



January 6, 2011

Mr. Jeff Dellinger  
*Industrial Hygiene Consultant*  
**Health Hazards Control Unit**  
NC DHHS/Division of Public Health  
2<sup>nd</sup> Floor, Room D-1  
5505 Six Forks Road  
Raleigh, North Carolina 27609

Permit No.	Date	Document ID No.
<b>32-01</b>	<b>January 06, 2011</b>	<b>12659</b>

RECEIVED  
**January 06, 2010 via an e-mail**  
Solid Waste Section  
Raleigh Central Office

**RE: Asbestos Work Plan City of Durham Landfill  
Response to Comments**

Dear Jeff:

On behalf of Methane Power, dba MP Durham, LLC, Richardson Smith Gardner and Associates, Inc. (RSG), has prepared this response to comments received on January 3, 2011 (**copy attached**). Each of your comments are repeated in italics below followed by our responses. An updated Asbestos Work Plan is **attached** for your approval.

**Comment No. 1**

*Clarify in the plan that the MP Developer is really MP Durham.*

**Response No. 1**

MP Developer and MP Durham are the same legal entity. For clarification, MP Durham has replaced MP Developer in the updated Asbestos Plan.

**Comment No. 2**

*Under Definitions: Add the word “amosite” to the definition for asbestos.*

**Response No. 2**

The definition for asbestos has been revised to read as follows:

“Asbestos (40 CFR §61.141)

The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, actinolite-tremolite, and amosite.”

**Comment No. 3**

*Under Project Activities: Provide the approximate length, width and depth for the trenching activities.*

**Response No. 3**

The following clarification has been added under Project Activities:

“The landfill gas collection system expansion projects will include drilling of eight (8) landfill gas wells, ranging in depth from approximately 45 to 90 feet. All bores will be approximately 36 inches in diameter. Associated trenching is also planned through the course of this project. The trenching has an approximate width of 3 feet and an approximate depth of 4 feet. The length of the trenching is approximately 8500 feet. Approximate locations for individual wells, as well as approximate trenching locations, are shown in the **Attached** design drawings.”

**Comment No. 4**

*Under Inspection and Excavated Waste: From our conversation, it was our understanding that all waste removed from the drilling activities will be sampled for asbestos content by a NC Accredited asbestos inspector and not just a visual inspection. Please clarify our understanding on this issue.*

**Response No. 4**

All the waste removed from drilling activities will be visually inspected to determine if the waste is suspect to containing asbestos material. All suspect waste will be sampled for asbestos content by a NC Accredited asbestos inspector. If the waste sample tests positive for asbestos then that material will properly be containerized and disposed of at the Sampson County Landfill (see Response to **Comment No. 5** below).

**Comment No. 5**

*Under Disposal: All assumed or confirmed friable and/or regulated asbestos waste leaving the Durham County Landfill will require an asbestos waste shipment record (DHHS-3787) per the NESHAP Regulation. A copy of the DDHS-3787 form(s) must be sent to the HHCUCU. Also, provide the name, address, telephone number and point of contact of the landfill approved to take the asbestos waste.*

## **Response No. 5**

The Disposal Section has been revised to read as follows:

“All friable and all regulated asbestos containing material must be maintained adequately wet, properly contained and disposed of in a manner consistent with 10A NCAC 41C.0600. An asbestos waste shipment record (DHHS-3787) (including in **Appendix A**) per the NESHAP Regulation is required of all assumed or confirmed friable and/or regulated asbestos. A copy of the DHHS-3787 form(s) must be sent to the HHCU. Asbestos containing waste will be transported in manner consistent with 49 CFR 107, 171-173 and disposed of in the facility permitted to accept asbestos listed below.

### Facility to Accept Asbestos Waste:

Sampson County Disposal, LLC  
7434 Roseboro Highway  
Roseboro, North Carolina 28382  
Phone: (910) 525-4132  
Contact: Bryan Wuester”

## **Comment No. 6**

*Clarify the level of OSHA asbestos training the drilling operator, or other associated employees, will have to may disturb asbestos-containing materials.*

## **Response No. 6**

The asbestos work plan is intended to satisfy NESHAP requirements and to provide awareness of other asbestos related regulations. To make the contractor aware of OSHA guidance the following has been added to **Section 2.2**:

“**OSHA Trained Personnel:** The contractor shall be aware of OSHA requirements regarding asbestos containing materials and shall be solely responsible for compliance with these requirements.”

## **Comment No. 7**

*Clarify that a copy of the asbestos operations plan will be maintained on-site until the project has been completed.*

## **Response No. 7**

The following has been added to the introductory paragraph in the Introduction:

“A copy of the asbestos operations plan will be maintained on-site until the project has been completed.”

Mr. Jeff Dellinger  
January 6, 2011  
Page 4 of 4

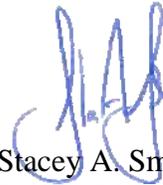
We appreciate your assistance and our ongoing discussions regarding management of these materials on our solid waste projects. Please feel free to contact us at (919) 828-0577 or by email below with any questions or comments.

Cordially,

**Richardson Smith Gardner and Associates, Inc.**



Lindsay Quant, E.I.  
Staff Engineer, x138  
[lindsay@rsgengineers.com](mailto:lindsay@rsgengineers.com)



Stacey A. Smith, P.E.  
Project Manager, x127  
[stacey@rsgengineers.com](mailto:stacey@rsgengineers.com)

SAS/laq

Att.

Cc: Amy Ratliff, P.E., Methane Power  
Ming Chao, P.E., NCDENR  
Simon Lobdell, City of Durham  
File

h:\projects\methane power\mp durham county, llc\durham asbestos work plan\response to comments 1-4-11.doc



RECEIVED JAN 03 2011

**North Carolina Department of Health and Human Services**  
**Division of Public Health • Epidemiology Section**  
**Occupational and Environmental Epidemiology Branch**  
1912 Mail Service Center • Raleigh, North Carolina 27699-1912  
Tel 919-707-5950 • Fax 919-870-4808

Beverly Eaves Perdue, Governor  
Lanier M. Cansler, Secretary

Jeffrey P. Engel, M.D.  
State Health Director

December 20, 2010

Mr. Stacy Smith, P.E.  
RSG Engineering and Associates  
14 N. Boylan Avenue  
Raleigh, NC 27603

Subject: Landfill Gas Collection for City of Durham Landfill  
Durham County

Dear Mr. Smith:

We have reviewed your asbestos operations plan dated December 13, 2010, regarding the Durham County Landfill. The scope of work for this project will be to disturb the existing landfill in order to expand the gas collection system by drilling and trenching. The result of this activity will most likely disturb asbestos-containing materials. After reviewing your asbestos operations plan we have the following comments that will need clarification before completing our review of the plan.

1. Clarify in the plan that the MP Developer is really MP Durham.
2. Under Definitions: Add the word "amosite" to the definition for asbestos.
3. Under Project Activities: Provide the approximate length, width and depth for the trenching activities.
4. Under Inspection and Excavated Waste: From our conversation, it was our understanding that all waste removed from the drilling activities will be sampled for asbestos content by a NC Accredited asbestos inspector and not just a visual inspection. Please clarify our understanding on this issue.
5. Under Disposal: All assumed or confirmed friable and/or regulated asbestos waste leaving the Durham County Landfill will require an asbestos waste shipment record (DHHS-3787) per the NESHAP Regulation. A copy of the DHHS-3787 form(s) must be sent to the HHCU. Also, provide the name, address, telephone number and point of contact of the landfill approved to take the asbestos waste.



**North Carolina Public Health**  
Working for a healthier and safer North Carolina  
Everywhere. Everyday. Everybody.



Location: 5505 Six Forks Road, 2<sup>nd</sup> Floor, Room D-1 • Raleigh, N.C. 27609

Mr. Stacy Smith  
RSG Engineering and Associates  
Durham County Landfill  
December 20, 2010  
Page 2

6. Clarify the level of OSHA asbestos training the drilling operator, or other associated employees, will have to may disturb asbestos-containing materials.
7. Clarify that a copy of the asbestos operations plan will be maintained on-site until the project has been completed.

In closing, we look forward to working with your industry regarding the recycling of landfill gas while at the same time protecting the public health and the environment from potential exposure to asbestos. If you have any questions about our comments free to contact me or Pat Wylie at (919) 707-5950.

Sincerely,



Jeffery W. Bellinger  
Industrial Hygiene Consultant  
Health Hazards Control Unit

cc: Ed Mussler, NC DSWM  
David Lipton, CIH, Interim Manager  
Danny Lineback, IH Supervisor  
Pat Wylie, IH Consultant

**ASBESTOS WORK PLAN  
Asbestos Containing Waste Material Management**

**MP Durham, LLC  
Durham Municipal Solid Waste Landfill Facility  
Landfill Gas Collection and Control System  
Expansion**



Prepared for:  
**MP Durham, LLC**  
**Huntersville, North Carolina**

**Revised – January 2011**



Permit No.	Date	Document ID No.
32-01	January 06, 2011	12659

RECEIVED  
**January 06, 2010 via an e-mail**  
Solid Waste Section  
Raleigh Central Office

**ASBESTOS WORK PLAN**  
**Asbestos Containing Waste Material Management**  
**(North Carolina)**

**TABLE OF CONTENTS**

1.0	INTRODUCTION .....	1
1.1	Applicability .....	1
1.2	Definitions and Abbreviations .....	1
1.3	Regulatory Overview .....	3
1.3.1	Potential Asbestos-Contaminated Waste .....	3
1.3.2	OSHA Regulations.....	3
1.3.3	Identified Asbestos-Contaminated Waste.....	3
1.3.4	Delegated Authority.....	4
1.3.5	Administrative Agency .....	4
1.4	Project Contacts .....	5
2.0	PROJECT ACTIVITIES.....	6
2.1	Notification .....	6
2.2	Personnel.....	7
2.3	Waste Handling Procedures.....	7
2.3.1	Handling of Asbestos-Containing Waste.....	7
2.3.2	Inspection of Excavated Waste.....	8
2.3.3	Disposal.....	9

**List of Figures**

Figure 1	Asbestos Work Plan Flow Chart.....	10
----------	------------------------------------	----

## 1.0 INTRODUCTION

This Asbestos Work Plan (Plan) is prepared on behalf of Methane Power, Inc. dba MP Durham, LLC by Richardson Smith Gardner and Associates (RSG) for the Landfill Gas Collection System (LFGCS) expansion at the closed City of Durham Landfill (Solid Waste Permit No. 32-01) located in Durham, North Carolina. This plan addresses procedures to identify and manage potential asbestos-containing material during well drilling, trenching, or other activities at the facility. This project includes drilling and installation of eight (8) landfill gas wells, ranging in depth from approximately 45 to 90 feet. Approximately 7,200 feet of trenching is planned for installation of new LFG header lines, and connection of new wells to existing or new headers with new lateral piping. Design locations for wells and trenches are shown in the **Attached** design drawings. This project is tentatively scheduled between December 2010 and February 2011. A copy of the asbestos operations plan will be maintained on-site until the project has been completed.

