August 1, 2013

Henry Freedenberg, P.E., P.G.
Solid Waste Section
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399

Subject: Certification of Construction Completion Report
Southeast County Landfill Gas System Expansion - Section 9
FDEP Construction Permit Number 35435-021-SC/IM

Dear Mr. Freedenberg:

On behalf of Hillsborough County Public Utilities Department, Solid Waste Management Group (SWMG), HDR Engineering, Inc. (HDR) is pleased to submit four copies of the Certification of Construction Completion Report (Report) for the Southeast County Landfill Gas System Expansion in Section 9. As stated in the Report, HDR served as the Engineer of Record and provided on-site Construction Quality Assurance (CQA) services during the construction of the project as a representative of the SWMG. The enclosed Report includes a completed Certification of Construction Completion form, signed and sealed by a Professional Engineer licensed in the State of Florida.

HDR believes that the Report meets the requirements established in the subject permit and the CQA Plan. Please contact me at 813-262-2776 if you have any questions or require additional information.

Sincerely,

Richard Siemering
Solid Waste Section Manager

Cliff Koenig, P.E.
Engineer of Record

cc: Patricia Berry, Hillsborough County
Larry Ruiz, Hillsborough County
Walter Gray, Hillsborough County

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
Phone: (813) 282-2300
Fax: (813) 282-2430
www.hdrinc.com

Hillsborough County
Public Utilities Department
Solid Waste Management Group

Southeast County Landfill Gas System Expansion - Section 9 Certification of Construction Completion Report

August 2013

Prepared by
HDR Engineering, Inc.
5426 Bay Center Drive, Suite 400
Tampa, Florida 33609-3444
(813) 282-2300

HDR Project No. 100-193820
Florida Certification of Authorization No. 00004213

SOUTHEAST COUNTY LANDFILL
LANDFILL GAS SYSTEM EXPANSION - SECTION 9
CERTIFICATION OF CONSTRUCTION COMPLETION REPORT

Submitted to:

SOUTHWEST DISTRICT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Submitted for:

HILLSBOROUGH COUNTY PUBLIC UTILTIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP
925 E. Twiggs Street
Tampa, Florida 33602

Submitted by:

HDR ENGINEERING, INC.
5426 Bay Center Drive, Suite 400
Tampa, Florida 33609

Certificate of Authorization # 4213

July 2013

Clifford G. Koenig, P.E.
Florida P.E. No. 64078

Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994

DEP Application No.
(Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: 35435-021-SC/IM County: Hillsborough

Name of Project: Southeast County Landfill Gas System Expansion – Section 9

Name of Owner: Hillsborough County Public Utilities Department

Name of Engineer: HDR Engineering, Inc.

Type of Project: Construction of the Landfill Gas Collection and Control System Expansion in Section 9 at the Southeast County Landfill

Cost: Estimate $ 805,685.60 Actual$ 992,401.61

Site Design: Quantity: ton/day Site Acreage: 15.2 Acres

Deviations from Plans and Application Approved by DEP: Construction of the Landfill Gas Collection and Control System Expansion was constructed in general accordance with the specifications and drawings submitted as part of the permit application. No significant deviations occurred during construction. Refer to the certification report for a summary of minor deviations.

Address and Telephone No. of Site: 15960 County Road 672, Lithia, Florida 33574
(813) 671-7707

Name(s) of Site Supervisor: Mr. Larry Ruiz, General Manager III

Date Site inspection is requested: As soon as possible.

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No: 35435-021-SC/IM :Dated: August 17, 2012

Date: 7-31-2013

Signature of Professional Engineer

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER
7-31-2013

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

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ATTACHMENTS

1.0 INTRODUCTION

On behalf of Hillsborough County Public Utilities Department, Solid Waste Management Group (SWMG), HDR Engineering, Inc. (HDR) has prepared this Certification of Construction Completion Report to document the construction activities of the Landfill Gas Collection and Control System (LFGCCS) Expansion in Section 9 at the Southeast County Landfill (SELF). The Section 9 LFGCCS expansion construction included the installation of 6 horizontal collectors (including 10 vertical borings), 12 well heads, 10-inch header line on the north slope and 12-inch header line on the south slope and 2-inch air supply and 4-inch condensate/dewatering piping permitted under FDEP File No. 35435-021-SC/IM.

Construction of the Section 9 LFGCCS expansion began on March 4, 2013, and Final Completion was achieved by the Contractor on June 15, 2013. HDR provided Engineer of Record (EOR) and Construction Quality Assurance (CQA) services to SWMG throughout the duration of the project.

HDR's responsibilities during construction of the Section 9 LFGCCS Expansion included:

- Original design and construction documents;
- Daily CQA monitoring of all construction activities;
- Attendance at progress meetings during construction;
- Review of shop drawings and other contractor submittals;
- Review and address contractor Requests for Information (RFI) during construction;
- Review of contractor's pay requests; and
- Preparation of the Certification of Construction Completion Report for submittal to FDEP.

The CQA activities were performed to confirm that the construction materials and procedures were in compliance with the Permit Modification No. 35435-021-SC/IM dated August 17, 2012, issued by the Florida Department of Environmental Protection (FDEP), Southwest District and in accordance with Chapter 62-701, Solid Waste Management Facilities, and Florida Administrative Code (FAC). A copy of the construction permit is provided in Attachment A.

The Section 9 LFGCCS Expansion was constructed in general accordance with the above mentioned permit and associated permit drawings. Minor deviations from the approved permit documents were required to facilitate construction or to update the documents to comply with current industry standards.

These minor deviations include the following:

- Horizontal collector vertical well HC-25 was renumbered to HC-31 since Horizontal collector vertical well HC-25 already exists in Section 9. See attached drawing C-02.
- Due to change in location of the working face, the location of horizontal collector vertical well HC-31 (previously HC-25) had to be relocated 212 feet southwest of the original permitted location. This change increased the quantity of 6-inch perforated HDPE SDR 11 pipe as shown in the permit documents.

- The horizontal collector vertical well depths were revised due to final grade elevation based on filling sequence operation changes since the permitted drawing survey and the pre-construction survey.
- In order to maintain a minimum of 5 percent slope on the 10-inch header line on the north slope, the connection point to the existing 16-inch header line was relocated approximately 60 feet southwest, up to the terrace area of the north slope. As a result of this change, the location of the existing 16-inch header was deeper than original connection point (Revised location depth: 15 feet, Original location depth: 7 feet) and therefore required additional waste excavation. In order to minimize the waste excavation and provide a safe working area for the contractor; the connection of the 10-inch x 16-inch tee to the existing 16-inch header was revised from a butt fusion connection to an electrofusion of two electrofusion couplings.
- As a result of maintaining a minimum of 5 percent slope on the 10-inch header line on the north slope, the connection point for the U-trap (U-1) was revised from existing cleanout (CO) 8-2 to existing CO 8-1.

2.0 PROJECT DESCRIPTION

2.1 Construction Activities

Construction activity observations by the CQA inspector were recorded in CQA daily logs provided in Attachment B. CQA personnel also reviewed the Contractor's daily logs. Construction and documentation for Section 9 LFGCCS Expansion included the following components:

- Piping installation (including horizontal collector, air supply and condensate, header and lateral trenching);
- Vertical borings;
- Wellhead installation; and
- U-traps installation.

2.2 Horizontal Collector Vertical Wells

The Section 9 LFGCCS Expansion system consists of 10 horizontal collector vertical wells drilled into the waste. Each vertical well consists of a 3-foot borehole with 4-inch tire chips surrounding the perforated pipe.

The wells were designed to be installed for each horizontal collector in order to extract landfill gas from deeper waste in Section 9 and to maintain a minimum buffer of at least 15 feet from the bottom liner system.

