hazardous waste will be charged to the owner of the vehicle involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the landfill may be barred from using the landfill.

Should an incident where hazardous waste is found at the landfill occur, the event will be documented by landfill staff using the waste screening form provided in **Appendix A**.

Records of information gathered as part of the waste screening programs will be maintained at the landfill site during its active life and as long as required by Fogleman and Fogleman Landfill & Recycling Facility and the DWM.

2.7 WASTE DISPOSAL

2.7.1 Access

Traffic will be clearly directed to the appropriate active access road. The location of access roads during waste placement will be determined by operations personnel in order to reflect waste placement strategy.

2.7.2 General Procedures

Waste transportation vehicles will arrive at the working face at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. In order to maintain control over the unloading of waste, a certain number of vehicles will be allowed on the working face at a time. The actual number will be determined by the truck spotter. This procedure will be used in order to minimize the potential of unloading unacceptable waste and to control disposal activity. Operations at the working face will be conducted in a manner which will encourage the efficient movement of transportation vehicles to and from the working face, and to expedite the unloading of waste.

The approach to the working face will be maintained such that two or more vehicles may safely unload side by side. A vehicle turn-around area large enough to enable vehicles to arrive and turn around safely with reasonable speed will be provided adjacent to the unloading area. The vehicles will back to a vacant area near the working face to unload. Upon completion of the unloading operation, the transportation vehicles will immediately leave the working face area. Personnel will direct traffic necessary to expedite safe movement of vehicles.

Waste unloading at the landfill will be controlled to prevent disposal in locations other than those specified by site management. Such control will also be used to confine the working face to a minimum width, yet allow safe and efficient operations. The width and length of the working face will be maintained as small as practical in order to maintain the appearance of the site, control windblown waste, and minimize the amount of cover

required each day. Normally, only one working face will be active on any given day, with all deposited waste in other areas covered by either periodic, intermediate, or final cover, as appropriate.

The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into nominal ten (10) foot lifts, and compaction on relatively flat slopes (i.e. 5H:1V max.).

The use of portable signs with directional arrows and portable traffic barricades will facilitate the unloading of wastes to the designated disposal locations. These signs and barricades will be placed along the access route to the working face of the landfill or other designated disposal areas which may be established.

2.7.3 Periodic Cover

At the completion of waste placement each week, or sooner if the area of exposed waste exceeds ½ acre in size, a 6-inch layer of earthen material or other material as approved by the DWM will be placed over the exposed waste. This periodic cover is intended to control vectors, fire, odors, and blowing debris.

2.7.4 Intermediate Cover

A 12 inch layer of soil cover should be placed on all waste surfaces that have not received waste in 30 days but are below final elevation. This intermediate cover should be seeded immediately and graded such that all precipitation run-off is channeled to the surface water systems.

2.7.5 Height Monitoring

Approximately every month, the landfill staff will monitor landfill top and side slope elevations with a level. When such elevations approach design grades, the final top-of-waste grades will be staked to limit over-placement of waste.

SECTION 3.0
RECOVERY AND PROCESSING OPERATIONS

3.1 OVERVIEW

This section describes the recovery and processing operations for the Fogleman and Fogleman Landfill & Recycling Facility facility.

3.2 RECOVERY (MINING) OPERATIONS

All material from the recovery (mining) of the site is assumed at 50 cubic yards per day (~260 days per year) of wastes for processing. Thus, approximately 13,000 cubic yards per year (maximum) of wastes are anticipated for processing at the proposed facility. Fogleman and Fogleman Landfill & Recycling Facility will perform the recovery operations on a limited basis to supplement the processing operations as described in **Sections 3.3** below. Generally, the process includes excavation, sorting of the material into small and large fraction materials for grinding and screening described in **Section 3.3.1.**

3.3 WOOD WASTE PROCESSING OPERATIONS

3.3.1 Grinding/Chipping

Grinding and/or chipping will be conducted centrally on the site within the future landfill footprint. The grinding/chipping operations will be conducted as needed to facilitate the landfill recovery and incoming waste operations by contract equipment. The facility intends to utilize a single grinder to process the collected material. The material will be directed to the grinders as per the material size. It is anticipated that grinding and chipping will be conducted on a periodic basis as materials are available. Grinders and chippers pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and/or maintenance literature prior to operating equipment on site.