### 1.1 Applicability

This Plan is required due to the fact that the landfill reportedly accepted asbestos waste at some point during its operating lifetime. Accurate asbestos-containing material (ACM) disposal records were not available at the time of writing, neither are adequate records available to demonstrate that no asbestos waste is located in the project area. Therefore, this plan shall be implemented during the project, and followed as a precaution in case asbestos waste is disturbed.

This document is intended to provide direction for the Contractor involved in excavation and drilling activities in areas with known or suspected asbestos-contaminated waste, or where asbestos-contaminated waste is discovered. This document is meant to assist in compliance with Federal, State, and Local regulations. This document is not intended to take the place of any regulations or the Contractor's responsibility of his employees, subcontractors, or agents. It is critical that the Contractor realize the context of the subject matter by being familiar with the current regulations.

### 1.2 Definitions and Abbreviations

As used herein, the following terms are defined:

Adequately Wet (40 CFR §61.141)

To sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

Asbestos (40 CFR §61.141)

The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, actinolite-tremolite, and amosite.

Asbestos Waste Disposal Area

Approved area for the disposal of asbestos waste at a solid waste facility.

Friable Asbestos-Containing Material (ACM)

Any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. (Sec. 61.141). Friable ACM readily releases asbestos fibers into the air when damaged or disturbed.

NESHAP

National Emission Standards for Hazardous Air Pollutants

Non-friable (US EPA, Region 4 - *Asbestos Enforcement Bulletin, June 2003*)

AMC which cannot be crumbled, pulverized or reduced to powder by hand pressure, Nonfriable ACM would NOT readily release fibers into the air unless the material was severely damaged.

OSHA

Occupational Safety and Health Administration

Regulated Asbestos-Containing Material (RACM) (US EPA, Region 4 - *Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance*)

(a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Trained Asbestos Supervisor (TAS)

A person who, **at a minimum**, has completed a five (5) day asbestos abatement contractor/supervisor training course as outlined in the EPA's Asbestos Model

Accreditation Plan (40 CFR §763, Subpart E, App. C (B)(2)). Full accreditation is not required for this position.

#### Accredited Asbestos Inspector (AAI)

A person who, **at a minimum**, is a NC Accredited Asbestos Inspector as outlined in the EPA's Asbestos Model Accreditation Plan (40 CFR §763, Subpart E, App. C (B)(3)). Full accreditation **is required** for this position.

### **1.3 Regulatory Overview**

#### *1.3.1 Potential Asbestos-Contaminated Waste*

The following regulation requiring notification shall be followed before digging/drilling begins on a project with **potential** for asbestos-contaminated waste:

<u>Regulation</u>	<u>Citation</u>
NESHAP	40 CFR §61.151 (d) and 40 CFR §61.154 (j)

These requirements are listed in **Section 2.4**.

#### *1.3.2 OSHA Regulations*

If asbestos-contaminated waste is found, the following OSHA regulations shall be followed by the contractor.

- OSHA 29 CFR 1926.1101 and
- OSHA 29 CFR 1910.1001

#### *1.3.3 Identified Asbestos-Contaminated Waste*

The following regulations, **at a minimum**, should be followed **if** asbestos-contaminated waste is identified. Asbestos-contaminated waste identified should be treated as if it were new asbestos waste entering a landfill and procedures for handling, transporting, and disposal in an asbestos waste disposal area should be followed, as required by the following rules:

<u>Regulation</u>	<u>Citation</u>
NESHAP	40 CFR §61
OSHA	29 CFR 1926.1101
OSHA	29 CFR 1910.1001
NC General Statutes	NC GS §130A, Article 19

NC Solid Waste Rules      15A NCAC 13B .0505 11(d)  
NC Solid Waste Rules      15A NCAC 13B .1626 1(d)

#### *1.3.4 Delegated Authority*

The Health Hazards Control Unit, NC DHHS Division of Public Health has been delegated authority by the US Environmental Protection Agency to enforce the NESHAP regulations in all NC counties except the following counties. The following county agencies should be notified before digging/drilling begins on a project with **potential** for asbestos-contaminated waste:

#### **Buncombe County**

Western North Carolina Regional Air Pollution Control Agency  
49 Mt. Carmel Road  
Asheville, NC 28806  
Mr. David Brigman, Director  
Telephone: 828-250-6777

#### **Forsyth County**

Environmental Affairs Department  
537 N. Spruce Street  
Winston-Salem, NC 27101-1262  
Mr. Robert R. Fulp, Director  
Telephone: 336-703-2440

#### **Mecklenburg County**

Mecklenburg County Land Use and Environmental Services Agency  
Mecklenburg Air Quality  
Mr. Chuck Greco  
Air Quality Supervisor  
700 N. Tryon Street  
Charlotte, NC 28202  
Telephone: 704-336-5430

#### *1.3.5 Administrative Agency*

The following state agency should be notified, in accordance with 40 CFR §61.151 (d) and 40 CFR §61.154 (j), before digging/drilling begins on a project with **potential** for asbestos-contaminated waste:

Health Hazards Control Unit  
NC DHHS/Division of Public Health

2nd Floor, Room D-1  
5505 Six Forks Road  
Raleigh, NC 27609-3806  
Mr. Jeffery W. Dellinger, Industrial Hygiene Consultant  
Telephone: 919-707-5950  
Fax: 919-870-4808

## 1.4 Project Contacts

This project is performed by Methane Power, dba MP Durham, LLC. The City of Durham owns and maintains the landfill in post-closure care. Involved parties include:

### Owner:

City of Durham Landfill  
c/o Department of Water Management  
1600 Mist Lake Drive  
Durham, North Carolina 27704  
Contact: Simon Lobdell, P.E., C.E. III, City of Durham  
Phone: (919) 560-4381x35201  
Email: [Simon.lobdell@durhamnc.gov](mailto:Simon.lobdell@durhamnc.gov)

### Developer:

Methane Power, dba MP Durham, LLC  
4224 Lazyriver Drive, Durham, NC 27712  
Contact: Ms. Amy Ratliff, P.E.  
Phone: (919) 294-4770  
Email: [amy@methanepower.net](mailto:amy@methanepower.net)

### Engineer:

Richardson Smith Gardner & Associates, Inc.  
14 N. Boylan Avenue, Raleigh, NC 27603  
Contact: Mr. Stacey A. Smith, P.E.  
Phone: (919) 828-0577, ext. 127  
Email: [stacey@rsgengineers.com](mailto:stacey@rsgengineers.com)

### General Contractor:

Chandler Construction Services, Inc.  
1511 Ninety Six Highway, Ninety Six, SC 29666  
Contact: Mr. Ted Thompson  
Phone: (864) 227-3221  
Email: [tthompson@chandlerconstruction.com](mailto:tthompson@chandlerconstruction.com)

## 2.0 PROJECT ACTIVITIES

The landfill gas collection system expansion projects will include drilling of eight (8) landfill gas wells, ranging in depth from approximately 45 to 90 feet. All bores will be approximately 36 inches in diameter. Associated trenching is also planned through the course of this project. The trenching has an approximate width of 3 feet and an approximate depth of 4 feet. The length of the trenching is approximately 8500 feet. Approximate locations for individual wells, as well as approximate trenching locations, are shown in the **Attached** design drawings.

Reportedly, according to site personnel, the normal asbestos-handling procedure during operations of the landfill was to bury asbestos in virgin ground, in accordance with 15A NCAC 13B .0505 11(d). Based on this information, encountering asbestos waste is unlikely except in excavations in residual soil around the perimeter of the facility, or in the lower 10% of the total depth of LFG wells. No excavations are planned in the residual soils around the perimeter of the facility; however, the eight (8) planned landfill gas (LFG) extraction wells will be advanced to the soils beneath the waste in the landfill, and may encounter potential asbestos-containing waste (friable or non-friable). No unnecessary waste disturbance will be planned and the steps below shall be followed during the project.

### 2.1 Notification

In accordance with **40 CFR §61** of the NESHAP regulations, the following shall be followed:

- The NESHAP Administrator shall be notified of the **potential** of uncovering asbestos-contaminated waste *in writing at least 45 days prior to excavating or otherwise disturbing any asbestos containing material that has been deposited at a waste disposal site and is covered.*

**At a minimum**, this notification shall include the following:

1. Scheduled starting and completion date.
2. Reason for disturbing the waste.
3. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated potential asbestos-containing material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.
4. Location of any temporary storage site and the final disposal site.
5. Site Plan

## 2.2 Personnel

**Trained Asbestos Supervisor:** It is required to have at least one (1) trained asbestos supervisor (TAS) in the immediate vicinity of the waste excavation to oversee the work area setup and maintenance.

**Accredited Asbestos Inspector:** An accredited asbestos inspector (AAI) is required if excavated waste and other materials are to be visually inspected to determine the presence of potential asbestos-containing waste.

**OSHA Trained Personnel:** The contractor shall be aware of OSHA requirements regarding asbestos containing materials and shall be solely responsible for compliance with these requirements.

## 2.3 Waste Handling Procedures

Below is a description of the different methods used to handle potentially asbestos-containing waste. The first method assumes all excavated material is asbestos-containing waste, and the second method handles excavated material as potential asbestos-containing waste, to be confirmed by an AAI. **Figure 1** is a decision chart for the set-up, inspection and disposal process for this project.