CQA personnel were on-site full-time during the entire duration of the installation of the wells to observe construction activities related to the installation of the wells. Please refer to Attachment C for well installation and drilling logs.

2.3 Gas Remote Wellheads

The Section 9 LFGCCS Expansion system consists of 2 remote wellheads connected to the existing Leachate Cleanout (LCO) piping. The gas system was connected on the north slope to LCO 9-2 and on the south slope to LCO 9-1. The remote wellheads will provide for gas extraction from the existing LCO piping.

3.0 CONSTRUCTION QUALITY ASSURANCE PROGRAM

3.1 General

The scope of CQA monitoring, testing, and documentation services performed during the construction of the Section 9 LFGCCS Expansion included review of documents, record drawings, field CQA operations, and preparation of the final Certification of Construction Completion Report. These activities are summarized in the following sections. A list of personnel involved in the construction of the Section 9 LFGCCS Expansion is included in Section 3.5.

3.2 Related Documents

As previously noted, this Report summarizes the CQA activities performed by HDR during construction of Section 9 LFGCCS Expansion. The following documents define the design and technical aspects of the project which governed the construction:

- Permit Application entitled "Intermediate Modification Permit Application, Hillsborough County Southeast County Landfill, Section 7, 8 and 9 Landfill Gas Collection and Control System Expansion Construction Permit" prepared by HDR Engineering, Inc., dated March 9, 2012.

- Permit drawings entitled "Section 7, 8 and 9 Landfill Gas Collection and Control System Expansion, Southeast County Landfill, Hillsborough County, Florida, prepared by HDR Engineering, Inc., dated March 1, 2013.

- Construction Permit entitled "Southeast County Class I Landfill Gas Collection and Control System Construction Permit No.: 35435-021-SC/IM, Hillsborough County", dated August 17, 2012.

All of the above documents are hereafter collectively referred to as the CQA Documents in this Report. During the construction of Section 9 LFGCCS Expansion, some minor modifications from the approved permit documents were required to facilitate construction or to update the documents to comply with current industry standards. These minor modifications are discussed in detail within Section 1.0 of this certification report.

3.3 Field CQA Operations

The following activities were performed as part of CQA services provided by HDR:

- Observing delivery, storage, and tracking the inventory of materials delivered for the project;
- Observing installation of horizontal collector vertical wells;
- Documenting and observing pressure tests on installed piping;
- Observing construction of U-traps, and connection of U-traps to existing leachate collection system;
- Observing connections to existing header lines; and
- Observing connections to existing leachate collection system.

During construction activities involving CQC and CQA testing, the observations made by CQA personnel and results for both CQC and CQA tests obtained by CQA personnel were compared with the requirements of the CQA Documents. The Contractor was notified of deficiencies in construction practices and/or materials to ensure appropriate corrective actions were taken. Corrective actions and CQA/CQC retesting were monitored by CQA personnel for compliance with the requirements of the CQA Documents.

3.4 Certification Report and Record Drawings

During construction of the Section 9 LFGCCS Expansion, CQA monitoring activities were documented by CQA personnel in Daily Logs. CQA Daily Logs are included in Attachment B.

Record drawings for the Section 9 LFGCCS Expansion and this Construction Certification Report were prepared as the final task of the construction of the Section 9 LFGCCS Expansion. Record drawings are included in Attachment E.

3.5 Project Personnel and Responsibility

The principal organizations involved in designing and construction of the Section 9 LFGCCS Expansion include the facility owner/operator, Design Engineer, CQA organization, and Contractor as listed below.

Owner:	Name
Hillsborough County Public Utilities Department Solid Waste Management Group Southeast County Landfill 15960 County Road 672 Lithia, FL 33547 (813) 671-7707	Walter Gray, Project Manager Larry E. Ruiz, Section Manager

Design Engineering:	Name
HDR Engineering, Inc. 5426 Bay Center Drive, Suite 400 Tampa, FL 33609 (813) 282-2300	Cliff Koenig, P.E, Engineer of Record Carlos A. Restrepo, P.E., Project Engineer Richard A. Siemering, Senior Project Manager

Construction Quality Assurance:	Name
HDR Engineering, Inc. 5426 Bay Center Drive, Suite 400 Tampa, FL 33609 (813) 282-2300	Cliff Koenig, P.E, Engineer of Record Richard A. Siemering, Senior Project Manager Itza Rivera-Frisco, Construction Inspector

General Contractor:	Name
ERC General Contracting Services, Inc.	Jerry Pinder, Project Manager
890 Carter Road, Suite 170	Ron Dickens, Project Superintendent
Winter Garden, FL 34787	
(407) 656-3900	

4.0 SUMMARY OF CONSTRUCTION

4.1 Horizontal Collectors

Six horizontal collectors were installed as part of the Section 9 LFGCCS Expansion. The horizontal collector piping was constructed with 6-inch diameter high density polyethylene (HDPE), SDR 11 perforated pipe section joined to a 6-inch diameter solid HDPE SDR 11 pipe. Perforations in the HDPE pipes were fabricated by the manufacturer in the configuration shown in the Record Drawings provided in Attachment E on Sheet C-04, Detail 5. The horizontal collector pipes were placed in a 3-foot wide trench with 4-inch nominal size tire chips surrounding the perforated pipe section to a minimum of one foot below and two feet above the top of the perforated pipe. A 6 ounce non-woven geotextile was placed over the tire chips to create a separation between the tire chips and cover soils. A minimum of three feet of cover was placed above the tire chips. The perforated pipe section ended at least 100 feet from the end of each collector to reduce the potential for air infiltration into the collectors.

Ten vertical wells were installed as part of the vertical component to the horizontal collectors. The boreholes for the wells were a minimum of 3 feet in diameter and terminated at approximately 15 feet above the bottom liner. The wells consisted of 6-inch diameter HDPE, SDR 11 perforated pipe. Before placing the perforated HDPE pipe into the borehole, CQA personnel verified the depths and 4-inch tire chips were deposited in the bottom of the borehole, as well as around the perforated pipe.

During drilling, the type of waste excavated and temperature was recorded. Contractor's vertical well installation and drilling logs are included in Attachment C.

4.2 Wellheads

Landfill gas extracted from each horizontal collector vertical well will be conveyed and monitored through the ten wellheads, along the north and south side perimeter berm, which are connected to the horizontal collector piping. The wellhead assembly installed was manufactured by Forrer Supply. The wellheads were installed with a 2-inch diameter vertical wellhead assembly, kanaflex hose, and fittings. The Forrer Supply wellhead is specifically designed to allow easy installation and maintenance. The installed wellhead is built with quick connect access ports, allowing the connection of a landfill gas monitor. The Forrer Supply wellhead can be adjusted with a built-in gate valve. This valve can be manipulated to increase or decrease the amount of gas flow through the landfill gas system. Orifice plates 0.75 inches in diameter were installed between the pressure ports to measure gas flow. A smaller orifice plate size was selected in the interim for the horizontal wells and leachate cleanouts due to low vacuum

initially placed on the gas collectors and resulting low flow rate anticipated for these wells as part of the wellfield tuning process. The orifice plates may be switched out later once more vaccum is placed on the wells and a greater landfill gas collection flow rate is achieved.

4.3 Gas Extraction Header and Lateral Pipes

Landfill gas will be collected from the horizontal collectors and conveyed to the existing landfill gas control unit (candle flare) through a network of header and lateral pipelines constructed of HDPE SDR 17 and 11 respectively and connected to the existing landfill gas system. Condensate flowing in the header and lateral lines along the south slope drains to U-trap (U-2), then to Leachate Cleanout (LCO) 9-1. The header and lateral lines along the north slope drain to U-trap (U-1), then to LCO 9-2. The condensate is then pumped into the existing leachate forcemain system. A minimum slope of 5 percent for header and laterals on the landfill footprint were provided to minimize surging and blockage problems due to condensate buildup and landfill settling.

