

4-5722-11

**LCID PERMIT RENEWAL
BARNHILL CONTRACTING COMPANY
LANDFILL PERMIT NO. 43-E
McARTAN SITE**

HARNETT COUNTY, NORTH CAROLINA

PREPARED FOR:

Barnhill Contracting Company
Mr. Steve Waters
(910) 829-6261
Post Office Box 35376
Fayetteville, North Carolina



FOR SUBMITTAL TO:

NCDENR – Division of Waste Management
Raleigh, North Carolina

PREPARED BY:

ESP Associates, P.A.
Charlotte, North Carolina



July 9, 2009



July 9, 2009

Brian Wootton
Hydrogeologist
Solid Waste Section
NCDENR Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646

Reference: **BARNHILL CONTRACTING COMPANY LCID PERMIT RENEWAL
PERMIT NO. 43-E**
Harnett County, North Carolina

Dear Mr. Wootton:

ESP Associates, P.A. (ESP) has completed the necessary field surveying and engineering certification for the renewal of Land Clearing Inert Debris (LCID) Landfill Permit No. 43-E issued to Barnhill Contracting Company for a facility located in Harnett County south of Josey Williams Road (SR 2027) and west of US Highway 401. This permit renewal application is based on the previous approved plans prepared by Crawford Design Company dated February 5th 2002 and approved on April 17th 2002.

This permit renewal does not propose any further expansion beyond the previously approved landfill plans. Therefore, the purpose of this renewal is to verify existing field conditions and remaining landfill capacity based on the approved plans. In order to verify existing field conditions, ESP surveyed the LCID Landfill on August 12, 2008 to establish current conditions. A topographic map was developed using the survey data and is included on the plans attached with this renewal. ESP used this information along with the approved landfill grading plans to develop the existing site conditions plan (Plan set under separate cover).

Updated plans were developed to quantify remaining landfill capacity. Based on the previously mentioned information and utilizing Cad software, approximately 127,000 cubic yards (yd³) of gross airspace remains in the approved landfill boundaries. Of the 127,000 yd³, approximately 20,000 yd³ is required for "clean" soils placed in the buffer area. 27,000 yd³ of fill is required to be placed over the seasonal water table to an elevation of 109.50 to allow for four (4) feet of cover and for operational and final cover soils. Therefore a net airspace 82,000 yd³ remains for disposal of LCID waste. The attached plans also include the cross section locations used to illustrate proposed landfill floor and proposed final contours. The cross sections utilize the previously approved plans for the LCID landfill. The landfill slopes will be maintained at a maximum 3H:1V as filling progresses in accordance with the permit conditions.

Based on the remaining capacity of 80,000 yd³ and an average waste flow of approximately 5,000 cubic yards per year (yd³/yr), the approved landfill footprint and plans has a remaining life of approximately 16 years. The landfill is proposed to operate within the same boundaries as previously approved.

In response to your comment letter dated November 10, 2008:

- Paragraph one was revised to "this permit renewal application".
- Sheets 4 and 5 off are revised to show the existing seasonal high water mark at elevation 105.5.
- The revised cross sections also shows the required four (4) feet of vertical separation which is required between any placed LCID waste and the seasonal highwater elevation. This area is required and is not considered as landfill capacity, rather is considered operational and required fill to be placed by the LCID operator.
- The revised plans and existing elevations were based on the North American Vertical Datum of 1988 and the North Carolina State plane coordinate system. It is unknown what sort of control was performed on the approved Crawford design Group plans additionally or if any grading operations over the past seven (7) years have changed the site topography. The information on this submittal is the most accurate current available.
- All drawings are revised to reflect current and proposed grades.
- Upon investigation I have determined that there are 80,000 cubic yards of capacity for the entire landfill once areas for clean fill in the buffers and seasonal high water mark volumes are subtracted from the gross area.
- The phasing for the landfill site is shown in a manner consistent with the approved plan. However the phasing of the project does not detract from the capacity of the landfill the phasing is to illustrate the operation of the site. The 43E permit should cover the site and not a portion of the site.

- In order to provide information about how much LCID waste has been placed in Phase 1 since 2002. Surveys using the same reference point or benchmark have to have been utilized. The best estimate I can provide is the 5000 cubic yards per year for the last 6 years for a total of 30,000 yd³.
- Based on current conditions the amount available air space soil remaining for just Phase 1 is 52,000 yd³ the amount of air space for Phase 2 is 38,000 yd³.
- The site life remaining for Phase 1 is slightly longer than 10 years based on the 5000 cy/yr for the remaining 52,000 yd³.
- The intent of the permit renewal request is for the entire LCID site. Since the LCID permit cycle is 5 years per section 130a-295.8. We will accept a permit renewal for Phase 1 only because. I have not been able to locate documentation stating any additional area other than Phase 1 was previously approved.
- I do not have access to any project correspondence between NCDENR and Crawford Design as to how the permit conditions in sections 8 were addressed I will place notes on the plan sheet 3 for the LCID operator to a follow based on those conditions.

Finally, I would like to offer my thanks and appreciation in your assistance with this project. The information you provided was most helpful in resolving the many questions that have come up on this project. If you should have any questions or require additional information concerning this application for permit renewal or attached drawings, please contact me or André Mullins at (803) 802-2440.

Sincerely,

ESP Associates, P.A.