### 2.3.1 *Handling of Asbestos-Containing Waste*

If all excavated waste is to be treated as asbestos-containing waste, any excavated waste shall be placed in the covered containers as it is brought out of the bore hole or trench. The potential asbestos-containing waste shall be kept adequately wet in the container by the Contractor spraying the waste with water such that no particles become airborne. The container shall remain closed when active filling is not underway. It is the responsibility of the TAS to look for airborne dust from the excavated waste to ensure that the waste is adequately wet at all times.

The TAS shall setup the work area such that the operator, his/her employees, and the public are protected while disturbing asbestos containing waste throughout the process until disposal of all asbestos waste has been completed, as follows:

- The work area shall include adequate fencing and signage to delineate the disturbance area. This fencing shall be orange safety fencing with signage stating “Potential Asbestos Containing Material Disturbance Area-- Authorized Personnel Only.” The fencing shall enclose enough area to adequately allow for project activities.

- A gravel access roadway crosses the landfill, and is used by the public to access yard waste disposal areas. Public exposure to potential asbestos-containing waste could occur along this roadway, therefore, care should be taken to minimize exposure to potential asbestos containing material at this location.
- The TAS is responsible for determining the locations of any covered containers, inside the fencing, that may be used to hold waste from potential asbestos containing materials. These containers should also have signage stating “Potential Asbestos Containing Material--Authorized Personnel Only.”
- All waste from friable and all suspected asbestos materials must be maintained adequately wet by the contractor, properly contained, tested, transported, and disposed of as described in **Section 2.3.2** and **Section 2.3.3**.

### *2.3.2 Inspection of Excavated Waste*

If there is potential for ACM in the excavated waste and an AAI will be inspecting each load to determine if the waste is suspect, the following procedure shall be followed. As waste is excavated from the well or trench, it will be placed adjacent to the excavation location. An AAI shall observe the waste for signs of asbestos containing material. If the excavated waste does not appear to be contaminated by asbestos, the waste will transported to the City of Durham transfer facility. If potential asbestos-containing waste is identified, all suspected waste will be placed in containers and tested for asbestos. If the waste does not contain asbestos, it will be transported to the City of Durham transfer station. If the waste contains asbestos, it will be disposal will be as described in Section 2.3.3 of this document.

If asbestos contaminated waste is identified or suspected by the AAI, the Site Manager shall be informed immediately and the waste shall be placed in a covered container or another TAS approved area, adjacent to the excavation location.

All excavated waste (suspect or not) shall be kept adequately wet by spraying water as needed from an onsite tank until covered.

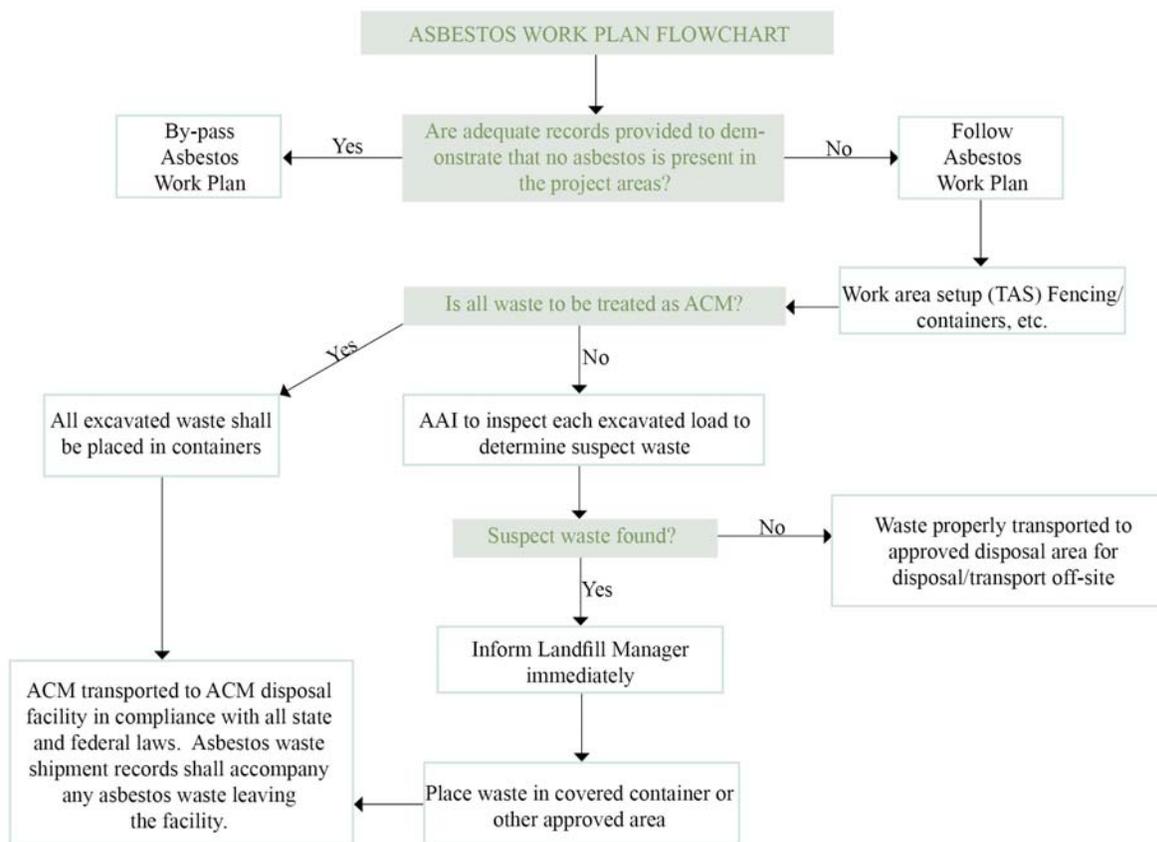
### 2.3.3 Disposal

All friable and all regulated asbestos containing material must be maintained adequately wet, properly contained and disposed of in a manner consistent with 10A NCAC 41C.0600. An asbestos waste shipment record (DHHS-3787) (included in **Appendix A**) per the NESHAP Regulation is required of all assumed or confirmed friable and/or regulated asbestos. A copy of the DHHS-3787 form(s) must be sent to the HHCU. Asbestos containing waste will be transported in manner consistent with 49 CFR 107, 171-173 and disposed of in the facility permitted to accept asbestos listed below.

#### Facility to Accept Asbestos Waste:

Sampson County Disposal, LLC  
7434 Roseboro Highway  
Roseboro, North Carolina 28382  
Phone: (910) 525-4132  
Contact: Bryan Wuester

**Figure 1: Asbestos Work Plan Flow Chart**



\* All excavated waste (suspect or not) shall be kept adequately wet throughout this entire process.

# **APPENDIX A**

## NORTH CAROLINA ASBESTOS WASTE SHIPMENT RECORD

1. Waste Generator/Owner Name and Address:	Work Site Name and Physical Address:	Waste Generator/Owner Phone Number:  (        ) _____
2. Contractor Name and Address:		Contractor Phone Number:  (        ) _____
3. Waste Disposal Site (WDS) Name, Mailing Address:	WDS Physical Site Location:  NC Landfill Permit #:	WDS Phone Number:  (        ) _____
4. Name of Responsible Agency:  <input type="checkbox"/> Forsyth Co. Environmental Affairs Dept.                      Permit #: _____                      NESHAP (ACTS) ID #: _____ <input type="checkbox"/> Mecklenburg Co. Dept. of Environmental Protection <input type="checkbox"/> NC DHHS - Health Hazards Control Unit                      Start Date: _____                      Complete Date: _____ <input type="checkbox"/> WNC Regional Air Pollution Control Agency		
5. Description of materials:		
6. Containers Number: _____ Vehicle: _____ Type: _____	<b>RQ, ASBESTOS, CLASS 9 NA 2212, III</b>	7. Total Quantity (yd <sup>3</sup> )m <sup>3</sup> :
8. Special Handling Instructions and Additional information:		
<b>EMERGENCY CONTACT: DIVISION OF EMERGENCY MANAGEMENT AT 1-800-858-0368</b>		
9. CONTRACTOR=S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.  Printed/Typed Name & Title: _____ Signature: _____ Date (MM/DD/YY): _____		
10. Transporter 1 (Acknowledgment of Receipt of Materials):  Printed/Typed Name & Title: _____ Address: _____ Phone Number: _____ Signature: _____ Date (MM/DD/YY): _____		
11. Transporter 2 (Acknowledgment of Receipt of Materials):  Printed/Typed Name & Title: _____ Address: _____ Phone Number: _____ Signature: _____ Date (MM/DD/YY): _____		
12. Discrepancy Indication Space:		
13. Waste Disposal Site:                      Owner or Operator Certification of Receipt of Asbestos Materials Covered by this Manifest, Except as Noted in Item #12.  Printed/Typed Name & Title: _____ Total Weight (Tons): _____ Signature: _____ Date (MM/DD/YY): _____		

**INSTRUCTIONS**  
**DHHS 3787 - Revised 8/99**

**PURPOSE:** This form serves as an Asbestos Waste Shipment Record (WSR) to be completed whenever disposing of permissible asbestos containing materials in an approved disposal site. This form is required to be completed by the Waste Generator/Owner and Contractor under 15 NCAC 2D .0525 (40 CFR, Part 61, Subpart M). A copy of this form shall be retained by the Waste Generator/Owner, the Contractor, the Transporter, and the Waste Disposal Site for permanent records of disposal of permissible asbestos containing materials as required by 40 CFR part 61, Subpart M, Section 61.150(d)(1). One copy of this form shall be provided to the Health Hazards Control Unit at the address below pursuant to 10A NCAC 41C .0605(j).

**PREPARATION:** All pertinent information regarding the Waste Generator/Owner, the Contractor, the Transporter and the Waste Disposal Site (WDS) should be completed and retained as indicated above.

**WASTE GENERATOR/OWNER SECTION (ITEMS 1-9)**

1. Enter the name of the facility at which the asbestos waste is generated and the physical address of the facility. In the appropriate spaces, enter the name of the facility owner, mailing address and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the contractor.
3. Enter the name, mailing address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, enter the NC Landfill Permit # of the WDS and phone number of the WDS. Enter On-site if the waste will be disposed of on the generator's property.

All regulated asbestos materials must go to an approved landfill as per the Solid Waste Management Division regulations and amendments.