3.3.2 Screening

Screening will be conducted just beyond the grinding area on the site. The facility intends to utilize a single screening machine to process the ground materials on a contract basis. Screening is conducted after the grinding/chipping has been completed to provide a uniform material for distribution to the public. The screening process removes remaining large materials for a uniform product. The material is screened to achieve particle sizes of 5/8" to 2". The material not passing the screen, "overs" (>2"), are stored in the material storage area and re-ground or chipped for additional screening. The finished product is stored on site in a loading area until ready for delivery. Two (2) finished products are anticipated as follows:

- Mulch; and
- Amended Mulch and Soil.

The process is repeated for "overs" until a uniform blend is achieved. During the screening process additional non-conforming wastes may be identified. Once identified, these wastes will be removed and placed in the stockpiles or containers for disposal off-site. Screening machines pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and or maintenance literature prior to operating equipment at the site.

3.3.3 Crushing

Rock/concrete crushing will be conducted centrally on the site within the future landfill footprint. The crushing operations will be conducted as needed to facilitate the landfill recovery and incoming waste operations by contract equipment. The facility intends to utilize a single crusher to process the collected material. The material will be directed to the crushers as per the material size. It is anticipated that crushing will be conducted on a periodic basis as materials are available. Crushers pose both maintenance and safety hazards. Therefore, please refer to the manufacturer's safety and/or maintenance literature prior to operating equipment on site.

3.4 MARKETS

The market for the proposed mulch and soil will include the surrounding residential and commercial development in the area. The primary customers are assumed to be landscaping and grading companies.

SECTION 4.0
ENVIRONMENTAL MANAGEMENT

4.1 OVERVIEW

This section reviews the overall environmental management tasks required for the successful operation of the Fogleman and Fogleman Landfill & Recycling Facility. The definition of "surface water" as used herein is water which results from precipitation or site run-on that has not contacted the waste.

4.2 SURFACE WATER CONTROL

Proper control of surface water at the site will accomplish the following goals:

- Limit the erosion caused by surface waters, and
- Limit sediments carried off-site by surface waters.

4.2.1 Erosion Control

Erosion control provisions incorporated in and around the processing area include the following:

- Drainage swales are provided to gather surface water from entire site.
- Water collected by each drainage swale is routed to the sediment basins or traps.
- As areas reach final grade and that are not included in the processing areas must be seeded immediately.

All areas should be inspected regularly for erosion damage and promptly repaired.

4.2.2 Sedimentation Control

Stormwater run-off from the facility is conveyed to the proposed sediment basins and traps. The basins should be inspected regularly for sediment build-up or erosion damage and should be cleaned out when sediments fill the lower half of the basin.

4.3 DUST CONTROL

Dust related to equipment operations and traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portion of the road. Fugitive dust emissions are anticipated during grinding and screening operations and should not be conducted when wind speeds exceed 10 miles per hour. Additionally, screening should not be conducted on materials

with less than 35% moisture content to minimize the effect of dust on the surrounding area.

4.4 VECTOR CONTROL

Due to the nature of the waste disposed in this landfill, vector control is not anticipated to be of concern. Note that the use of periodic cover will discourage animals from nesting in the waste.

4.5 ODOR CONTROL

Due to the nature of the waste disposed in this landfill, odor control is not anticipated to be of concern.

SECTION 5.0
QUALITY ASSURANCE AND REPORTING

5.1 OVERVIEW

This section reviews the overall quality assurance and reporting tasks required for the site operations. The information contained herein was prepared to provide facility personnel with methodology and reporting requirements to satisfy these requirements.