André M. Mullins, EI.
Project Manager

Cc: Mr. Steve Waters – Barnhill Contracting Company

Attch: Plans Under Separate Cover (Sheets 1 – 5)



ESP Associates, P.A.
 P.O. Box 7030
 Charlotte, NC 28241
 3475 Lakemont Blvd.
 Fort Mill, SC 29708
 704.583.4949 (NC)
 803.802.2440 (SC)
 www.espassociates.com

COPY TO:

- (A) Addressee
- (B) ESP Main Project File
- (C) PM's Project File

LETTER OF TRANSMITTAL

ESP Project Name: **McArtan LCID Landfill**

ESP Project No.: **WG13.400**

TO: NCDENR - Division of Waste Management
401 Oberlin Road
Raleigh, NC 27605

Attention: Mr. Brian Wooten

Date: September 25, 2008

We are Sending:

- | | | | |
|--|---|--|---|
| <input checked="" type="checkbox"/> Enclosed | <input type="checkbox"/> Change Order | <input type="checkbox"/> Originals | <input type="checkbox"/> Under separate cover via _____ |
| <input type="checkbox"/> Samples | <input type="checkbox"/> Computations | <input type="checkbox"/> Sepia(s) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Literature | <input type="checkbox"/> Specifications | <input type="checkbox"/> Print(s) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Copy of Letter | <input type="checkbox"/> Floppy Disk | <input type="checkbox"/> Set(s) of Plans | |

Copies	Dated	Sheet	Description
3	07/09/09	1 - 5	McArtan LCID Landfill Permit Renewal Plans
1			Comment Letter
1			Comment Response Letter
1			Copy of previously approved Sheet (crawford plan)



These are Being Sent:

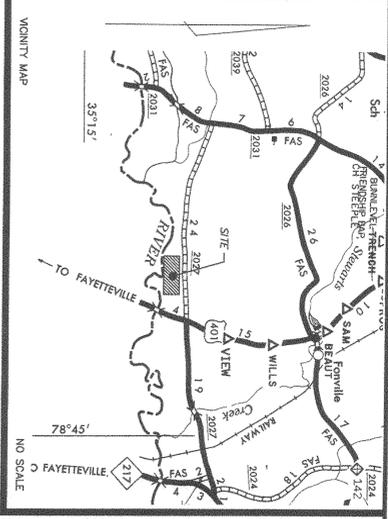
- | | | |
|--|--|---|
| <input type="checkbox"/> For Your Approval | <input type="checkbox"/> Approved as Noted | <input type="checkbox"/> Corrected and Returned |
| <input checked="" type="checkbox"/> For Your Use | <input type="checkbox"/> Approved as Submitted | <input type="checkbox"/> As Requested |
| <input type="checkbox"/> For Your Review and Comment | <input type="checkbox"/> Approved as Changed | <input type="checkbox"/> _____ |
| <input type="checkbox"/> For Your Signature | <input type="checkbox"/> Returned for Corrections | <input type="checkbox"/> _____ |
| <input type="checkbox"/> For Bids Due _____ | <input type="checkbox"/> Returned After Loan to Us | <input type="checkbox"/> _____ |

By: Courier UPS Mail Other

Please let me know if you have any questions or require additional information. I will forward new contact information to you next week.

Signed & Date Andre Mullins 7-9-09
 Signed & Date *Adryel* 7/9/09

*If enclosures are not as noted, kindly notify us immediately



MCARTAN LCID LANDFILL PERMIT 43-E RENEWAL HARNETT COUNTY, NC

SR 2027 (JOSEY WILLIAMS RD.)

- INDEX OF SHEETS:**
- SHEET NO. 1 COVER SHEET
 - SHEET NO. 2 EXISTING SITE CONDITIONS
 - SHEET NO. 3 REMAINING LANDFILL CAPACITY
 - SHEET NO. 4 REMAINING LANDFILL CAPACITY - CROSS SECTIONS (SHEET 1 OF 2)
 - SHEET NO. 5 REMAINING LANDFILL CAPACITY - CROSS SECTIONS (SHEET 2 OF 2)

**THIS PLAN IS A FINAL DESIGN - NOT
RELEASED FOR CONSTRUCTION UNLESS
INITIALED/DATED AS APPROVED:**

APPROVED: _____ INITIALS _____ DATE _____

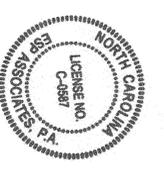
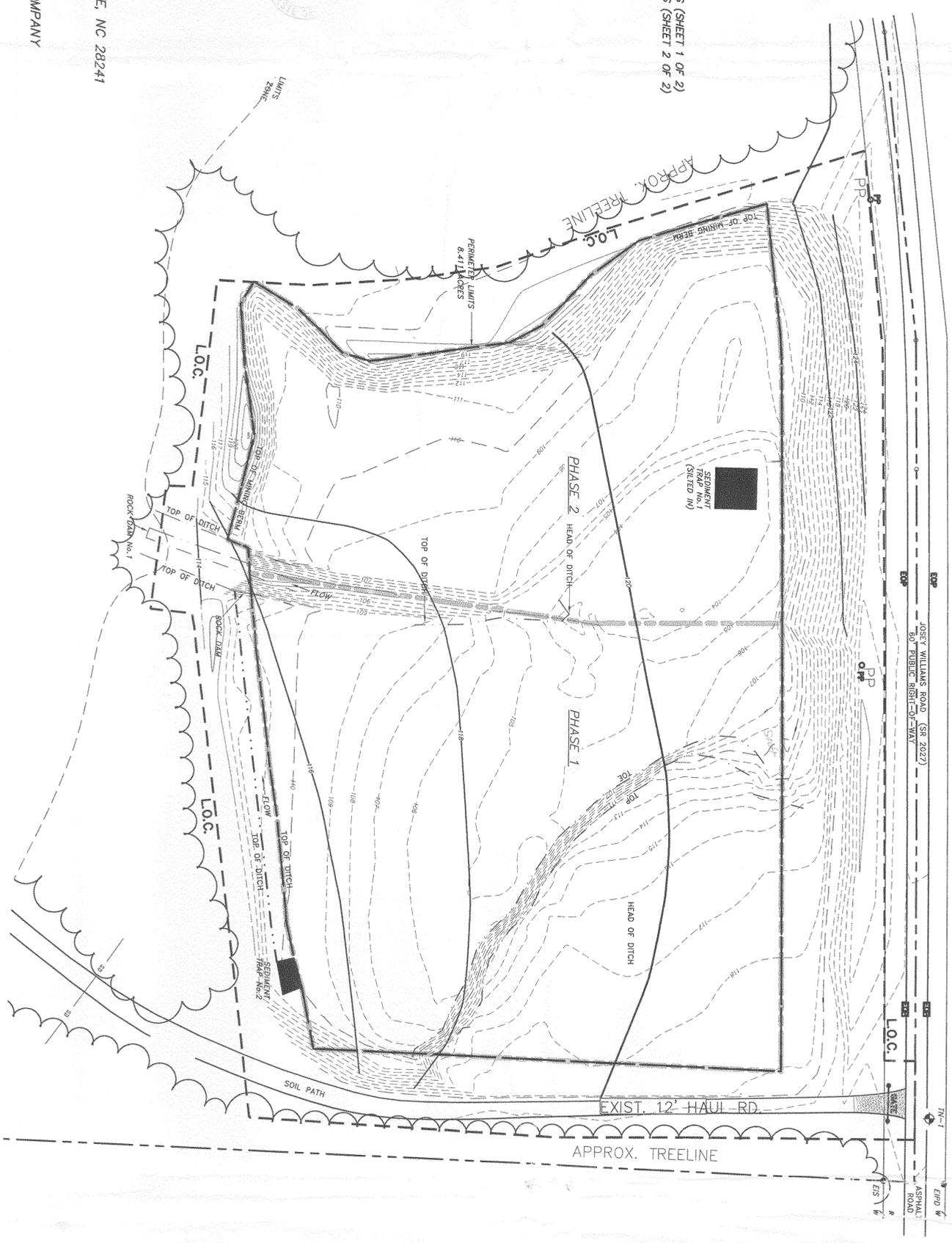
ENGINEERING FIRM:
PLANS PREPARED BY: ESP ASSOCIATES, P.A.
ADDRESS: P.O. BOX 7030 CHARLOTTE, NC 28241
PHONE: (704) 583-4949