4. Indicate the name of responsible agency by placing an X in the corresponding [ ]. Based upon the responsible agency's requirements, complete the start date and the complete date for the asbestos removal project. Also enter the permit number and/or NESHAP (ACTS) ID number as applicable.
5. Indicate the types of asbestos waste materials generated by entering: F for friable asbestos material and/or NF for nonfriable asbestos material, followed by a detailed description of the type of asbestos waste materials, i.e. sprayed-on/troweled-on material, ceiling tile, floor tile, pipe insulation, boiler insulation, etc.
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Enter one of the following codes for the containers used in transporting each type of asbestos material (specify any other type of container used if not listed below). Enter one of the following codes for the type of vehicle used to transport the asbestos materials (specify any other type of vehicle if not listed below).

<u>Containers</u>	<u>Vehicles</u>
DM - Metal drums, barrels	OD - Open Dumpster
DP - Plastic drums, barrels	CD - Closed Dumpster
BA - 6 mil Plastic bags or wrapping	DT - Dump Truck
	TT - Tractor Trailer
7. Enter the quantities of each type (F and/or NF) of asbestos material removed in units of cubic yards (cubic meters).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternative waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.
9. The authorized agent of the contractor must read and then sign and date this certification. The date should be the date of receipt by the transporter.

**TRANSPORTER SECTION (ITEMS 10 & 11)**

- 10 & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this Waste Shipment Record for transport. Enter Signature and date of receipt. Add additional pages if necessary.

**DISPOSAL SITE SECTION (ITEMS 12 & 13)**

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on the manifest and waste actually received, as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in Item 12. The WDS agency should complete the Total Weight (in tons) of the amount of asbestos-containing waste received. The date should be the date of signature and receipts of shipment.

**NOTE:** The WDS must send a completed copy of the WSR to the contractor and waste generator/owner listed in Item 2 within 30 days after receipt of the waste per 40 CFR Part 61, Subpart M, Section 61.154(e)(2).

**REORDER:** Additional forms may be ordered from:

NC Department of Health and Human Services Health Hazards Control Unit Occupational & Environmental Epidemiology Branch 1912 Mail Service Center Raleigh, NC 27699-1912	Phone: 919/733-0820 FAX: 919/733-8493
---	---------------------------------------

## **ATTACHMENTS**

# DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY DURHAM COUNTY, NORTH CAROLINA

# LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION

DECEMBER 2010

REVISION	
NO.	
DATE	



**CH<sup>4</sup>POWER**  
smart energy  
MP DEVELOPER, LLC

IN ASSOCIATION WITH:



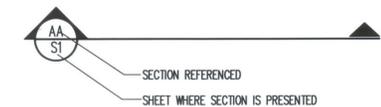
1511 NINETY SIX HIGHWAY  
NINETY SIX, SOUTH CAROLINA  
29666



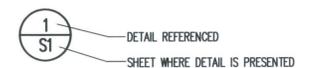
SITE LOCATION MAP  
NOT TO SCALE

SHEET NO.	DRAWING NO.	DRAWING TITLE	REVISION
1	-	TITLE - COVER SHEET	
2	S1	EXISTING CONDITIONS	
3	S3	PROPOSED MODIFICATIONS TO EXISTING LANDFILL GAS COLLECTION SYSTEM	
4	D1	EXISTING DETAILS (SHEET 1 OF 2)	
5	D2	EXISTING DETAILS (SHEET 2 OF 2)	
6	D3	LANDFILL GCCS DETAILS (SHEET 1 OF 3)	
7	D4	LANDFILL GCCS DETAILS (SHEET 2 OF 3)	
8	D5	LANDFILL GCCS DETAILS (SHEET 3 OF 3)	

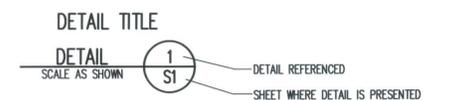
STANDARD SECTION LOCATION CALLOUT (SHEET AND DETAIL)



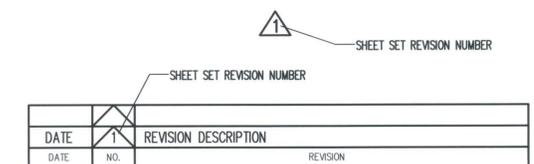
STANDARD DETAIL CALLOUT



STANDARD DETAIL LABEL AND CALLOUT



STANDARD REVISION CALLOUT (SHEET AND DETAIL)



**PERMIT ISSUE**  
NOT FOR CONSTRUCTION

**RICHARDSON SMITH GARDNER  
& ASSOCIATES**

14 N. Boylan Ave. Raleigh, N.C. 27603      ph: 919-828-0577      fax: 919-828-3899

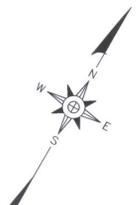
NC LIC. NO. C-0828 (Engineering)      www.rsgengineers.com



**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

**PERMIT ISSUE**  
**NOT FOR CONSTRUCTION**



- LEGEND**
- 150' EXISTING 10' CONTOUR (SEE REFERENCE 1)
  - EXISTING 2' CONTOUR
  - APPROXIMATE PROPERTY LINE (SEE REFERENCE 4)
  - APPROXIMATE LIMITS OF WASTE (SEE REFERENCE 3)
  - APPROXIMATE LIMITS OF CAP (SEE REFERENCE 3)
  - EW-6 EXISTING LFG EXTRACTION WELL (SEE REFERENCE 3)
  - MW-2 EXISTING MONITORING WELL (SEE REFERENCE 5)
  - PZ/NES EXISTING PIEZOMETER (SEE REFERENCE 5)
  - SW EXISTING SURFACE WATER MONITORING POINT (SEE REFERENCE 5)
  - FLOOD ZONE AE (1% ANNUAL CHANCE FLOOD) (SEE REFERENCE 6)
  - FLOOD ZONE X (0.2% ANNUAL CHANCE FLOOD) (SEE REFERENCE 6)
  - POTENTIAL WETLANDS (SEE REFERENCE 7)

**NOTES**  
1.

- REFERENCES**
1. SITE BASE TOPOGRAPHY PROVIDED DURHAM COUNTY GIS DEPARTMENT. ALL DATA BASED ON AERIAL PHOTOGRAPHY FLOWN MARCH 1994.
  2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE NAD 83, NAD 29 VERTICAL DATUM.
  3. WELL LOCATIONS, LANDFILL GAS PIPE LOCATIONS, LIMITS OF CAP, AND LIMITS OF WASTE FROM DRAWING "PHASE II GAS EXTRACTION PLAN", SHEET 3 OF 10 FROM THE DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY CLOSURE PLANS, DATED JUNE 1998, PREPARED BY MALCOLM PIRNIE, INC.
  4. PROPERTY INFORMATION PROVIDED BY DURHAM COUNTY GIS DEPARTMENT. THE PROPERTY LINE SHOWN REPRESENTS THE BOUNDARY OF A GROUP OF INDIVIDUAL PARCELS OWNED BY THE CITY OF DURHAM.
  5. MONITORING WELL, PIEZOMETER, AND SURFACE WATER POINTS FROM DRAWING "GROUNDWATER POTENTIOMETRIC MAP MAY 20, 2010", FIGURE 3 IN THE MAY 2010 SEMI-ANNUAL GROUNDWATER AND SURFACE WATER MONITORING REPORT, PREPARED BY S&ME.
  6. FLOOD INFORMATION FROM NORTH CAROLINA FLOOD INSURANCE RATE MAPS (FIRM) MAP NUMBERS 3720084200J & 3720084300J, EFFECTIVE DATE MAY 2, 2006.
  7. POTENTIAL WETLANDS AREAS FROM U.S. NATIONAL WETLANDS INVENTORY (NW) GIS DATA.



**RICHARDSON SMITH GARDNER & ASSOCIATES**  
www.rsgengineers.com  
14 N. Boylan Ave., Raleigh, N.C. 27603  
ph: 919-928-0577  
fax: 919-928-9899



**DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

**EXISTING CONDITIONS**

DESIGNED BY:	S.A.S.	DRAWN BY:	C.T.J.
CHECKED BY:	[Signature]	PROJECT NO.:	MPD-10-1
SCALE:	AS SHOWN	DATE:	DEC. 2010
FILE NAME:	MPD-00001		
SHEET NO.:	2	DRAWING NO.:	S1

G:\CAD\MPD\Durham County\MPD-10-1\urhema\MPD-00001.dwg - 12/7/2010 11:04 AM

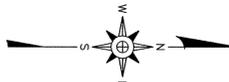
- REFERENCES**
1. SITE BASE TOPOGRAPHY PROVIDED DURHAM COUNTY GIS DEPARTMENT. ALL DATA BASED ON AERIAL PHOTOGRAPHY FLOWN MARCH 1994.
  2. COORDINATE SYSTEM IS NORTH CAROLINA STATE PLANE NAD 83, NVD 29 VERTICAL DATUM.
  3. WELL LOCATIONS, LANDFILL GAS PIPE LOCATIONS, AND LIMITS OF WASTE FROM DRAWING "PHASE II GAS EXTRACTION PLAN", SHEET 3 OF 10 FROM THE DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY CLOSURE PLANS, DATED JUNE 1998, PREPARED BY MALCOLM PIRNIE, INC.
  4. PROPERTY INFORMATION PROVIDED BY DURHAM COUNTY GIS DEPARTMENT. THE PROPERTY LINE SHOWN REPRESENTS THE BOUNDARY OF A GROUP OF INDIVIDUAL PARCELS OWNED BY THE CITY OF DURHAM.
  5. MONITORING WELL, PIEZOMETER, AND SURFACE WATER POINTS FROM DRAWING "GROUNDWATER POTENTIOMETRIC MAP MAY 20, 2010", FIGURE 3 IN THE MAY 2010 SEM-ANNUAL GROUNDWATER AND SURFACE WATER MONITORING REPORT, PREPARED BY SSMC.

**PIPING NOTE:**  
ALL GAS PIPING IS SHOWN FOR GENERAL ARRANGEMENT. FIELD ADJUSTMENTS SHALL BE CONDUCTED AS DIRECTED BY THE ENGINEER TO MAINTAIN MINIMUM 3% PIPE SLOPE AND TO PROMOTE CONDENSATE DRAINAGE TO SYSTEM LOW POINTS.