The location and alignment of the headers and laterals were adjusted during construction where conditions in the landfill varied from the design or to facilitate meeting the required slope. The header and lateral piping was installed by the Contractor according to the design slope criteria. Lateral piping is used to convey landfill gas from the wellheads into the main header piping of the gas collection system. The lateral piping was installed using 6-inch HDPE SDR 11 piping.

Access points were installed in the north and south header lines. A 12-inch x 8-inch SDR 11 tee and 10-inch x 8-inch SDR 11 tee were fused to the north and south header lines, respectively. An 8-inch SDR 11 riser extension with a blind flange was fused to these tees to complete the above grade extension.

Header and lateral pipes were subjected to air pressure tests to detect any leaks in the piping. The required test pressure was 10 psig, to be held for one hour. The pressure drop, in any test, could not exceed 5 percent of the testing gauge pressure over the 1 hour test period. As shown in Table 1, all piping sections, requiring an air pressure test, passed air pressure testing. These tests are documented in the CQA Daily Field Logs provided in Attachment B.

Header and lateral pipe sections were joined using butt-fusion methods. CQA personnel monitored the butt-fusion techniques to ensure that industry accepted procedures were used during construction. CQA personnel also verified the diameter to ensure compliance with the requirements of the Permit Documents.

Table 1 – Air Pressure Test Summary

Date	Pipe Dia.	Length (ft)	Description	Location	Pressure (psig)	Duration (hrs)	Pass/ Fail
3/29/2013	6" SDR 11	114	Lateral and wellhead casing HC-29-R-N	Top of Section 9	10	1.0	Pass
	6" SDR 11	110	Lateral and wellhead casing HC-28-R-N	Top of Section 9	10	1.0	Pass
	6" SDR 11	120	Lateral and wellhead casing HC-27-R-N	Top of Section 9	10	1.0	Pass
4/1/2013	6" SDR 11	100	Lateral and wellhead casing HC-26-R-N	Top of Section 9	10	1.0	Pass
	6" SDR 11	100	Lateral and wellhead casing HC-25-R-N	Top of Section 9	10	1.0	Pass
4/2/2013	6" SDR 11	135	Lateral and wellhead casing HC-26-R-S	Top of Section 9	10	1.0	Pass
	6" SDR 11	140	Lateral and wellhead casing HC-27-R-S	Top of Section 9	10	1.0	Pass
	6" SDR 11	135	Lateral and wellhead casing HC-26-R-S	Top of Section 9	10	1.0	Pass
4/3/2013	6" SDR 11	133	Lateral and wellhead casing HC-29-R-S	Top of Section 9	10	1.0	Pass
4/8/2013	6" SDR 11	125	Lateral and wellhead casing HC-30-R-S	Top of Section 9	10	1.0	Pass
4/18/2013	6" SDR 11	200	Lateral to LCO 9-2	North Slope	10	1.0	Pass
4/22/2013	10" SDR 17	837	Header (including U-1), 8" APs, 4" remote wellhead riser, 6" laterals to wellheads (HC-30 thru HC-26), and stub outs)	North Slope	10	1.0	Pass
	6" SDR 11	100	Lateral to CO 8-2	North Slope	10	1.0	Pass
4/23/2013	2" SDR 9	837	Air Pipe (including 2" APs)	North Slope	10	1.0	Pass
4/26/2013	6" SDR 11	36	Remote wellhead riser lateral to LCO 9-1	South Slope	10	1.0	Pass
	6" SDR 11	25	Lateral to LCO 9-1	South Slope	10	1.0	Pass
4/30/2013	12" SDR 17	715	Header (including U-2), 8" APs, 4" remote wellhead riser, 6" laterals to wellheads (HC-29 thru HC-31), and stub outs)	South Slope	10	1.0	Pass
	4" SDR 11	715	Condensate Pipe (including 4" APs)	South Slope	10	1.0	Pass
5/1/2013	2" SDR 9	169	Air Pipe (including 2" APs)	South Slope	10	1.0	Pass

4.4 Pipe Slope

The horizontal collectors, header, lateral, air, and condensate lines were installed with a minimum slope of 5 percent within the landfill footprint. Minor adjustments to slope on horizontal collectors, headers, laterals, condensate, and airlines were made on the top, north and south slopes. Refer to Section 1.0 for additional information.

The Contractor and CQA personnel field verified the slope of the header pipe at 25-foot intervals along the length of the pipe before backfilling. Survey tubes for pipe coordinates and elevations were placed every 50 foot intervals for as-builts. Changes in pipe direction, fittings, and connections were also surveyed. The final as-built survey is included in Attachment E as part of the Record Drawings.

4.5 Air and Condensate Lines

Air and condensate lines were constructed of 2-inch and 4-inch HDPE SDR 9 and HDPE SDR 11 pipe, respectively. The air line serves as an air source for the future operation of pneumatic pumps which are commonly installed in gas wells (GWs) to reduce the volume of liquid contained within the well boring when needed to improve GW performance. The condensate line allows discharge of liquid wells into the existing leachate collection system.

The air and condensate lines were installed in the same trench as the 10-inch and 12-inch header lines and connected to the air and condensate lines along the existing 16-inch header. The air and condensate lines were fused together to create one complete system. Air and condensate pipes were subjected to air pressure test to detect any leaks in the piping. No loss in pressure was reported as shown in Table 1 provided in Section 4.3.

4.6 Leachate Cleanouts

The Section 9 LFGCCS Expansion incorporated the connection to existing leachate cleanouts on the north and south side slope of Section 9. Existing 8-inch leachate cleanouts risers extended along the base liner of the landfill to the leachate sump at the base of the landfill. These leachate cleanouts give access to the landfill gas which is present at the base of the landfill.

CQA personnel verified that excavations at the cleanouts were made with all necessary precautions to prevent any damage to the bottom liner system. No damage to the liner was observed. A total of 3 leachate cleanout risers were connected to the landfill gas system (LCO 9-1, 9-2 and 8-2). Remote wellheads were installed along the header line.

4.7 U-traps

The Contractor field fabricated all U-traps. Prior to installation, the flare station was shutdown. One U-trap was installed on the north slope and second U-trap was installed on the south slope. Both U-traps were connected to the existing leachate collection system for Section 9. Gas condensate accumulating in the LGFCCS at the north and south slopes will gravity drain to the U-traps. The U-traps include a 6-inch condensate drain line that is connected to the LCO risers. CQA personnel verified that dimensions based on the construction documents were met. All U-traps were filled with water before flare station start-up.

5.0 CONCLUSION

During construction of the above components, CQA personnel checked that conformance testing was performed at the frequencies required by the Contract Documents and that the installation met the requirements of the Permit Documents. CQA personnel checked that conditions or materials identified as not conforming to the Permit Documents were replaced, repaired, and/or retested as described in this report.

The observations associated with the construction of Section 9 LFGCCS Expansion indicate that the construction was completed in compliance with Construction Permit No. 35435-016-SC/08 and the Permit Documents. Deviations identified in this Report are believed to be minor in nature and were approved by HDR before implementation by the Contractor. HDR has determined that the final completed construction satisfied project specifications and permit requirements.