DEVELOPER: BARNHILL CONTRACTING COMPANY
ADDRESS: P.O. BOX 35376 FAYETTEVILLE, NC
PHONE: (910) 829-6261

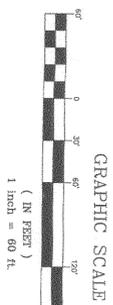


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 803-582-2400 SC
 www.espassoc.com

copy revised 9/12/09



- NOTES:**
1. PERMIT LIMITS ARE DELINEATED AND CONSISTENT WITH THE APPROVED CRAWFORD DESIGN PLANS, APPROVAL DATE 4/17/02.
 2. TOPOGRAPHIC BOUNDARY INFORMATION PROVIDED BY ESP ASSOCIATES.
 3. ONLY "CLEAN" FILL MATERIAL, AS DESIGNATED BY NCDENR REGULATIONS IS ALLOWED IN DESIGNATED AREAS BETWEEN THE EOD BUFFER LINE AND PROPERTY LINES. ADDITIONALLY, ANY EOD BUFFER OR GRAVEY WITHIN 4 FEET OF THE SEASONAL HIGH WATER TABLE SHALL BE FILL TO MAKE UP FOR ANY LACKING FILL IN THIS 4 FT VERTICAL BUFFER.
 4. A SITE INSPECTION SHALL BE CONDUCTED BY A REPRESENTATIVE OF THE NCDENR SOLID WASTE SECTION, CONTACT BRIAN WOOTTEN AT (919)-508-8524 TO COORDINATE.
 5. A SIGN SHALL BE POSTED AT THE ENTRANCE AS REQUIRED BY THE NCDENR SOLID WASTE MANAGEMENT RULES AND OPERATIONAL REQUIREMENTS, SEC 15A NCGC 158 .0566 (16).
 6. SURVEY STAKES/POST SHALL BE INSTALLED TO DELINEATE THE LIMITS OF PHASE 1.
 7. ALL INSTALLED ACCESS CONTROLS FROM PREVIOUSLY APPROVED PLANS ARE TO REMAIN OPERATIONAL.