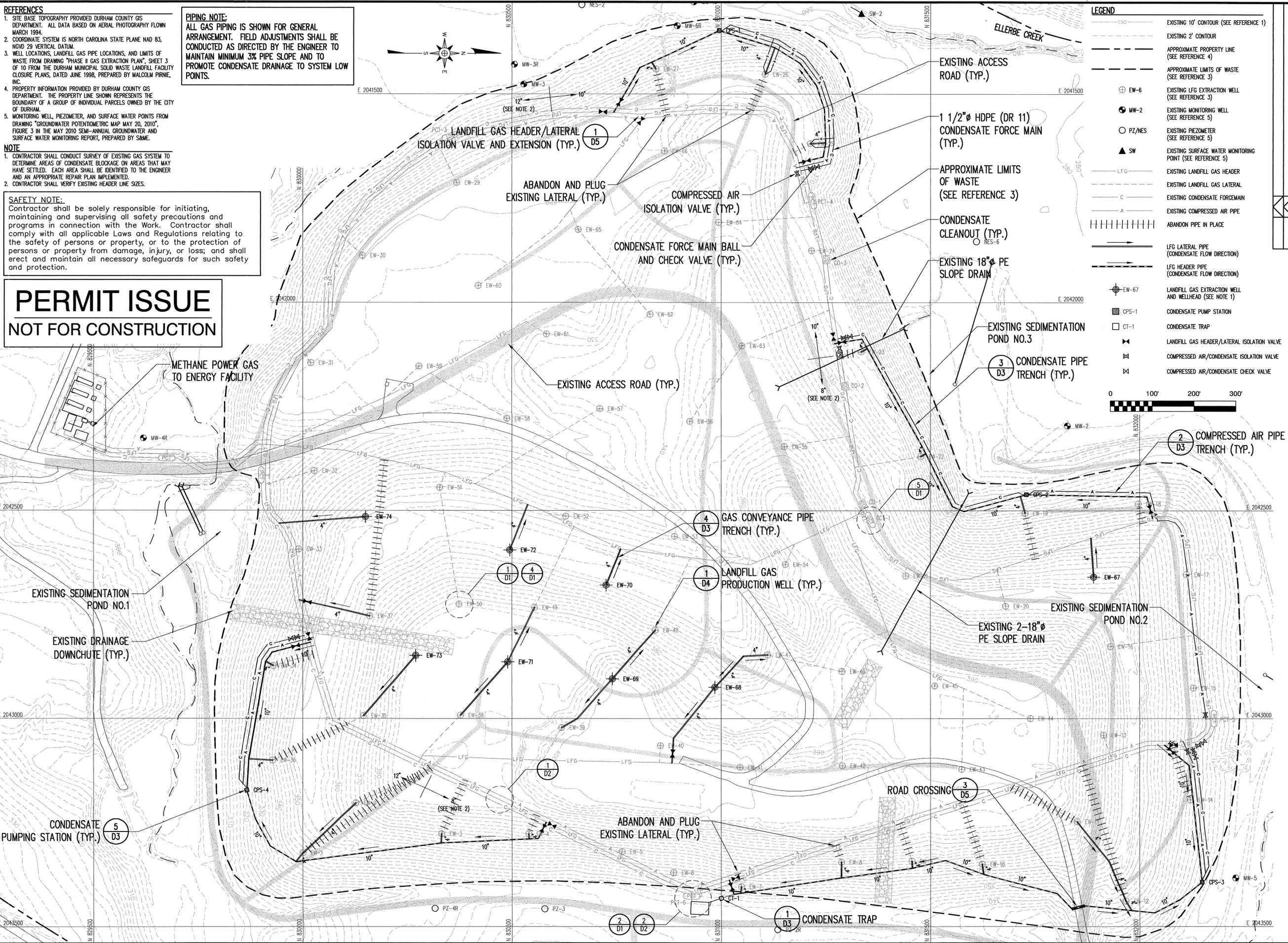
- NOTE**
1. CONTRACTOR SHALL CONDUCT SURVEY OF EXISTING GAS SYSTEM TO DETERMINE AREAS OF CONDENSATE BLOCKAGE ON AREAS THAT MAY HAVE SETTLED. EACH AREA SHALL BE IDENTIFIED TO THE ENGINEER AND AN APPROPRIATE REPAIR PLAN IMPLEMENTED.
  2. CONTRACTOR SHALL VERIFY EXISTING HEADER LINE SIZES.

**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

**PERMIT ISSUE  
NOT FOR CONSTRUCTION**



- LEGEND**
- 150' EXISTING 10' CONTOUR (SEE REFERENCE 1)
  - EXISTING 2' CONTOUR
  - - - - - APPROXIMATE PROPERTY LINE (SEE REFERENCE 4)
  - - - - - APPROXIMATE LIMITS OF WASTE (SEE REFERENCE 3)
  - ⊕ EW-6 EXISTING LFG EXTRACTION WELL (SEE REFERENCE 3)
  - ⊕ MW-2 EXISTING MONITORING WELL (SEE REFERENCE 5)
  - PZ/MES EXISTING PIEZOMETER (SEE REFERENCE 5)
  - ▲ SW EXISTING SURFACE WATER MONITORING POINT (SEE REFERENCE 5)
  - LFG EXISTING LANDFILL GAS HEADER
  - C EXISTING LANDFILL GAS LATERAL
  - A EXISTING CONDENSATE FORCE MAIN
  - ||||| ABANDON PIPE IN PLACE
  - LFG LATERAL PIPE (CONDENSATE FLOW DIRECTION)
  - LFG HEADER PIPE (CONDENSATE FLOW DIRECTION)
  - ⊕ EW-67 LANDFILL GAS EXTRACTION WELL AND WELLHEAD (SEE NOTE 1)
  - CPS-1 CONDENSATE PUMP STATION
  - CT-1 CONDENSATE TRAP
  - ⊕ LANDFILL GAS HEADER/LATERAL ISOLATION VALVE
  - ⊕ COMPRESSED AIR/CONDENSATE ISOLATION VALVE
  - ⊕ COMPRESSED AIR/CONDENSATE CHECK VALVE



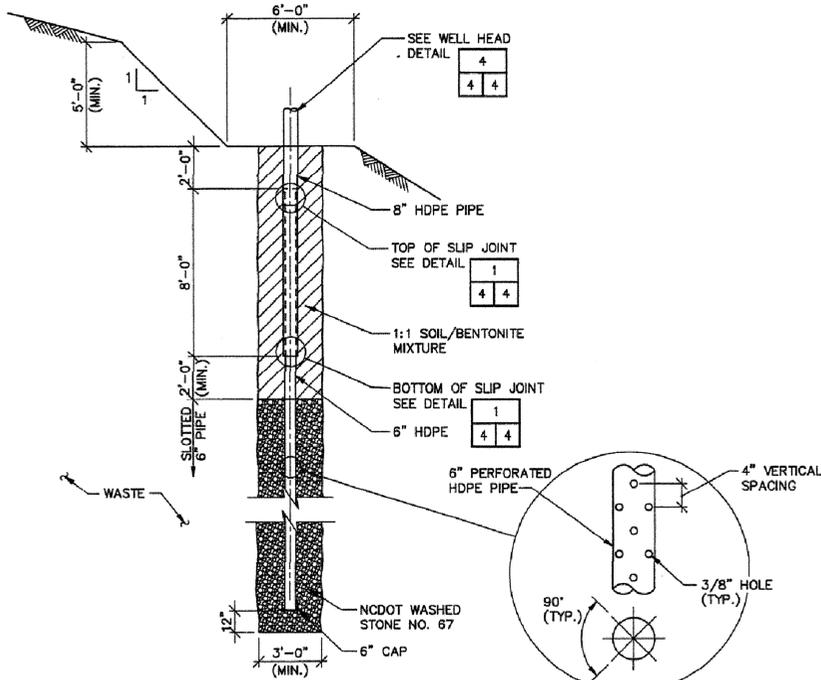
**RICHARDSON SMITH GARDNER & ASSOCIATES**  
14 N. Boylan Ave.  
Raleigh, N.C. 27603  
PH: 919-928-0577  
FAX: 919-928-5899  
www.rsgengineers.com



PROJECT TITLE:  
**DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

DRAWING TITLE:  
**PROPOSED MODIFICATIONS TO EXISTING LANDFILL GAS COLLECTION SYSTEM**

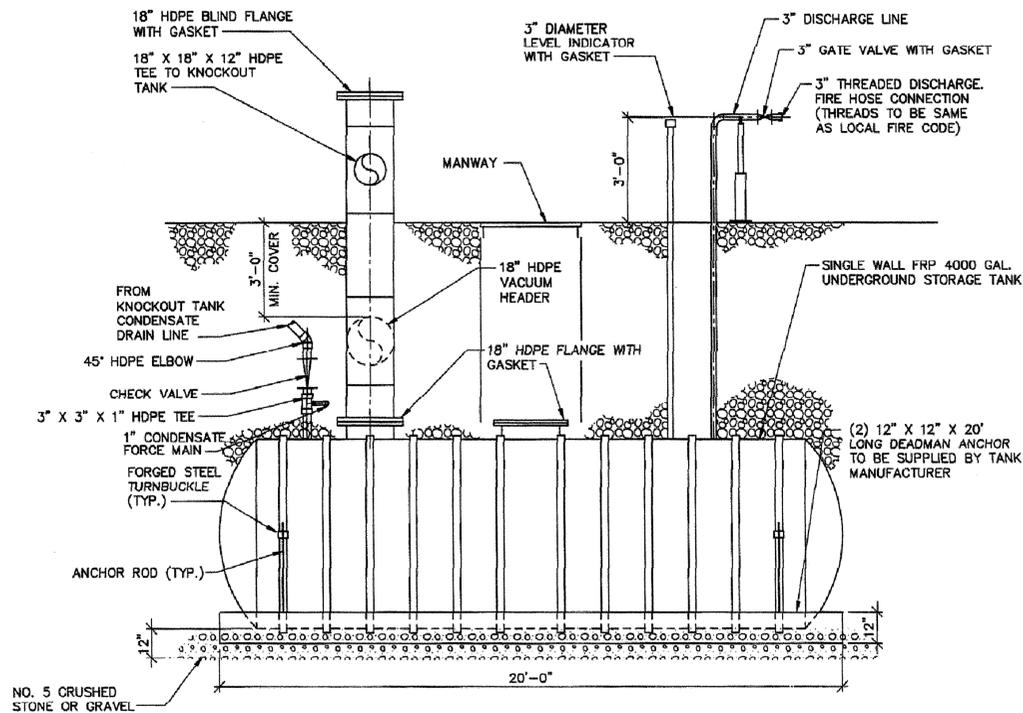
DESIGNED BY: S.A.S.	DRAWN BY: C.T.J.
CHECKED BY: [Signature]	PROJECT NO.: MPD 10-1
SCALE: AS SHOWN	DATE: DEC. 2010
FILE NAME: MPD-00007	DRAWING NO.: S3
SHEET NO.: 3	



- NOTES:
1. WELL DEPTHS ARE APPROXIMATE AND SHALL BE ADJUSTED UPON INSTALLATION AS NECESSARY.
  2. 1:1 SOIL/BENTONITE MIXTURE SHALL EXTEND AT LEAST 1/2 OF THE WELL DEPTH FROM THE SURFACE OR UNTIL THE DEPTH OF GROUNDWATER IS DISCOVERED, WHICHEVER IS FIRST.