ATTACHMENT A
SOUTHEAST COUNTY LANDFILL GAS COLLECTION AND CONTROL SYSTEM FDEP TITLE V PERMIT

Southeast County Landfill Gas
System Expansion – Section 9
Certification of Construction Completion

Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

August 17, 2012

CERTIFIED MAIL 7011 3500 0000 3205 0265
RETURN RECEIPT REQUESTED

NOTICE OF PERMIT

Ms. Patricia V. Berry, Manager
Hillsborough County Public Utilities
Solid Waste Management Group
925 East Twiggs Street
Tampa, Florida 33602

RE: Hillsborough Southeast County Landfill, Hillsborough County
Landfill Gas Collection and Control System Expansion Construction
Permit Modification No.: 35435-021-SC/IM to existing
Permit No.: 35435-016-SC/08
WACS No.: SWD/29/41193

Dear Ms. Berry:

Attached is modified **Operation Permit 35435-016-SC/08,** issued pursuant to Section(s) 403.087(1), Florida Statutes. The following Conditions have been revised in modification number 35435-021-SC/IM:

SPECIFIC CONDITIONS	FROM	TO	TYPE OF MODIFICATION
Page 1 of 15	Existing	Amended	Permit modification 35435-021-SC/IM referenced & General Information table amended to include GCCS expansion details.
A.2.b.	-	New	Additional permitting documents referenced.
A.8.	Existing	Amended	Amended to reference revised Chapter 62-701, F.A.C., effective 8/12/12.
B.1.a.	Existing	Amended	Revised to authorize construction of Section 9 GCCS Expansion.
B.3.a.	Existing	Amended	Revised to reference applicable technical specification for Section 9 GCCS Expansion.
B.3.b.	Existing	Amended	Revised to reference applicable well schedule for Section 9 GCCS Expansion.
C.1.c.	-	New	Requires submittal & approval of construction certification prior to operation of the Section 9 GCCS Expansion.

This letter and its attachments constitute a **complete permit** and **replace** all previous permits and permit modifications for the above referenced facility.

A person whose substantial interests are affected by this modification of permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel, 3900 Commonwealth Blvd., Mail Station 35, Tallahassee, 32399-3000, within fourteen (14) days of receipt of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within fourteen (14) days shall constitute a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

(a) The petition shall contain the following information; The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of Department's action, or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends warrant reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C. Mediation is not available in this proceeding.

This modified permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rules 62-110 and 28-106, F.A.C. Upon timely filing of a petition or a request for an extension of time this transfer of permit will not be effective until further Order of the Department.

Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

PERMITTEE
Hillsborough County Public Utilities,
Solid Waste Management Group
c/o Ms. Patricia V. Berry, Manager
925 East Twiggs Street
Tampa, Florida 33602

PERMIT/CERTIFICATION
WACS Facility ID No: SWD/29/41193
Permit No: **35435-016-SC/08**
Date of Issue: **02/04/2009**
Expiration Date: **02/04/2014**
County: Hillsborough
Lat/Long: 27°46'37"N
82°10'43"W
Sec/Town/Rge: 13, 14, 15, 18, 19, 22
23, 24/31S/20, 21E
Project: Southeast County Class I
Landfill Gas Collection &
Control System Construction

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 62-4, 62-302, 62-330, 62-522, 62-550, and 62-701. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or referenced in Specific Condition #A.2., and made a part hereof and specifically described as follows:

To **construct** a landfill gas collection and control system for the existing Class I landfill, referred to as the **Hillsborough Southeast County Landfill,** subject to the specific and general conditions attached, **located approx. 8.8 miles east of US Highway 301 North on County Road 672, near Balm, Hillsborough** County, Florida. The specific conditions attached are for construction of:

1. A landfill gas collection and control system.

General information:

Phases I-VI Gas extraction system	71 vertical extraction wells (6-inch slotted PVC pipe), 21 horizontal collectors (6-inch slotted HDPE pipe) w/ 20 vertical boring wellheads (6-inch slotted PVC pipe), below-grade lateral and header pipelines w/ 3 self-draining condensate traps and 3 sloped condensate u-traps.
Section 7-8 Gas extraction system	6 vertical extraction wells (6-inch slotted PVC pipe), 4 horizontal collectors (6-inch slotted HDPE pipe), below-grade lateral and header pipelines w/ 2 self-draining condensate traps.
Section 9 Gas extraction system	Sequence 1 (Fill Sequence 13) - 6 horizontal collectors (6-inch slotted HDPE pipe), below-grade lateral and header pipelines w/ 1 condensate u-trap. Sequence 2 (Fill Sequence 16) - 6 vertical extraction wells (6-inch slotted PVC pipe) Sequence 3 (Fill Sequence 18) - replacement of Sequence 2 extraction wells, if necessary.
Gas processing system	Gas inlet from landfill gas extraction system, condensate sump, knockout pot, 3 blowers, vertical candlestick flare unit. Condensate collected at knock down pot, blowers and flare drained via a 2" HDPE gravity drain line to condensate sump CS-1.

Replaces Permit No.: N/A, new permit
Includes Modification No.: 35435-021-SC/IM, dated 08/17/2012.

This permit contains compliance items summarized in **Attachment 1** that shall be complied with and submitted to the Department by the dates noted. If the compliance dates are not met and submittals are not received by the Department on the dates noted, enforcement action may be initiated to assure compliance with the conditions of this permit.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Blvd., Mail Station 35, Tallahassee, 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

for Pamala Vazquez
Acting Director
Southwest District

Attachment
Copies furnished to:
Hillsborough County Elected Officials Notification
Carlos Restrepo, P.E., HDR Engineers, Inc., Carlos.Restrepo@hdrinc.com
Megan Miller, P.E., Hillsborough County, MillerMJ@HillsboroughCounty.ORG
Ron Cope, HCEPC (e-mail)
David Zell, FDEP Tampa -Air Section (e-mail)
Chris McGuire, OGC Tallahassee (e-mail)
Susan Pelz, P.E., FDEP Tampa (e-mail)
(Permit Notebook) FDEP Tampa

CERTIFICATE OF SERVICE

This undersigned duly designated deputy clerk hereby certifies that this **NOTICE OF PERMIT** and all copies were mailed or transmitted electronically to the addressee and the listed persons before the close of business on August 17, 2012 to the listed persons.
Clerk Stamp

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52(10), Florida Statutes, with the designated Department, Clerk, receipt of which is hereby acknowledged.

Anna Brinkley 8/17/12
Clerk Date

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

(a) Have access to and copy any records that must be kept under conditions of the permit;

(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

GENERAL CONDITIONS:

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

(a) A description of and cause of noncompliance; and

(b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statues after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, Florida Administrative Code, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(a) Determination of Best Available Control Technology (BACT)

(b) Determination of Prevention of Significant Deterioration (PSD)

(c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)

(d) Compliance with New Source Performance Standards

GENERAL CONDITIONS:

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

1. **Facility Designation.** This gas control system is designed to recover combustible gas and shall be constructed, operated, closed, monitored and maintained in accordance with all applicable requirements of Chapters 62-4, 62-302, 62-330, 62-520, 62-522, 62-550, and 62-701, Florida Administrative Code (F.A.C.) and all applicable requirements of Department rules.

2. **Permit Application Documentation.** This permit is valid for **construction** of a gas collection and control system for existing Southeast County Class I Landfill in accordance with all applicable requirements of Department rules and in accordance with the reports, plans and other information prepared by SCS Engineers, Inc. (unless otherwise specified) as follows:

a. Application for a Solid Waste Construction Permit - Landfill Gas Collection and Control System - Southeast County Landfill… (3-ring binder & plan set) dated July 14, 2008 (received July 21, 2008), as revised, replaced or amended (information inserted into original) dated and received October 8, 2008 and November 3, 2008. This information includes, but is not limited to:

1) Attachment E-2 - *Technical Specifications;* and

2) Plan Sheets titled, Southeast County Landfill - Landfill Gas Collection and Control System Project… (30 Sheets) dated October 8, 2008 (received October 8, 2008) including Sheets S-1 through S-10 and Sheets E-1 through E-3, received July 21, 2008.

b. Section 7, 8, and 9 Landfill Gas Collection and Control System Expansion - Southeast County Landfill… (3-ring binder & plan set), prepared by HDR Engineering, Inc., dated and received March 9, 2012, as revised, replaced or amended (information inserted into original) dated and received May 1, 2012. This information includes, but is not limited to:

1) Appendix B - *Technical Specifications,* as revised May 1, 2012; and

2) Plan Sheets titled, Section 7, 8, and 9 Gas Collection and Control System Expansion… (10 Sheets) dated March 2012 (received March 9, 2012).