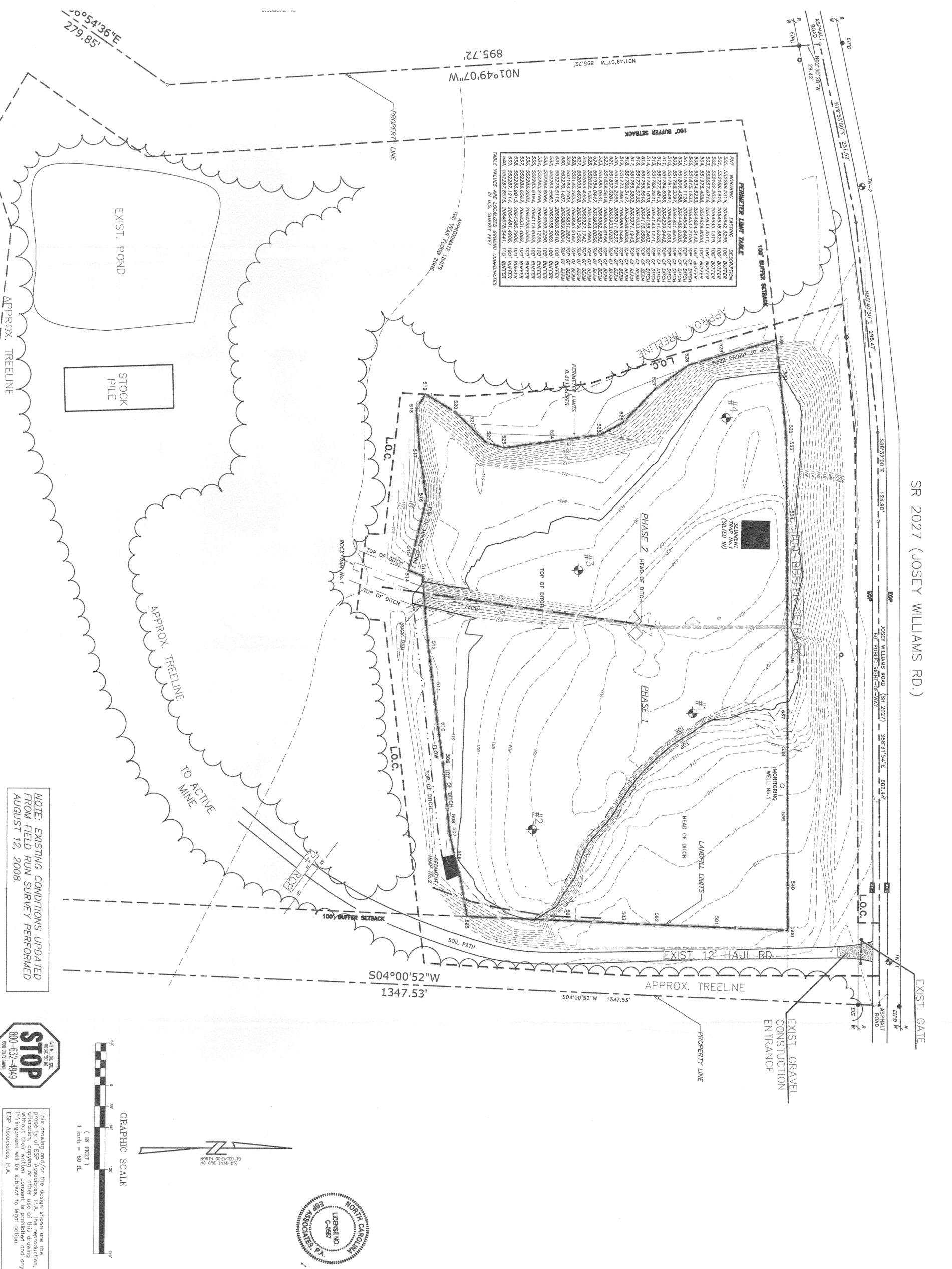


SR 2027 (JOSEY WILLIAMS RD.)

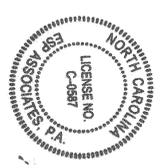
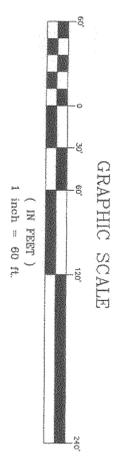
PERMETER LIMIT TABLE

NO.	COORDINATES	DESCRIPTION
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502	552102.2028, 2064635.1319	100' BUFFER
503	551975.4008, 2064459.2501	100' BUFFER
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505	551824.3253, 2064524.5142	100' BUFFER
506	551824.3253, 2064524.5142	100' BUFFER
507	551728.1088, 2064401.1453	100' BUFFER
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539	551728.1088, 2064401.1453	100' BUFFER
540	551728.1088, 2064401.1453	100' BUFFER

TABLE VALUES ARE LOCALIZED GROUND COORDINATES IN U.S. SURVEY FEET



NOTE: EXISTING CONDITIONS UPDATED FROM FIELD RUN SURVEY PERFORMED AUGUST 12, 2008.



PROJECT NO.	NO.	DATE	REVISION	BY
WG13.400	1	4/15/09	ADDRESS DENR COMMENTS	AMM
SCALE:	1"=60'			
DATE:	9/22/08			
DRAWN BY:	EJW			
CHECKED BY:	DWW/JSC			
SHEET NO.	2			