**GAS EXTRACTION WELL**

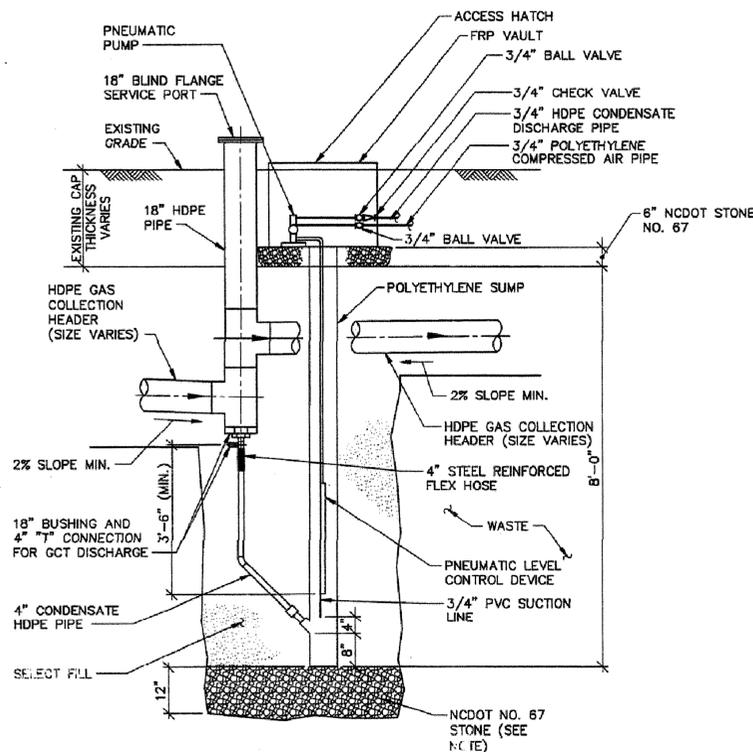
DETAIL 1  
NOT TO SCALE  
(SEE NOTE 1)



NOTE: \* DIMENSIONS DENOTE TANK BALLAST TO BE DETERMINED BY TANK MANUFACTURER.

**CONDENSATE TANK**

DETAIL 2  
NOT TO SCALE  
(SEE NOTE 2)

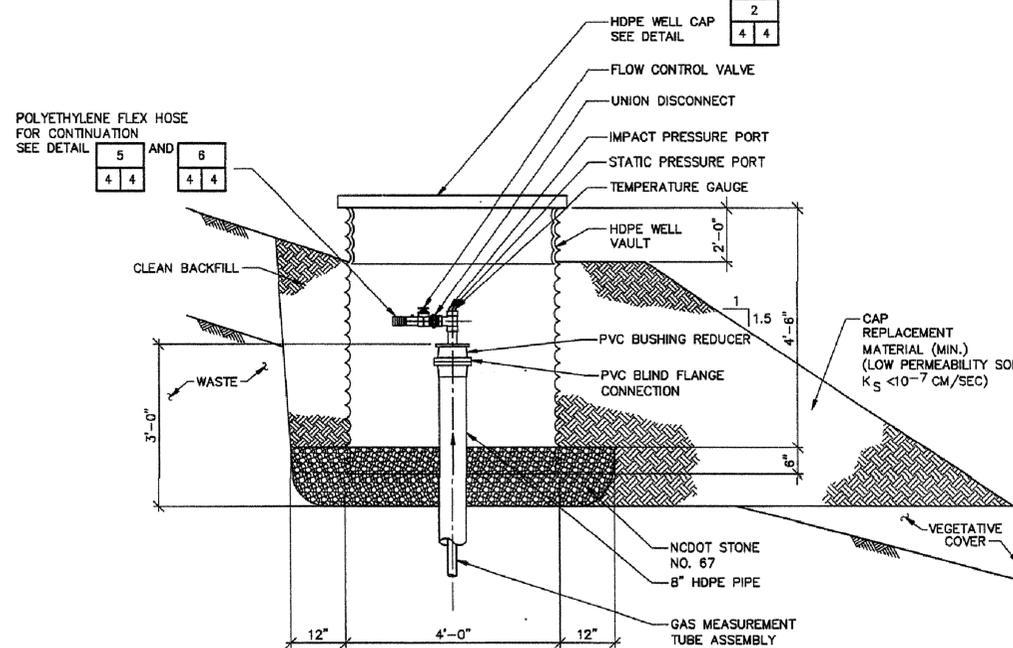


**ELEVATION**

NOTE: CONCRETE BALLAST REQUIRED WHERE CONDENSATE TRAP BREACHES WATER TABLE. METHOD FOR ATTACHMENT OF CONDENSATE TRAP TO CONCRETE BALLAST SHALL BE PER MANUFACTURER RECOMMENDATIONS.

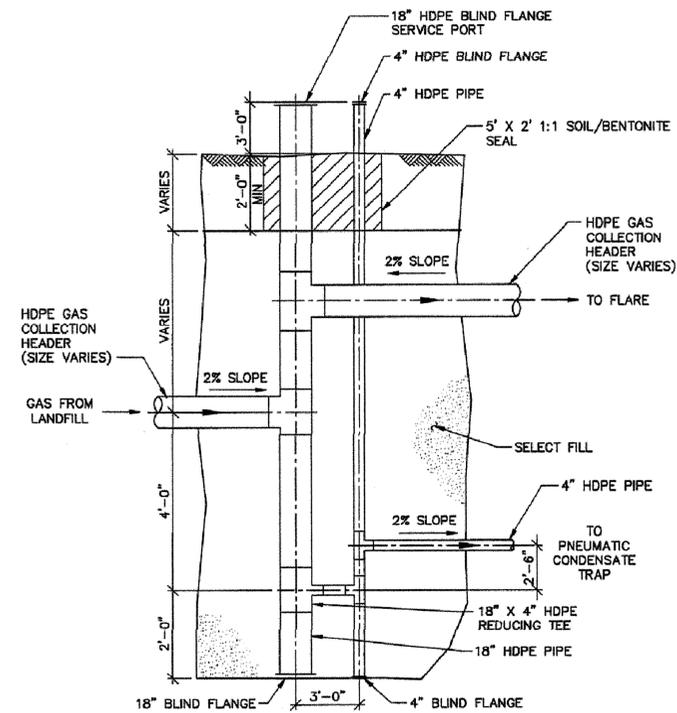
**PNEUMATIC CONDENSATE TRAP**

DETAIL 3  
NOT TO SCALE  
(SEE NOTE 1)



**WELL HEAD AND WELL VAULT**

DETAIL 4  
NOT TO SCALE  
(SEE NOTE 1)



- NOTES:
1. CONTRACTOR TO FILL TRAP WITH WATER PRIOR TO SYSTEM TESTING.
  2. ALL ABOVE GROUND PIPE SHALL BE LABELED AND PAINTED WITH FLUORESCENT PAINT.

**GRAVITY CONDENSATE TRAP**

DETAIL 5  
NOT TO SCALE  
(SEE NOTE 1)

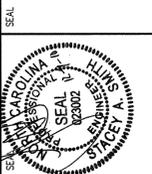
**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

**PERMIT ISSUE**  
**NOT FOR CONSTRUCTION**

**NOTES**

1. EXISTING DETAILS 1, 3-5 FROM DRAWING "GAS MANAGEMENT DETAILS", SHEET 4 OF 6 IN THE DURHAM MUNICIPAL SOLID WASTE FACILITY LANDFILL FACILITY CLOSURE DRAWINGS DATED SEPTEMBER 1996, PREPARED BY MALCOLM PIRNIE, INC., CHARLOTTE, NC.
2. EXISTING DETAIL 2 FROM DRAWING "FLARE PAD PARTIAL PLAN AND DETAILS", SHEET 3 OF 6 IN THE DURHAM MUNICIPAL SOLID WASTE FACILITY LANDFILL FACILITY CLOSURE DRAWINGS DATED SEPTEMBER 1996, PREPARED BY MALCOLM PIRNIE, INC., CHARLOTTE, NC.