5.2 DOCUMENTATION

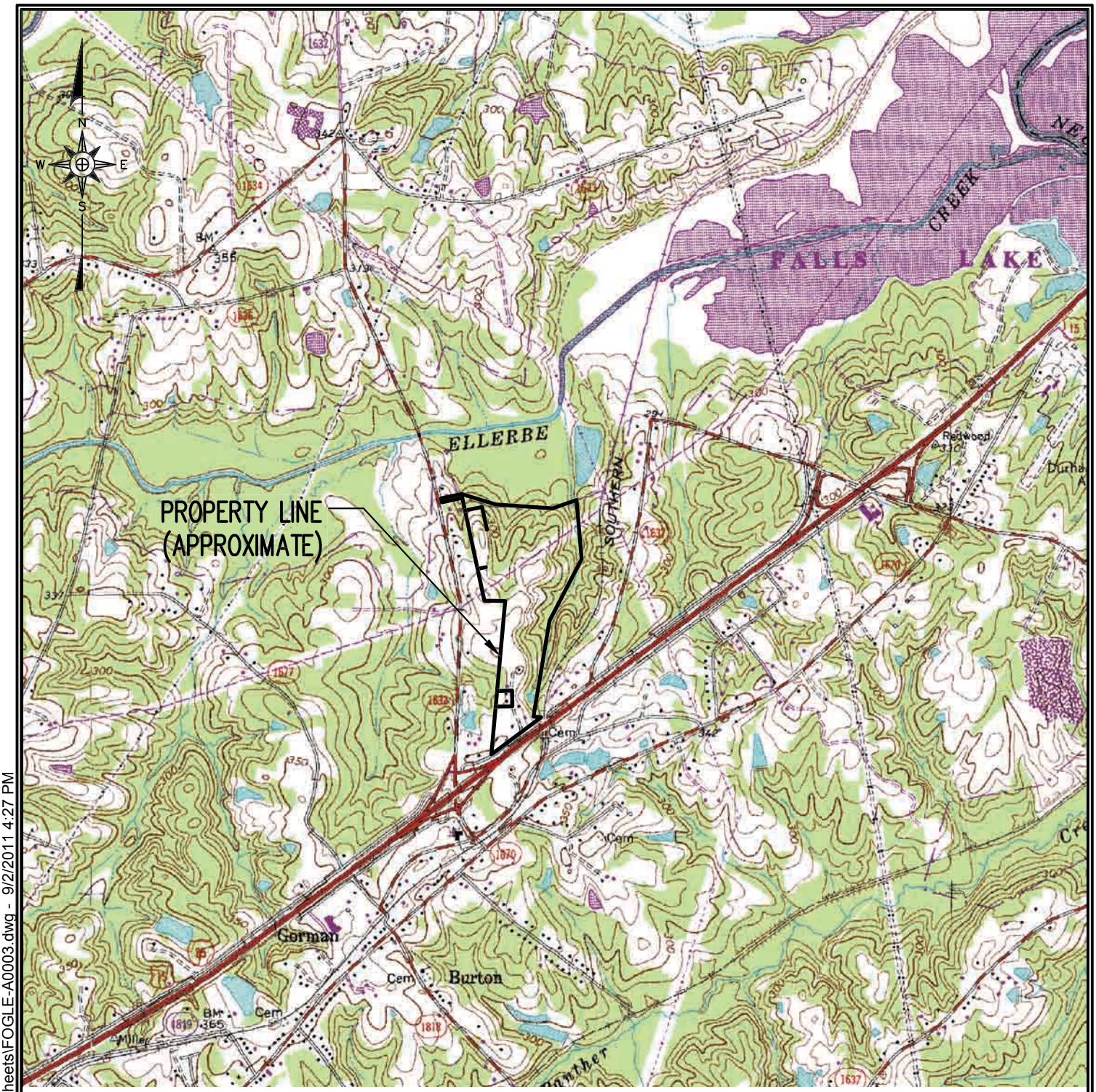
An essential component of solid waste facilities is documentation from the time the materials enter the site to the last cubic yard of material is disposed or delivered to the customer. The documentation is used to improve efficiency in the process, modify process designs, and in troubleshooting of the process. The establishment of a reliable continuing record for proof of performance, thus justifies operational decisions, expenditures, and recommendations. Daily operational records also provide information useful in process adjustments required due to climatic or seasonal changes or other recurring problems of a specific nature. Accurate records also provide the basis for planning future expansion, planning future modifications, establishing and adjusting operating budgets, and providing evidence of performance in compliance with regulatory agencies.