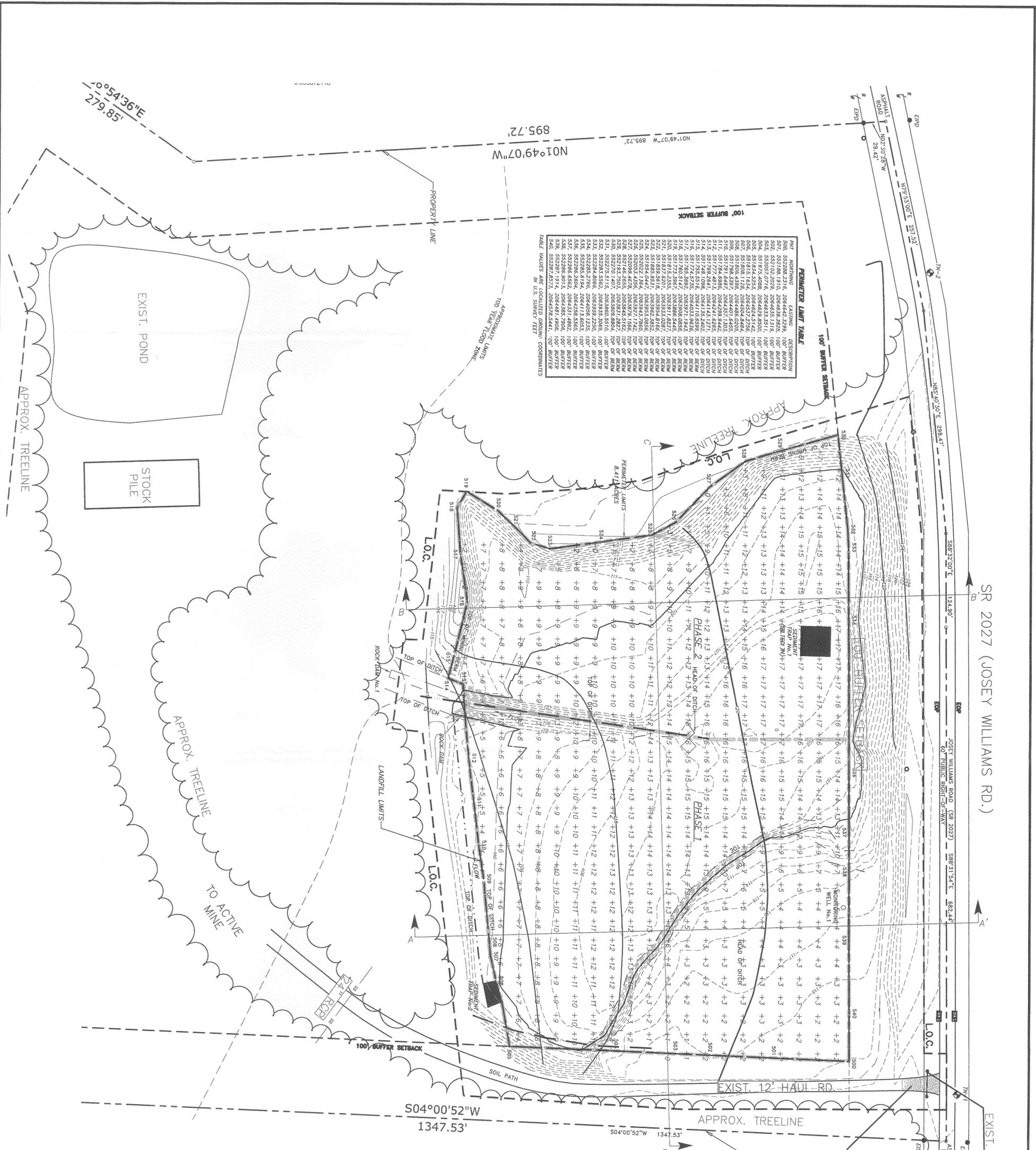
EXISTING SITE CONDITIONS

PROJECT: **LCID LANDFILL PERMIT RENEWAL McARTAN LANDFILL**

SHEET TITLE: **EXISTING SITE CONDITIONS**

CLIENT: **BARNHILL CONTRACTING COMPANY**
 P.O. BOX 35376
 FAYETTEVILLE, NC
 PHONE: (910) 829-6261

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 Fort Mill, SC 29708
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PERIMETER LIMIT TABLE

NO.	NORTHING	EASTING	DESCRIPTION
500	502186.1910	208463.3255	100' BUFFER
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538	502186.1910	208463.3255	100' BUFFER
539	502186.1910	208463.3255	100' BUFFER
540	502186.1910	208463.3255	100' BUFFER