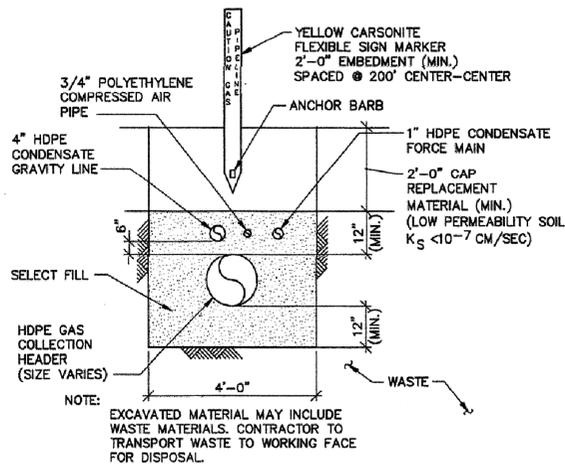
**RICHARDSON SMITH GARDNER & ASSOCIATES**  
14 N. Boylan Ave.  
Raleigh, N.C. 27603  
www.rsgengineers.com  
ph: 919-828-0577  
fax: 919-828-3869



**DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

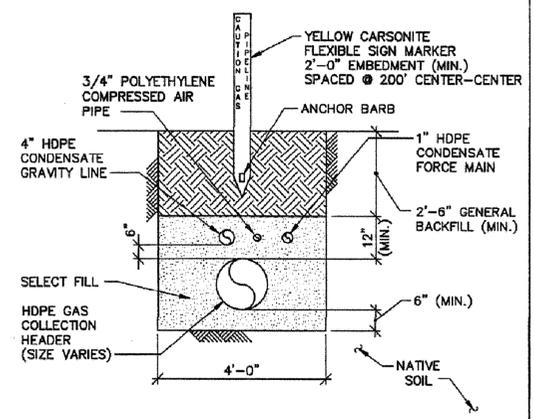
**EXISTING DETAILS (SHEET 1 OF 2)**

DESIGNED BY: S.A.S.	DRAWN BY: C.T.J.
CHECKED BY: L.S.	PROJECT NO.: MPD 10-1
SCALE: AS SHOWN	DATE: DEC. 2010
FILE NAME: MPD-D0002	DRAWING NO.:
SHEET NO.:	D1



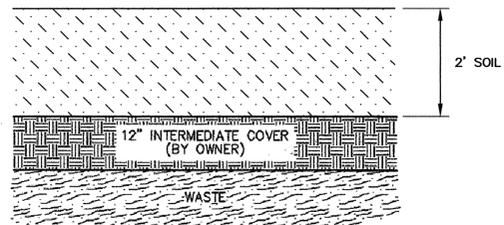
TYPICAL TRENCH INSIDE LANDFILL EXCAVATION LIMITS

DETAIL 1  
NOT TO SCALE  
(SEE NOTE 1)



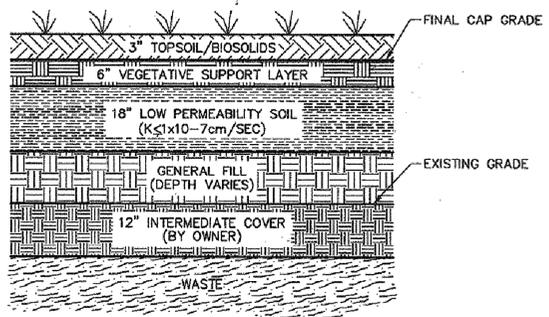
TYPICAL TRENCH OUTSIDE LANDFILL EXCAVATION LIMITS

DETAIL 2  
NOT TO SCALE  
(SEE NOTE 1)



TYPICAL CAP SYSTEM - TYPE 1

DETAIL 3  
NOT TO SCALE  
(SEE NOTE 2)



TYPICAL CAP SYSTEM - TYPE 2

DETAIL 4  
NOT TO SCALE  
(SEE NOTE 2)

- NOTES:
- FINAL GRADES SHOWN ON SITE PLAN, SHEET 2, ARE TO THE FINAL CAP GRADE SHOWN ON THIS DETAIL.
  - TOP SOIL/BIOSOLIDS SHALL ONLY BE ADDED TO TOP DECK OF LANDFILL WHERE SLOPES ARE 18% OR LESS. TOPSOIL NOT REQUIRED UNDER DRAINAGE STRUCTURES OR ROADS.
  - THE COVERAGE OF TOPSOIL/BIOSOLIDS MIX WILL BE GOVERNED BY AVAILABILITY OF BIOSOLIDS BY OWNER. THE TOPSOIL/BIOSOLIDS MIX SHALL BE 10:1 ON A VOLUMETRIC BASIS.
  - CONTRACTOR SHALL FINEGRADE EXISTING INTERMEDIATE COVER TO REGULAR SURFACE AND MAKE TWO PASSES WITH COMPACTION EQUIPMENT PRIOR TO PLACING GENERAL FILL OR CAP.

**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

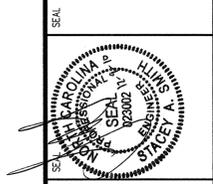
**PERMIT ISSUE**  
**NOT FOR CONSTRUCTION**

- NOTES**
- EXISTING DETAILS 1 & 2 FROM DRAWING "GAS MANAGEMENT DETAILS", SHEET 4 OF 6 IN THE DURHAM MUNICIPAL SOLID WASTE FACILITY LANDFILL FACILITY CLOSURE DRAWINGS DATED SEPTEMBER 1996, PREPARED BY MALCOLM PIRNIE, INC., CHARLOTTE, NC.
  - EXISTING DETAIL 4 FROM DRAWING "STORMWATER AND CAP SYSTEM DETAILS", SHEET 7 OF 10 IN THE DURHAM MUNICIPAL SOLID WASTE FACILITY LANDFILL FACILITY CLOSURE DRAWINGS DATED JUNE 1998, PREPARED BY MALCOLM PIRNIE, INC., CHARLOTTE, NC.

REVISION

NO.	DATE

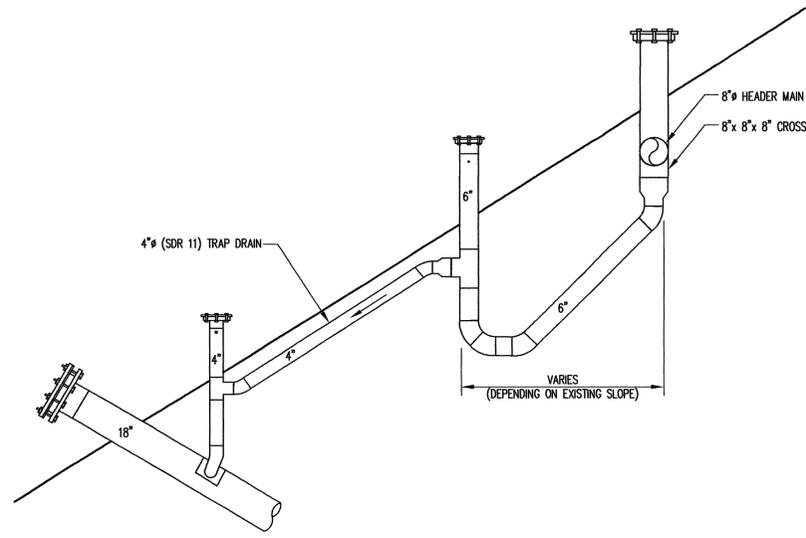
**RICHARDSON SMITH GARDNER & ASSOCIATES**  
www.rsgengineers.com  
14 N. Boylan Ave.  
Raleigh, N.C. 27603  
ph: 919-828-0777  
fax: 919-828-3899



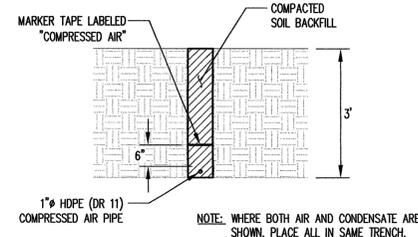
PROJECT TITLE:  
**DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

EXISTING DETAILS  
(SHEET 2 OF 2)

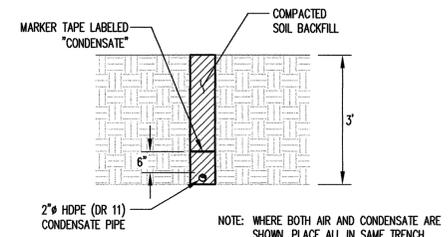
DESIGNED BY: S.A.S.	DRAWN BY: C.T.J.
CHECKED BY: <i>[Signature]</i>	PROJECT NO.: MPD 10-1
SCALE: AS SHOWN	DATE: DEC. 2010
FILE NAME: MPD-00009	
SHEET NO. <b>5</b>	DRAWING NO. <b>D2</b>



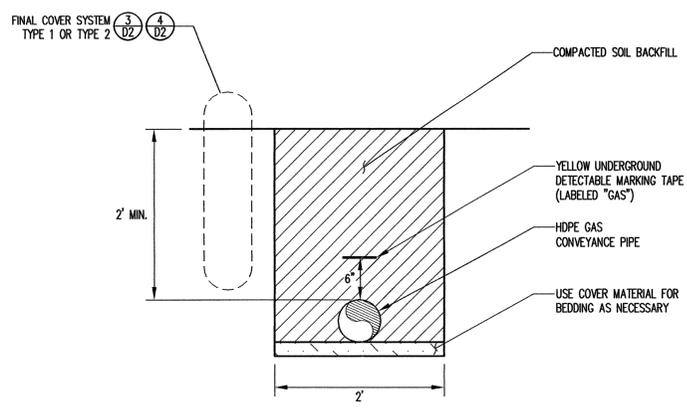
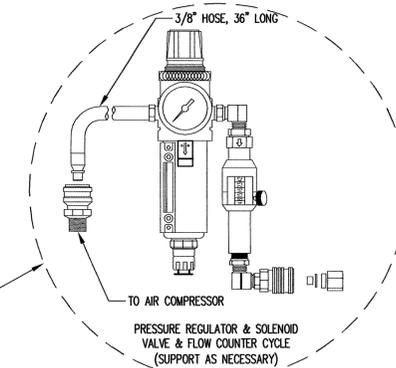
CONDENSATE TRAP  
DETAIL 1  
NOT TO SCALE D3