New 08/17/2012.

3. **Permit Modifications.**

a. Any construction, operation or other activities not previously approved as part of this permit shall require a separate Department permit unless the Department determines a permit modification to be more appropriate, or unless otherwise approved in writing by the Department. Any significant changes to the construction or operation at the facility shall require a permit modification. Permits shall be modified in accordance with the requirements of Rule 62-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

b. This permit authorizes the construction of the Phase I-VI and Sections 7 & 8 gas collection and control system and other related appurtenances, only.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

4. **Permit Renewal. No later than July 1, 2013** the permittee shall apply for a renewal of a permit on forms and in a manner prescribed by the Department, in order to assure conformance with all applicable Department rules. Permits shall be renewed at least every five years as required by Rule 62-4.090, F.A.C.

5. **Professional Certification.** Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), Florida Statutes, applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

6. **General Conditions.** The permittee shall be aware of and operate under the "General Conditions." General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes.

7. **Permit Acceptance.** By acceptance of this Permit, the Permittee certifies that he/she has read and understands the obligations imposed by the Specific and General Conditions contained herein and also including date of permit expiration and renewal deadlines. It is a violation of this permit for failure to comply with all conditions and deadlines.

8. **Regulations.** Chapter 62-701, F.A.C., effective August 12, 2012, is incorporated into this permit by reference. In the event that the regulations governing this permitted operation are revised, the Department shall notify the permittee, and the permittee shall request modification of those specific conditions which are affected by the revision of regulations to incorporate those revisions.
Amended 08/17/2012.

9. **Prohibitions.** The prohibitions of Rule 62-701.300, F.A.C., shall not be violated by the activities at this facility.

a. In the event that limestone is encountered during excavation or construction activities, the excavation/construction activities shall cease and the Department shall be notified **within 24 hours of discovery.** Written notification shall be submitted **within 7 days of discovery.** The written notification shall include the location, elevation, and extent of limestone noted on a plan sheet, a description of the materials encountered, and a plan of action which ensures that groundwater will not be adversely affected by the continued construction and operation of the facility. Excavation or construction activities shall not resume in the affected area until the Department-approved plan of action has been completed.

b. In the event that surface depressions or other occurrences which may be indicative of sinkhole activity or subsurface instability, are discovered on-site, or within 500 feet of the site, the Department shall be notified in accordance with Specific Condition #C.6.b. The written notification shall include a description of the incident, the location and size of the affected area shown on an appropriate plan sheet, and a corrective action plan which describes the actions necessary to prevent the unimpeded discharge of waste or leachate into ground or surface water.

c. Open burning of solid waste is prohibited except in accordance with Rule 62-701.300(3) and Chapter 62-256, F.A.C. All fires which require longer than one (1) hour to extinguish must be promptly reported to the Department in accordance with Specific Condition #C.6.b.

SPECIFIC CONDITIONS: PART B - Construction Requirements

1. **Construction.** All significant construction activities shall be approved by the Department prior to initiating work, unless specifically authorized otherwise.

a. This permit authorizes the construction of the gas collection and control system for Phases I-VI and Sections 7, 8, and 9 of the Class I landfill and related appurtenances only.
Amended 08/17/2012.

2. **Certification of Construction Completion.** All information required by this Specific Condition shall be signed and sealed by a registered professional engineer or land surveyor as appropriate.

a. **Within sixty (60) days** after the specified construction has been completed, the following activities shall be completed and submitted by the permittee for Department approval. Operation of the constructed systems, structures, equipment, etc., shall not be initiated prior to Department approval of the information required by this Specific Condition:

1) The owner or operator shall submit a Certification of Construction Completion, Form 62-701.900(2), signed and sealed by the professional engineer in charge of construction and quality assurance to the Department for approval, and shall arrange for Department representatives to inspect the construction in the company of the permittee, the engineer, and the facility operator.

2) The owner or operator shall submit Record Drawings/Documents showing all changes (i.e., all additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations). The Record Documents shall include, but not be limited, to as-built plans, details and elevations (survey).

3) The owner or operator shall submit a narrative indicating all changes in plans, the cause of the deviations, and certification of the Record Drawings/Documents by the Engineer to the Department.

4) The professional engineer of record shall submit to the Department a final report to verify conformance with the plans and specifications in accordance with Rules 62-701.400(7) and (8), F.A.C.

3. **Record Drawings/Documents.** The Record Drawings/Documents shall include, but not be limited to, the following information:

a. As-built survey of location and elevations along horizontal collector piping, landfill gas header and transmission lines and condensate discharge lines and drain pipes for the extraction wells and horizontal collector trenches [ref. Spec 31 20 00 - 3.06.C.; Spec 0221-3.11];
Amended 08/17/2012.

b. Ground surface elevations and well depths for each of the extraction wells and horizontal collector vertical borings listed on the "Well Schedule" identified on Sheet 8 of 30 [ref. Sp. Cond. #A.2.a.(2)] or those listed on "LFG Extraction Well Schedule" on Sheet C-06 [ref. Sp. Cond. #A.2.b.(2)].
Amended 08/17/2012.

c. Copies of photographs documenting all stages of the construction project;

SPECIFIC CONDITIONS: PART B – Construction Requirements

4. **Pre-Construction Meeting Notification.** Department Solid Waste Permitting staff shall be notified **at least one (1) week prior** to all pre-construction meetings. Prior to initiating construction activities, the permittee shall make arrangements for the Engineer of Record to meet on site and discuss all plan changes with Department Solid Waste Permitting Staff. A copy of the minutes from the pre-construction conference shall be submitted to the Department within two (2) weeks of the conference.

5. **Construction Schedule and Progress Report.**

a. The Engineer of Record or another qualified professional engineer shall make periodic inspections during construction to ensure that design integrity is maintained.

b. An updated construction schedule and progress report shall be submitted to the Department **monthly, by the 15th of each month.** The monthly progress report should be submitted electronically in PDF format or in an appropriately labeled three-ring binder of sufficient size to store the monthly progress reports for the entire project. The monthly progress reports shall include, but not be limited to:

1) A narrative explaining the status (and any delays) of major stages of the construction;

2) A summary of submittals and change order requests;

3) Weekly progress meeting minutes; and

4) Color copies of photographs, which are representative of the typical construction activities for the reporting period, and which show overall views and details of major stages of construction. If digital photographs are taken, a CD-Rom containing the photographs may be submitted in lieu of printed copies.

6. **Construction Tolerances.** Invert elevations of the landfill gas collection and control pipes shall be recorded at a frequency sufficient to demonstrate that the headers and laterals have been constructed to the slopes and grades shown on the drawings and will drain adequately. This information shall be included with the Record Documents.

7. **Laboratory and Field Testing Requirements.** Field and laboratory testing during the construction activities shall be conducted by a qualified testing laboratory.