TABLE VALUES ARE LOCALIZED GRIDLINE COORDINATES IN U.S. SURVEY FEET

LAND FILL CAPACITY CALCULATIONS

CLEAN FILL IN BUFFERS	20,000 CY
CLEAN FILL 4 FT ABOVE	25,000 CY
REMAINING AIR SPACE CAPACITY	80,000 CY
TOTAL	125,000 CY

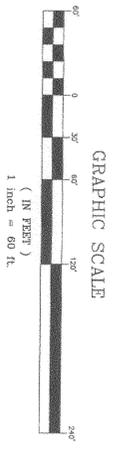
REMAINING AIR SPACE

PHASE 1	52,000 CY
PHASE 2	28,000 CY
TOTAL	80,000 CY=OK

SITE LIFE CALCUL*

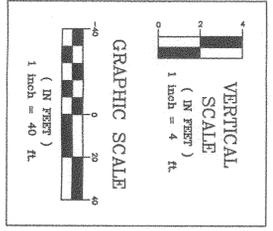
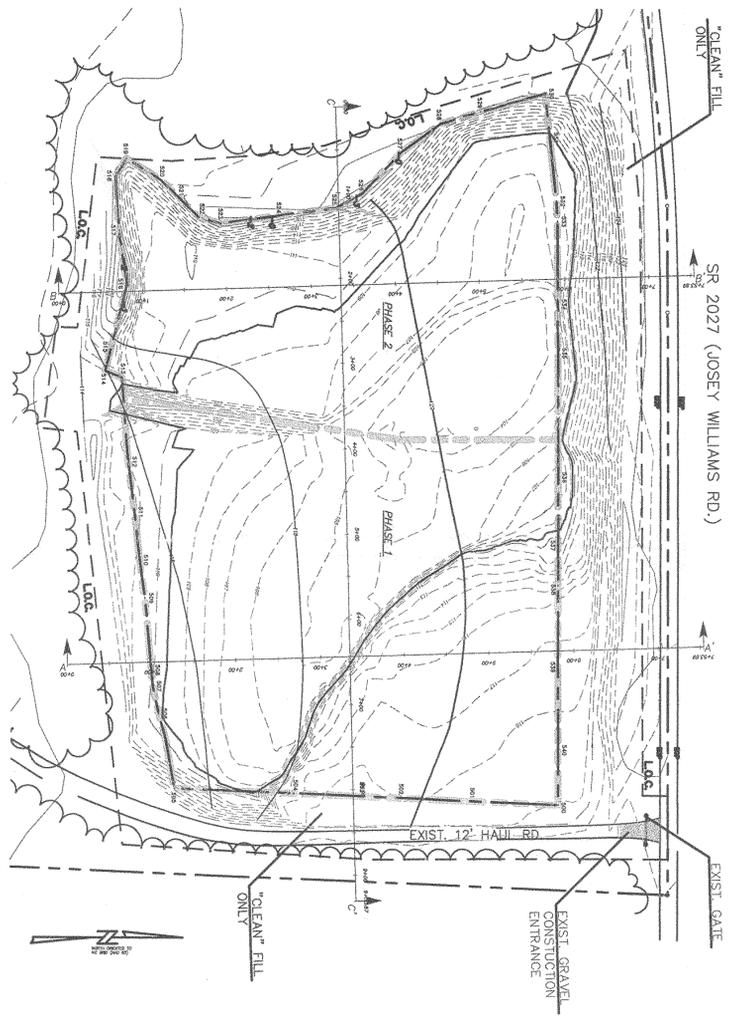
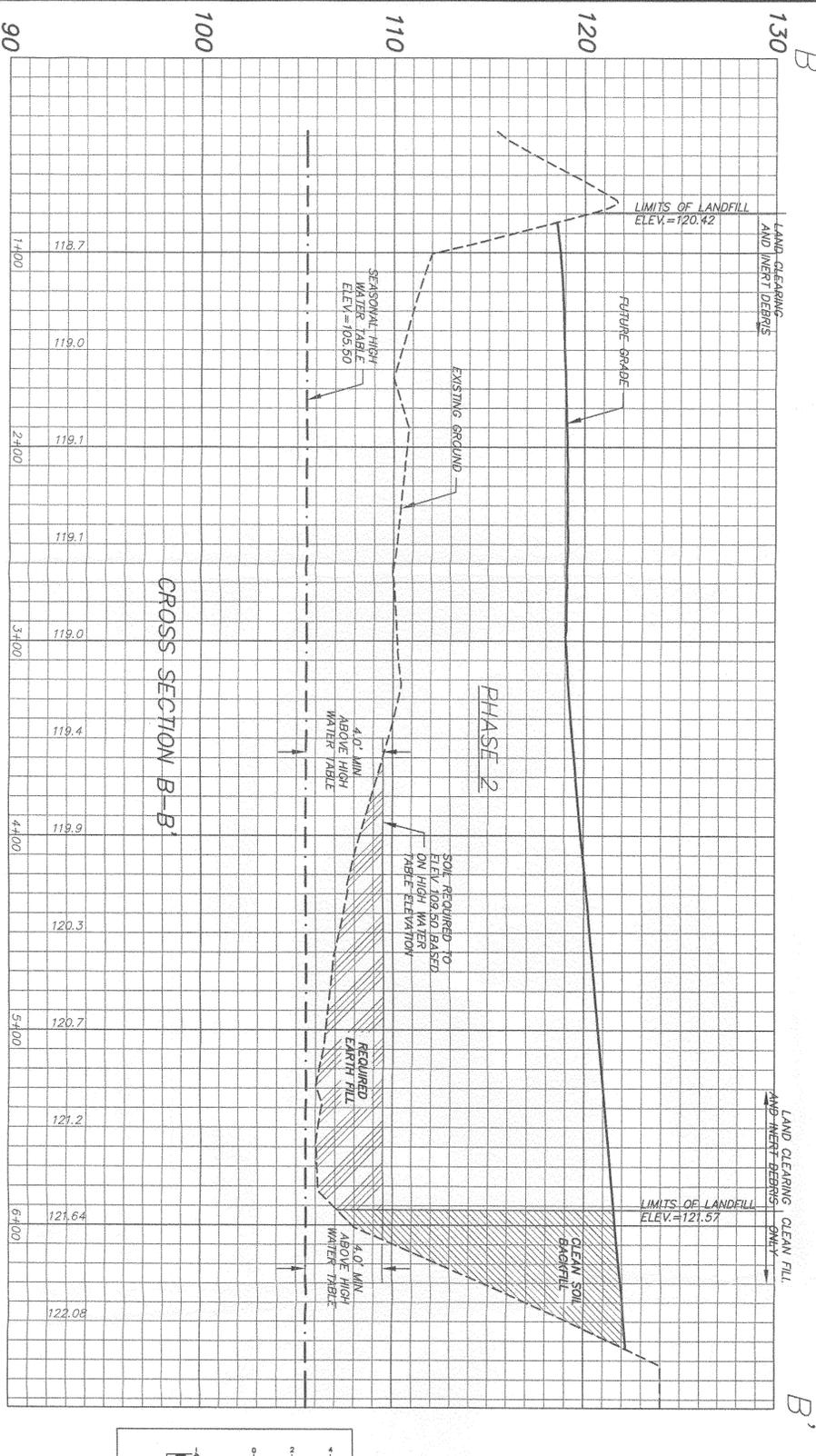
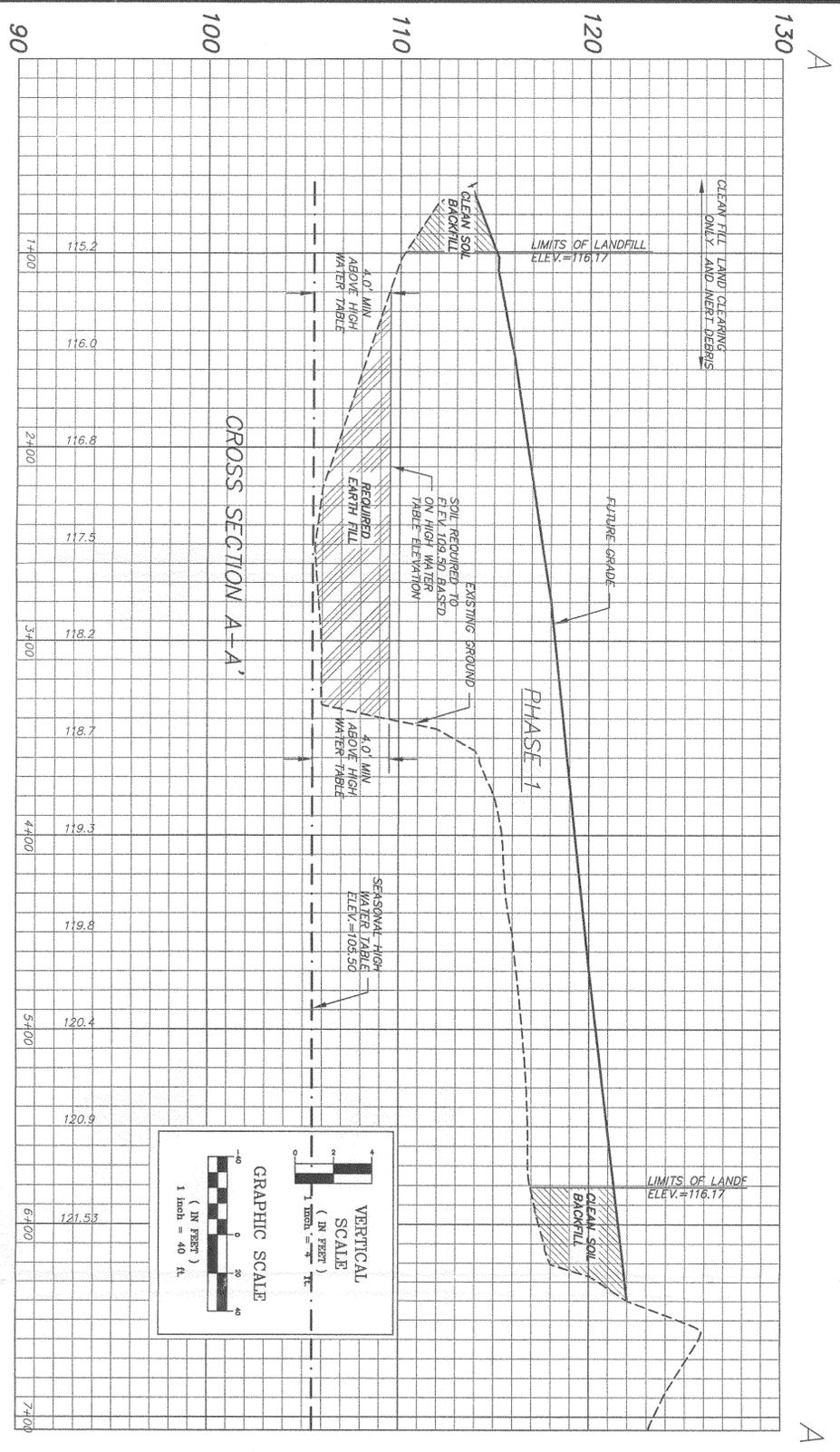
PHASE 1	10.4 YEARS
PHASE 2	5.6 YEARS