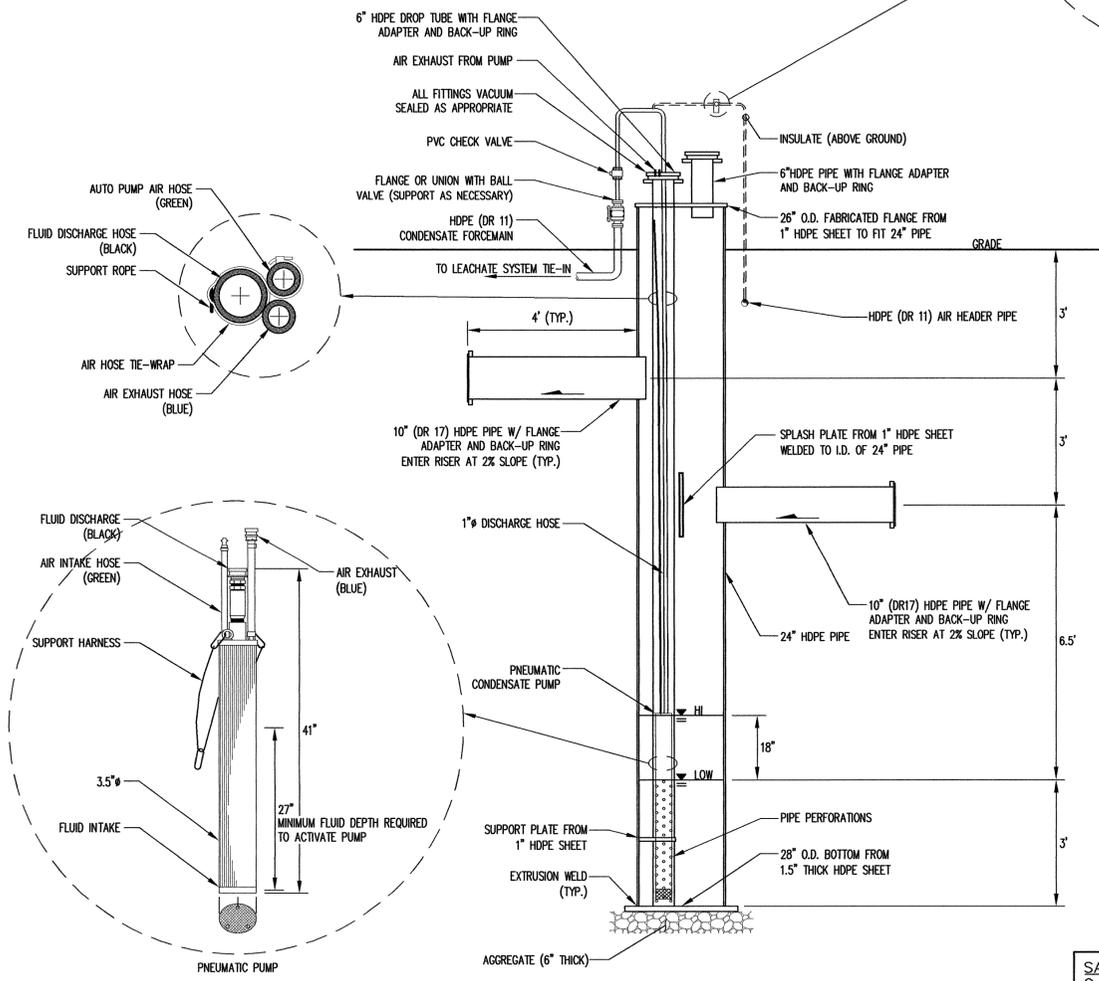
COMPRESSED AIR PIPE TRENCH  
DETAIL 2  
NOT TO SCALE D3



CONDENSATE PIPE TRENCH  
DETAIL 3  
NOT TO SCALE D3



GAS CONVEYANCE PIPE TRENCH  
DETAIL 4  
NOT TO SCALE D3



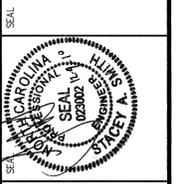
CONDENSATE PUMPING STATION  
DETAIL 5  
NOT TO SCALE D3

**PERMIT ISSUE**  
NOT FOR CONSTRUCTION

**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

REVISION  
NO.  
DATE  
NO.  
DATE  
NO.  
DATE

**RICHARDSON SMITH GARDNER & ASSOCIATES**  
INC. No. C-2226 (Engineering)  
14 N. Boylan Ave.  
Raleigh, N.C. 27603  
www.rsgengineers.com  
ph: 919-828-0577  
fax: 919-828-3689

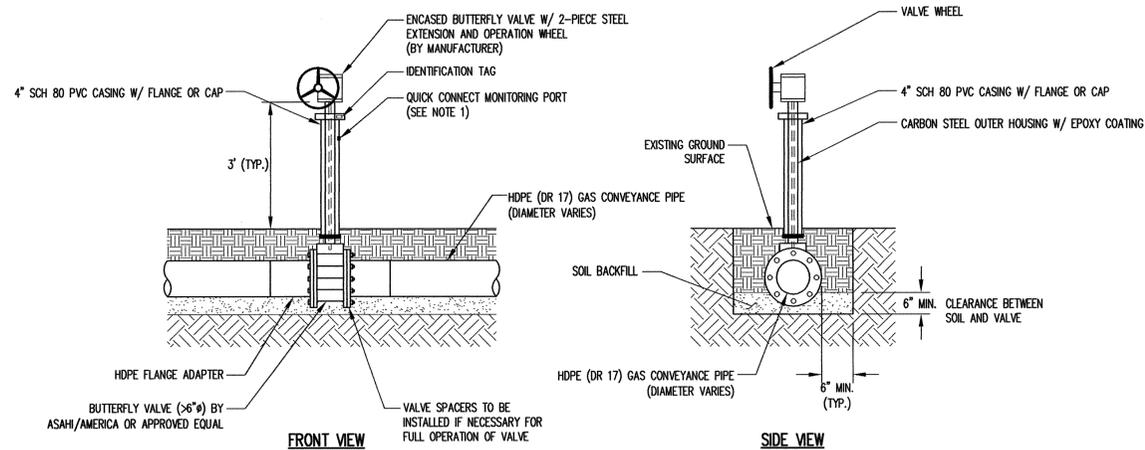


PROJECT TITLE:  
**DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

DRAWING TITLE:  
**LANDFILL GCCS DETAILS (SHEET 1 OF 3)**

DESIGNED BY: S.A.S.	DRAWN BY: C.T.J.
CHECKED BY: <i>[Signature]</i>	PROJECT NO.: MPD 10-1
SCALE: AS SHOWN	DATE: DEC. 2010
FILE NAME: MPD-00004	DRAWING NO.:
SHEET NO.: <b>6</b>	D3

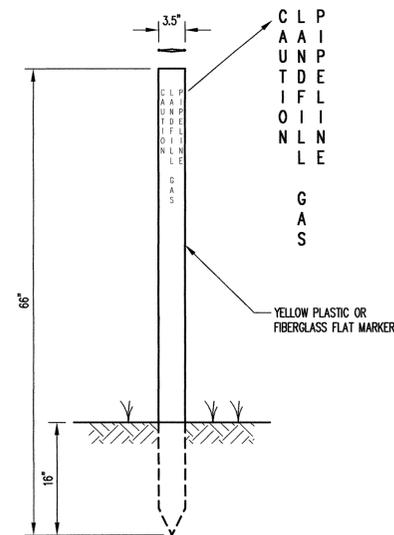




NOTE:  
1. MONITORING PORT SHALL BE MANUFACTURED BY COLDER PRODUCTS COMPANY PMCD 12 SERIES QUICK CONNECT COUPLINGS OR EQUIVALENT.

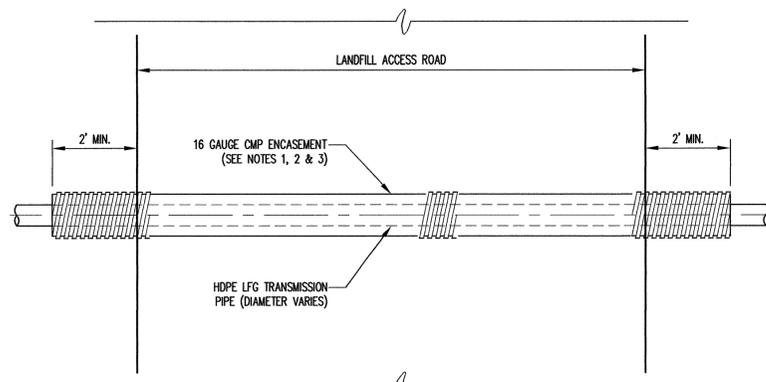
ISOLATION VALVE AND EXTENSION

DETAIL 1  
NOT TO SCALE D5



LFG LINE MARKER

DETAIL 2  
NOT TO SCALE D5



NOTES:  
1. CMP ENCASEMENT DIAMETER SHALL BE AT LEAST 1.5x GAS PIPE DIAMETER.  
2. MIN. 1.5 FT. COVER REQUIRED OVER CMP.  
3. CONTRACTOR SHALL RESTORE ROAD TO ORIGINAL CONDITION, INCLUDING AGGREGATE SURFACING.

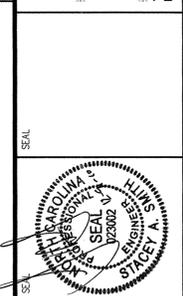
PIPE ENCASMENT AT ROAD CROSSING

DETAIL 3  
NOT TO SCALE D5

**PERMIT ISSUE**  
NOT FOR CONSTRUCTION

**SAFETY NOTE:**  
Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

REVISION  
NO. DATE  
SEAL  
PROJECT TITLE:  
DURHAM MUNICIPAL SOLID WASTE LANDFILL FACILITY GAS COLLECTION AND CONTROL SYSTEM EXPANSION  
DRAWING TITLE:  
LANDFILL GCCS DETAILS (SHEET 3 OF 3)



DESIGNED BY: S.A.S.  
DRAWN BY: C.T.J.  
CHECKED BY: [Signature]  
PROJECT NO.: MPD 10-1  
SCALE: AS SHOWN  
DATE: DEC. 2010  
FILE NAME: MPD-00006  
SHEET NO.: 8  
DRAWING NO.: D5

## Chao, Ming-tai

---

**From:** Lindsay Quant [lindsay@rsgengineers.com]  
**Sent:** Thursday, January 06, 2011 4:20 PM  
**To:** Dellinger, Jeff  
**Cc:** amy@methanepower.net; Chao, Ming-tai; simon.lobdell@durhamnc.gov; stacey@rsgengineers.com  
**Subject:** City of Durham Landfill Asbestos Work Plan - Response to Comments  
**Attachments:** Response to Comments 1-4-11 with Asbestos Plan.pdf

Hi Jeff,

The attached document includes a response to your comments received on January 3, 2011 as well as an updated Asbestos Work Plan.

Please feel free to contact me with any comments or questions.

Thanks,

**Lindsay Quant, E.I.**

*Staff Engineer*

Richardson Smith Gardner & Associates, Inc.

14 N. Boylan Ave.

Raleigh, NC 27603

(919) 828-0577 ext. 138