8. **Construction Quality Assurance.**

a. A complete set of construction drawings and shop drawings, which include daily additions, deletions and revisions, shall be maintained on-site at all times for reference.

b. Leachate or gas condensate shall not be deposited, injected, dumped, spilled, leaked, or discharged in any manner to the land, surface water or groundwater at any time during the construction activities.

c. Unsatisfactory, defective or non-conforming work shall be reported to the Engineer and shall be corrected, or the reasons for not correcting the work shall be recorded and maintained onsite for reference and inspections. Documentation of the corrections or reasons for not correcting the work shall be submitted with the Record Documents required by Specific Conditions #B.3.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.8., cont'd)

d. Excavated refuse shall be loaded and transported to the Class I landfill working face by the end of each working day. No refuse shall be allowed to remain uncovered overnight. The refuse must be removed immediately during any rain event to prevent stormwater from contacting the refuse. [ref. Spec 02 41 16 - 2.01.B.]

e. The non-perforated HDPE laterals, leachate and condensate drain lines, connections to LFG header, and air supply lines, shall be subjected to pressure tests to detect any leaks in the piping.

f. All dewatering liquids shall be managed as leachate.

SPECIFIC CONDITIONS: PART C - Operation Requirements

6. **Facility Maintenance and Repair.**

a. The site shall be properly maintained including maintenance of access roads to disposal areas, equipment, stormwater and leachate management systems, cover systems and berms, gas monitoring and management systems, surface water monitoring system, and groundwater monitoring system. Erosion and ponded water in disposal areas shall be prevented.

b. In the event of damage to any portion of the landfill site facilities, unauthorized leachate discharges, failure of any portion of the landfill systems (including damaged or dry groundwater monitoring wells), fire, explosion, the development of sinkhole(s) or other subsurface instability at the site, the permittee shall **immediately (within 24 hours)** notify the Department explaining such occurrence and remedial measures to be taken, method to prevent reoccurrence, and time needed for repairs. **Written, detailed notification shall be submitted to the Department within seven (7) days following the occurrence.** Routine maintenance does not require notification but shall be noted on daily reports.

7. **Stormwater Management.** The site shall have a surface water management system designed, constructed, operated, and maintained to prevent surface water from running on to waste filled areas, and a stormwater runoff control system designed, constructed, operated, and maintained to collect and control stormwater to meet the requirements of Chapter 62-330, F.A.C., and the requirements for management and storage of surface water in accordance with Rule 62-701.500(10), F.A.C., to meet applicable standards of Chapters 62-3, 62-302, and 62-330, F.A.C. The stormwater management system shall be inspected for damage and proper operation daily.

SPECIFIC CONDITIONS: PART C - Operation Requirements

1. **Facility Operation Requirements.**

a. The permittee shall operate this facility in accordance with Chapter 62-701, F.A.C., and Operation Permit 35435-014-SO/01, (including modifications, if any), or its successors.

b. This permit does not authorize the operation of the Phase I-VI and Sections 7 & 8 gas collection and control system and other related appurtenances until the following requirements have been completed and submitted by the Permittee, and approved by the Department:

1) Certification of Construction Completion requirements of Specific Conditions #B.2. and #B.3.,

2) Issuance of a permit modification of Operation Permit No. 35438-014-SO/01 or its successor, submitted in accordance with Specific Condition #A.3.a., that authorizes operation of the landfill gas collection and control system and its related appurtenances.

c. This permit does not authorize the operation of the Section 9 gas collection and control system expansion and other related appurtenances until the following requirements have been completed and submitted by the Permittee, and approved by the Department:

1) Certification of Construction Completion requirements of Specific Conditions #B.2. and #B.3.,

New 08/17/2012.

The permittee may temporarily operate the constructed system for up to 180 days to allow for system start-up and operational adjustments while the certification of construction completion and permit modification submittals and approvals required by this specific condition are completed. The permit shall notify the Department electronically or in writing of the start date for temporary start-up operation of the system.

d. Leachate and/or gas condensate shall not be deposited, injected, dumped, spilled, leaked, or discharged in any manner to soils, surface water or groundwater outside the liner and leachate management systems at any time during the construction or operation of this facility.

2. **Facility Personnel.** The owner or operator shall provide adequate personnel for constructing, operating, monitoring and maintaining the facility in an orderly, safe, and sanitary manner.

3. **Control of Access.** Access to, and use of, the facility shall be controlled as required by Rule 62-701.500(5), F.A.C.

4. **Monitoring of Waste.** Wastes shall be monitored as required by Operation Permit 35435-014-SO/01, (including modifications, if any), or its successors.

5. **Control of Nuisance Conditions.** The owner or operator shall control odors, vectors (mosquitoes, other insects, rodents), and fugitive particulates (dust, smoke) arising from the construction and operation so as to protect the public health and welfare. Such control shall minimize the creation of nuisance conditions on adjoining property. Odors observed by Department personnel upon site inspection, shall constitute a nuisance condition, and the permittee must take immediate corrective action to abate the nuisance.

SPECIFIC CONDITIONS: PART F - Landfill Gas Management

1. **Landfill Gas - NSPS and Title V Air Requirements.**
   a. This solid waste permit will meet the statutory requirement to obtain an air construction permit before modifying or constructing a source of air pollution, except for those landfills that are subject to the prevention of significant deterioration (PSD) requirements of Chapter 62-212, F.A.C. Facilities that are subject to the PSD requirements shall obtain an air construction permit from the Bureau of Air Regulation prior to beginning construction or modification pursuant to Rule 62-210.400, F.A.C.

   b. The permittee shall comply with any applicable Title V air operation permit application requirements of Chapter 62-213, F.A.C., and 40 CFR 60, Subparts WWW and CC, as adopted by reference at Rule 62-204.800, F.A.C. Title V Permit applications shall be submitted to the District Air Program Administrator or County Air Program Administrator with air permitting authority for the landfill.

   c. The permittee shall submit to the Division of Air Resources Management, Department of Environmental Protection, Mail Station 5500, 3900 Commonwealth Blvd., Tallahassee, FL 32399-3000, any amended design capacity report and any Non-Methane Organic Compound (NMOC) emission rate report, as applicable, pursuant to 40 CFR 60.757(a)(3) and (b).

2. **Gas Monitoring and Control.**
   a. Landfill gas shall be monitored to demonstrate compliance with the criteria established in Rule 62-701.530(1)(a), F.A.C. (less than 25% of the lower explosive limit (LEL) for combustible gases in structures and less than 100% of the LEL for combustible gases at or beyond the property boundary).

   b. The owner or operator shall control landfill gas after the shutdown of the active landfill gas collection system (i.e., gas is no longer routed to the boiler or the flare). In the event that a passive gas venting system is required the owner or operator shall submit an application for minor permit modification to authorize its construction/operation.

3. **Gas Monitoring Locations.** Landfill gas monitoring shall be conducted as required by Operation Permit 35435-014-SO/01 (including modifications, if any), or its successors.

4. **Gas Remediation.** In the event that the Lower Explosive Limit (LEL) is greater than 25% inside structures both on and off of the landfill site, or greater than 100% at the property boundary, the owner shall submit to the Department, **within 7 days of detection**, a remediation plan detailing the nature and extent of the problem and the proposed remedy. The remedy shall be completed **within 60 days of detection** unless otherwise approved by the Department.

SPECIFIC CONDITIONS: PART D - Recordkeeping

1. **Report Submittals.** Unless otherwise specified, all submittals, notifications, requests for permit modification, reports for compliance with this permit, etc., shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926.

2. **Operation Plan and Operating Record.** Each landfill owner or operator shall have an operational plan which meets the requirements of Rule 62-701.500(2), F.A.C. A copy of the Department approved permit, operational plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. Operating records as required by Rule 62-701.500(3), F.A.C., are part of the operations plan, and shall also be maintained at the site.

3. **Waste Records.** The permittee shall maintain all records required by the construction specifications, and this permit on-site, and shall provide copies to the Department upon request, unless specified otherwise.