*BASED ON 5000CY/YR



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PROJECT NO WG13.400	NO. 1	DATE 4/15/09	REVISION ADDRESS DENR COMMENTS	BY AMM		<p>PROPOSED EXPANSION (REMAINING FILL)</p> <p>LCID LANDFILL PERMIT RENEWAL McARTAN LANDFILL</p> <p>HARNETT COUNTY NORTH CAROLINA</p>	<p>BARNHILL CONTRACTING COMPANY</p> <p>P.O. BOX 35376 FAYETTEVILLE, NC PHONE: (910) 829-6261</p>	<p>ESP Associates, P.A. P.O. Box 7030 Charlotte, NC 28241 3475 Lakemont Blvd. Fort Mill, SC 29708 704.583.4949 (NC) 803.802.2440 (SC) www.espassociates.com</p>
SCALE 1"=60'								
DATE 9/22/08								
DRAWN BY EJW								
CHECKED BY DWW/JSC								
SHEET NO. 3								



LAND FILL CAPACITY CALCULATIONS

CLEAN FILL IN BUFFERS	20,000 CY
CLEAN FILL 4FT ABOVE SEASONAL HIGH WATER MARK	25,000 CY
REMAINING AIR SPACE CAPACITY	80,000 CY
TOTAL	125,000 CY

REMAINING AIR SPACE

PHASE 1	59,000 CY
PHASE 2	26,000 CY
TOTAL	85,000 CY-OK

SITE LIFE CALCS*

PHASE 1	10.4 YEARS
PHASE 2	5.6 YEARS
*BASED ON 5000CY/YR	



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PROJECT NO.	WG13.400
SCALE	VARIABLE
DATE	9/22/08
DRAWN BY	EJW
CHECKED BY	DWW/JSC
SHEET NO.	4