The NC DENR Division of Waste Management requires record keeping on the inflow and outflow of material. Personnel from the NC DENR Division of Waste Management will make periodic visits to the facility. During these inspections, a review of operational and other records may be requested.

The following are points in the process where monitoring documentation are anticipated:

a. Waste Screening Logs
b. Daily Volume Records
c. Employee Training Procedures and Records of Training Completed
d. Un-Acceptable Wastes Disposal Tickets
e. Grinding, Crushing, and Chipping Logs
f. Laboratory Testing identifying soil or mulch properties such as density and gradation (if performed).
g. Screening Logs
h. Finished Product Inventory identifying the quantity and type of material produced by classification.
i. All Closure Information where applicable including testing, certification and recording.
j. Annual Report for the period of July 1 to June 30 shall be submitted to the Division by August 1st of each year.

Figure 1



REFERENCE:
TOPOGRAPHY FROM U.S.G.S. 7.5 MIN. QUADRANGLE "NORTHEAST DURHAM, NC", DATED 1973, PHOTOREVISED 1987, PHOTOINSPECTED 1990.

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SITE LOCATION MAP
FOGLEMAN AND FOGLEMAN
LANDFILL AND RECYCLING FACILITY

RICHARDSON SMITH GARDNER & ASSOCIATES
14 N. Boylan Ave.
Raleigh, N.C. 27603
N.C. LIC. NO. C-0828 (Engineering)
www.rsgengineers.com
ph: 919-828-0577
fax: 919-828-3899

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.	FIGURE NO.	FILE NAME
AS SHOWN	C.T.J.	L.A.Q.	Sep. 2011	FOGLE 11-1	1	FOGLE-A0003

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Appendix A

Waste Screening Form

Fogleman and Fogleman Landfill & Recycling Facility

WASTE SCREENING FORM

Day / Date: _____ Time Weighed in: _____
Truck Owner: _____ Driver Name: _____
Truck Type: _____ Vehicle ID / Tag No: _____
Weight _____ Tare: _____
Waste Generator / Source: _____

Reason Load Inspected: Random Inspection _____ Staff Initials _____
Detained at Scales _____ Staff Initials _____
Detained by Operating Staff _____ Staff Initials _____

Inspection Location: _____

Approved Waste Determination Form Present? Yes _____ No _____ N/A _____

Description of Load: _____
_____
_____

Load Accepted (signature) _____ Date _____
Load Not Accepted (signature) _____ Date _____

Reason Load Not Accepted (complete only if load not accepted)

Description of Suspicious Contents: Color _____ Haz. Waste Markings _____
Texture _____ _____
Drums Present _____ Smell _____
Est. Cu. Yds. Present in Load _____
Est. Tons Present in Load _____

Durham County Emergency Management Contacted? Yes_____ No_____

Company or Authority Contacted? _____
Hazardous Materials Present: _____
_____

Hauler Notified (if waste not accepted) Phone: Time Contacted:
Other Observations: _____
_____

Final Disposition
Signed _____ Date _____
Waste Screening Inspector or Solid Waste Director

Attach related correspondence to this form.
File completed form in Operating Record.

Appendix B

NCDENR-DWM Fire Occurrence Notification Form

SOLID WASTE MANAGEMENT FACILITY
FIRE OCCURRENCE NOTIFICATION
NC DENR Division of Waste Management
Solid Waste Section

Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.
(If additional space is needed, use back of this form.)

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE: _____ @ _____

HOW WAS THE FIRE REPORTED AND BY WHOM:

LIST ACTIONS TAKEN:

WHAT WAS THE CAUSE OF THE FIRE:

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED:

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE:

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS:

NAME: _____ TITLE: _____ DATE: _____

****

THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF

DATE RECEIVED _____

List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:

☐ NO ☐ PHONE CALL ☐ SUBMITTAL ☐ MEETING ☐ RETURN VISIT BY:_____ (DATE)

ACTIONS TAKEN OR REQUIRED:

Revised 6/8/09