REMAINING LANDFILL CAPACITY CROSS SECTIONS

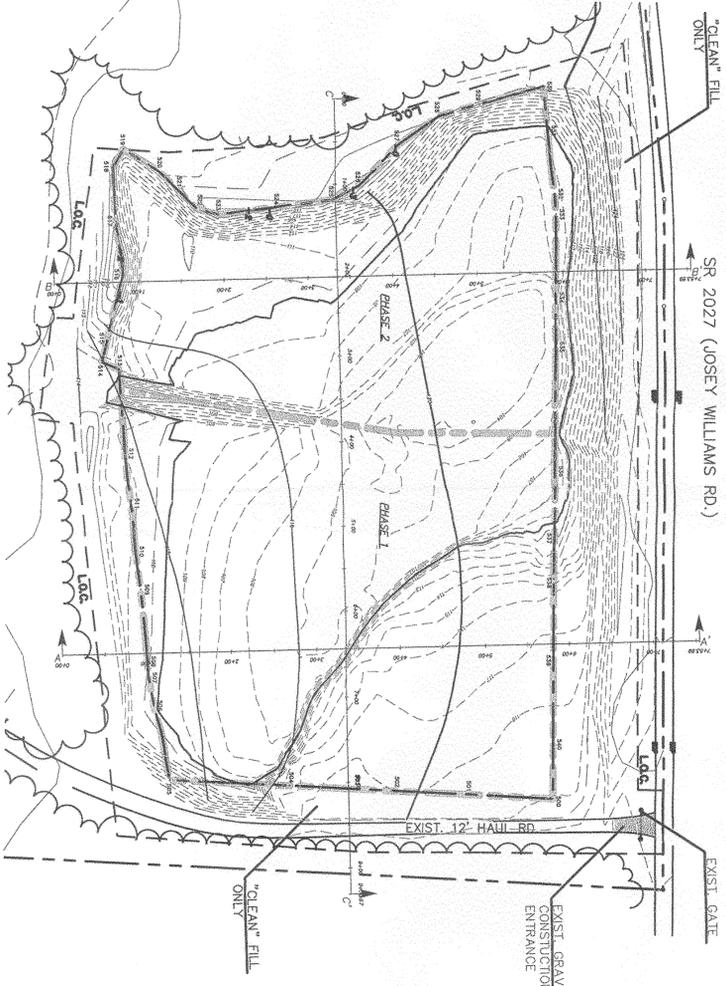
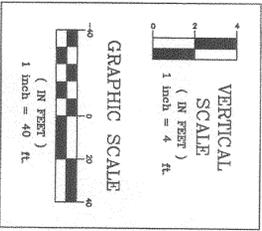
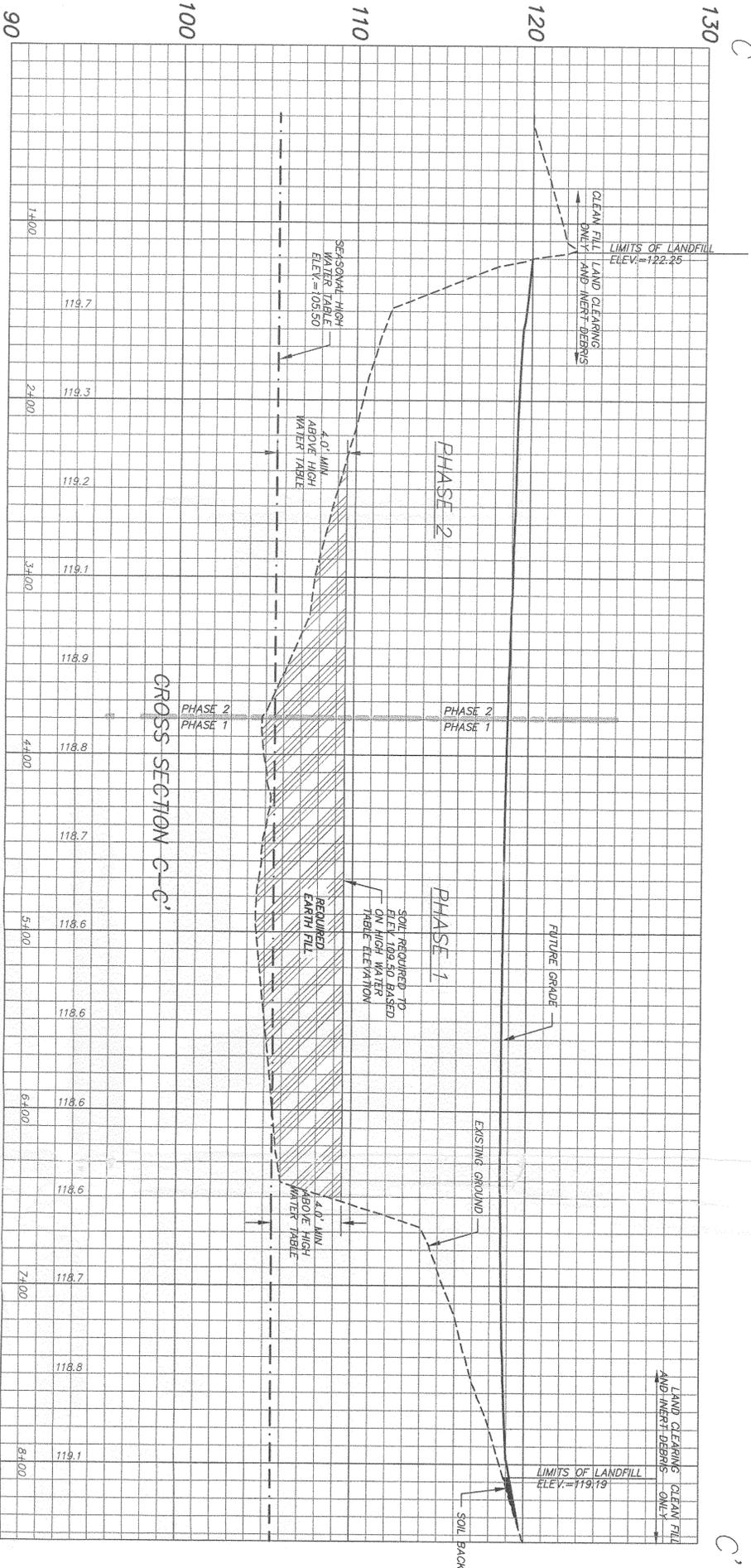
PROJECT: **LCID LANDFILL PERMIT RENEWAL McARTAN LANDFILL**

HARNETT COUNTY NORTH CAROLINA

CLIENT: **BARNHILL CONTRACTING COMPANY**

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LAND FILL CAPACITY CALCULATIONS

CLEAN FILL IN BUFFERS	20,000 CY
CLEAN FILL 4FT ABOVE	25,000 CY
SEASONAL HIGH WATER MARK	80,000 CY
REMAINING AIR SPACE CAPACITY	125,000 CY
TOTAL	250,000 CY
REMAINING AIR SPACE	
PHASE 1	52,000 CY
PHASE 2	28,000 CY
TOTAL	80,000 CY=OK
SITE LIFE CALCUS*	
PHASE 1	10.4 YEARS
PHASE 2	5 YEARS
	*BASED ON 50000CY/YR



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PROJECT NO. WG13.400	NO. 1	DATE 4/15/09	REVISION ADDRESS DENR COMMENTS	BY AMM	SHEET TITLE REMAINING LANDFILL CAPACITY CROSS SECTIONS	CLIENT BARNHILL CONTRACTING COMPANY P.O. BOX 35376 FAYETTEVILLE, NC PHONE: (910) 829-6261
SCALE VARIES					PROJECT LCID LANDFILL PERMIT RENEWAL McARTAN LANDFILL	 ESP ESP Associates, P.A. P.O. Box 7030 Charlotte, NC 28241 3475 Lakemont Blvd. Fort Mill, SC 29708 704.583.4949 (NC) 803.802.2440 (SC) www.espassociates.com
DATE 9/22/08					NORTH CAROLINA LICENSE NO. C-9887 SCOTT J. SUMMERS P.E. ESP ASSOCIATES, P.A.	
DRAWN BY EJW					PROJECT WG13_XSECTIONS XSECT 2	
CHECKED BY DHW/JSC					BARNETT COUNTY NORTH CAROLINA	
SHEET NO. 5						