4. **Financial Assurance.** The permittee shall provide adequate financial assurance for this facility and related appurtenances in accordance with Rule 62-701.630, F.A.C. and Operation Permit 35435-014-SO/01 (including modifications, if any), or its successors.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

1. **Water Quality Monitoring Quality Assurance.** Water quality monitoring shall be conducted as required by Operation Permit 35435-014-SO/01 (including modifications, if any), or its successors.

ATTACHMENT 1

SPECIFIC CONDITION	SUBMITTAL DUE DATE	REQUIRED ITEM
A.4	No later than July 1, 2013	Submit application for permit renewal
A.9.a.	Within 24 hours of discovery Within 7 days of verbal notification	Notification of sinkholes or subsurface instability Written notification & corrective action plan
B.2.a.	Within 60 days of completion	Submit certification of construction completion, record drawings, etc.
B.4.	At least 1 week prior No later than 2 week after pre-construction meeting	Notify of preconstruction meeting Submit meeting minutes
B.5.b.	Monthly, by the 15th each month	Submit monthly progress report & schedule
C.6.b.	Within 24 hours of discovery. Within 7 days of verbal notification	Notification of: sinkholes, failure of landfill systems or equipment, etc. Written notification & corrective action plan

SPECIFIC CONDITIONS: PART G - Closure and Long-Term Care Requirements

1. **Closure Permit Requirements. No later than ninety (90) days** prior to the date when wastes will no longer be accepted for portions of the landfill which have reached closure design dimensions, the landfill owner or operator shall submit a closure permit application to the Department, in order to assure conformance with all applicable Department rules. A closure permit is required prior to implementing closure related activities.

2. **Final Cover.** Portions of the landfill which have been filled with waste to the extent of designed dimensions shall be closed (shall receive final cover) within 180 days after reaching design dimensions, in accordance with Rule 62-701.500(7)(g), F.A.C. and all applicable requirements of Department rules.

3. **Long-Term Care Requirements.**
   a. The owner or operator shall perform long-term care for the site in accordance with Rule 62-701.620, F.A.C., and the conditions of Operation Permit 35435-014-SO/01 (including modifications, if any), or its successors.

   b. Long-term care includes, but is not limited to, water quality, leachate and gas monitoring, maintenance of the final cover system; maintenance of the leachate collection and removal system, erosion control, and the prevention of ponding within disposal areas.

4. **Use of Closed Landfill Areas. Prior to implementation**, the owner or operator shall submit a plan for any proposed uses of the closed portions of the landfill to the Department for approval. This plan shall include a description of the proposed use and evaluation of the impact on the existing landfill systems (e.g. final cover, leachate collection, bottom liner), engineering designs, calculations and plans as appropriate, etc. The proposed activity shall not be initiated without prior Department approval, and may require a permit modification or separate permit.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

For Pamala Vazquez
Acting Director
Southwest District

ATTACHMENT B
CQA DAILY LOGS

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/4/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.67ºF	Min.44ºF	Clear	Other	
		Clear		

Contractor's Employees / Title		Equipment Used
ProjectManager		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks

Work Performed:

- Installing silt fence around Section 9 and hay bales across SE corner down chute.
- Surveying/laying out gas collection and control system expansion on Section 9.
- Fusing 6 inch diameter perforated pipe for the horizontal collector wells.
- Started excavating soil from the on-site borrow area and stockpiling on Section 9 along the horizontal collector line every 40 feet.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/5/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.75ºF	Min.42ºF	Clear	Other	
		Clear		

Contractor's Employees / Title		Equipment Used
ProjectManager		Hyundal HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks

Work Performed:

- Fusing 6 inch diameter perforated pipe for the horizontal collector wells.
- Started excavating soil from the on-site borrow area and stockpiling on Section 9 along the horizontal collector line every 40 feet.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/6/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.66ºF	Min.46ºF	Clear	Other	
		Clear		0.17"

Contractor's Employees / Title		Equipment Used
ProjectManager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		
Operator/Laborer		
Operator/Laborer		

Work Performed:

- Fusing 6 inch diameter perforated pipe for the horizontal collector wells.
- Started excavating soil from the on-site borrow area and stockpiling on Section 9 along the horizontal collector line every 40 feet.
- Noted to PM that there were no hay bales installed across the south down comers in Section 9. PM noted he would get more hay bales tomorrow and install asap.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/7/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.68ºF	Min.43ºF	Clear	Other	
		Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Drill Rig (Catepillar AF 130)
Operator/Laborer		
Sub: Quality Drilling Services		

Work Performed:

- Continue excavating soil from the on-site borrow area and stockpiling on Section 9 along the horizontal collector line every 40 feet.
- County requested that ERC use the west entrance road to Section 9 instead of the east maintenance road when hauling soil.
- County also requested that ERC not stockpile soil close to working face since it would interfere with landfill operations.
- Quality Drilling Services on site at 8:15am.
- Drill rig arrived on site at 8:30 am.
- ERC rquested to mobilize drill rig onto Section 9 using the east maintenance road so as to not damage the asphalt road in front of the east entrance road to Section 9.
- County noted to per the pre-bid conference comments, tire chips could not be stockpiled on Section 9. Also, ERC will need to have their off road trucks weighed in order to obtain an average of the weight of the truck and tire chips load. HDR will keep truck count of the tire chips loads.
- QDS drilled 4 horizontal collector wells (HC-29B, HC-28B, HC-27B, and HC-26B). QDS completed drilling at 5:05pm.
- ERC installed hay bales across the south down comers in Section 9.
- 10 rolls of geotextile delivered. Obtained a 3x4 sample for testing.
- Tire chips loads hauled = 3 loads x (6.5 tns avg. weight) = 19.5 tns
- ERC hauled 2 loads of waste to working face starting at 4:00pm. The remainder of waste excavated from the horizontal wells where stockpiled and covered with tarp to remain overnight on Section 9.
- Total length of 6 inch HDPE perforated pipe installed = 160 lf
- ERC end construction activities at 6pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/8/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.75ºF	Min.47ºF	Clear	Other	
		Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Sub: Quality Drilling Services		Tool Trailer
		Drill Rig (Catepillar AF 130)
		Excavator (Kobelco 235 SR LC)

Work Performed:

- QDS drilled 7 horizontal collector wells (HC-25B, HC-25A, HC-26A, HC-27A , HC-28A, HC-29A and HC-30A). QDS started drilling at 8:00 am and completed drilling at 3:50pm.
- County requested that ERC cover all above grade exposed perforated 6 inch pipe installed in the horizontal wells. ERC covered all above grade exposed perforated pipe with plastic bags.
- Verified the location of HC-25A with Cliff Koenig (HDR).The stake in the field did not have the well label or finish grade elevation at that location. HC-25A was verified to be the toe of slope where the stake was placed.
- Tire chips loads hauled = 3 loads x (6.5 tns avg. weight) = 19.5 tns
- ERC hauled 6 loads of waste to working face, including the waste excavated from the previous day. At the end of the day ERC did not have time to remove all of the waste excavated from the horizontal wells drilled so the waste was stockpiled and covered with tarp to remain overnight on Section 9.
- 10 inch and 12 inch HDPE solid pipe and fittings were delivered.
- Total length of 6 inch HDPE perforated pipe installed = 164 lf
- ERC completed construction activities at 6pm.
- No weekend workdurnig 3/9/2013 thru 3/10/2013.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/11/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.80ºF	Min.64ºF	Clear	Other	
			Cloudy/Windy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
		Excavator (Kobelco 235 SR LC)

Work Performed:

- Started excavating trench for HC-25 at HC-25A at 8:00am.
- ERC inquired whether excavated ash could be used as backfill material. Answer: No.
- Delivery of 6 inch diameter HDPE solid pipe and 2 inch diamater HDPE solid pipe.
- Tire chips loads hauled = 4 loads x (6.5 tns avg. weight) = 26.0 tns
- ERC hauled 9 loads of waste to working face. Four loads of waste disposed to working face from the previous day.
- Fused 90 degree bend plus 18.5 degree bend to HC-25A.
- Placed a layer of tire chips 1 foot thick at bottom of trench, then placed 6 inch HDPE perf. pipe, covered pipe with 2 foot layer of tire chips, placed geotextile fabric over the tire chips and then placed soil cover to top of trench.
- Total length of 6 inch HDPE perforated pipe installed in trench = 125 lf
- Total length of excavated trench = 125 lf
- At the end of the day ERC placed tarp over open trench with exposed waste (100 lf).
- ERC field GPS survey top of pipe installed for HC 25. Did not install survey tubes
- ERC completed construction activities at 6:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/12/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
70ºF	51ºF		Cloudy/Rain	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	

Work Performed:

- Continued excavating trench for HC-25. Started excavation activities at 7:41am.
- Progress Mtg. at 10:30am. CK and WG on-site for field visit.
- ERC coordinated with WM tobe able to get access tothe working face quicker by having seperate disposal line for ERC off road truck instead of having to wait in line..
- Coordinated with WM the redirecting of traffic during the road crossing construction for HC-25B tie-in.
- Tire chips loads hauled = 7 loads x (6.5 TN avg. weight) = 45.5 TN
- Excavation activities ceased at 1:30pm due to equipmenet failure (hydraulic line leak on excavator). ERC was not able to start road crossing construction.
- Fused 6 inch HDPE perf. pipe.
- Placed a layer of tire chips 1 foot thick at bottom of trench, then placed 6 inch HDPE perf. pipe, covered pipe with 2 foot layer of tire chips, placed geotextile fabric over the tire chips and then placed soil cover to top of trench.
- Total length of excavated trench= 115 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 73 lf.
- At the end of the day ERC placed tarp over open trench with exposed waste (42 lf).
- ERC field GPS survey top of pipe installed for HC 25 and installed survey tubes every 50 feet.
- ERC completed construction activities at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/13/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
75ºF	46ºF	Clear		

Contractor's Employees / Title		**Equipment Used**
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	

Work Performed:

- Continued excavating trench for HC-25. Started excavation activities at 7:40am.
- Redirected traffic and for road crossing to HC-25B well.
- Observed trenching operations to HC-25B well.
- Observed fusing of 6 inch tee to HC-25B well and fusing of 6 inch perf. pipe to tee.
- Tire chips loads hauled = 6 loads x (6.5 TN avg. weight) = 39 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench was backfilled with good soil stockpiled next to trench.
- Total length of excavated trench= 220 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 126 lf.
- At the end of the day ERC placed tarp over open trench with exposed waste (94 lf).
- ERC quit at 6:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/14/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
68ºF	42ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	
Operator/Laborer		

Work Performed:

- Continued trenching operations for HC-25 horizontal collector. Started excavation activities at 7:45am.
- Completed the excavation of trench for the installation of 6 inch perforated pipe for horizontal collector HC-25 line.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line H-25 was backfilled with good soil that was stockpiled next to trench.
- Tire chips loads hauled = 4.5 loads x (6.5 TN avg. weight) = 29.25 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Started trench operations for horizontal collector line HC-26 at HC-26A well.
- Total length of excavated trench at HC-26= 78 lf
- Total length of excavated trench at HC-25= 75 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 75 lf.
- At the end of the day ERC placed tarp over open trench with exposed waste (78 lf).
- ERC completed construction activities at 5:35pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/15/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
74ºF	47ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		

Work Performed:

- Continued excavating trench for horizontal collector line HC-26. Started excavation activities at 7:45am.
- Changed the bucket size on Kobelco Excavator from a 36 inch wide bucket to a 24 inch wide bucket.
- Received another excavator (John Deere) on-site with a 24 inch wide bucket.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-26 was backfilled with good soil that was stockpiled next to trench.
- Tire chips loads hauled = 3 loads x (6.5 TN avg. weight) = 19.5 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Total length of excavated trench at HC-26= 134 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 134 lf.
- ERC requested to work on Saturday in order to fuse 6 inch perforated pipe.
- ERC completed construction activities at 5:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/18/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
83ºF	63ºF		Partly Cloudy	

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
Operator		

Work Performed:

- Continued excavating trenching of horizontal collector line HC-26. Started excavation activities at 7:45am.
- Working face of Section 9 relocated from west side to east side.
- Continued trenching operations of HC-26 line using 2 excavators to excavate same trench.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench of horizontal collector line HC-26 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 10 loads x (6.5 TN avg. weight) = 65 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Total length of excavated trench at HC-26= 350 lf
- Total length of pipe installed in trench at HC-26= 273 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 273 lf.
- At the end of the day ERC placed tarp over open trench with exposed waste (77 lf).
- ERC completed construction activities at 6:13pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/19/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
82ºF	62ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)

Work Performed:

- Continued excavating trenching of horizontal collector line HC-26. Started excavation activities at 7:42am.
- Completed the excavation of trench for the installation of 6 inch perforated pipe for horizontal collector line HC-26.
- Observed fusing of 6 inch tee to HC-26B well and fusing of 6 inch perf. pipe to tee.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-26 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 7 loads x (6.5 TN avg. weight) = 45.5 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Total length of excavated trench at HC-26= 295 lf
- Total length of pipe installed in trench at HC-26= 295 lf
- Total length of trench backfilled with tire chips, geotextile fabric placed, and soil backfill = 295 lf.
- ERC completed construction activities at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/20/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco/B. Curtis	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
82ºF	62ºF		Partly Cloudy	

Contractor's Employees / Title		**Equipment Used**
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:45am.
- Started the excavation of trench for the installation of 6 inch perforated pipe of horizontal collector line HC-27 at HC-27A.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-27 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 1 loads x (6.5 TN avg. weight) = 6.5 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- IRF left site at 1 pm. B. Curtis (HDR) on site from 1pm to 6 pm. ERC completed construction activities at 6:00 pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/21/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco/B. Curtis	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
71ºF	45ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:45am.
- Continued the excavation of trench for horizontal collector line HC-27 from the high point to HC-27B well.
- Observed fusing of 6 inch tee to HC-27B well and fusing of 6 inch perf. pipe to tee.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-27 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 12 loads x (6.5 TN avg. weight) = 78 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Started the excavation of trench for horizontal collector line HC-28 line at HC-28A.
- BC on-site unitil 1pm. IRF arrived on-site at 1 pm. ERC completed construction activities at 6:10pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/22/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
71ºF	45ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:45am.
- Continued the excavation of trench for horizontal collector line HC-28 from the mid-slope to HC-28B.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-28 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 9 loads x (6.5 TN avg. weight) = 58.5 TN
- Observed fusing of 6 inch HDPE perf. pipe.
- Total length of pipe installed in trench at HC-28= 300 lf
- WM noted that the working face would expand westward soon (within the next couple of days) and would cover HC-25 line, including the survey tubes installed. ERC's surveyor (Peavey) has not surveyed HC-25 and they may need to uncover whatever is covered.
- At the end of the day ERC placed tarp over open trench with exposed waste (150 lf).
- BC on-site from 7:00am to 12pm. IRF arrived on-site at 12 pm. ERC completed construction activities at 5:49pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/25/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
66ºF	46ºF	Clear	Windy	

Contractor's Employees / Title		Equipment Used
Project Manager	Jerry Pinder	Hyundai HL 760-7A Loader
Superintendent	Ron Dickens	2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:25am.
- Continued trench operations for HC-28, from HC-28B well to connection to 6 inch HDPE solid pipe. Trench was graded to 3.38% slope. Approx. 150 lf. Completed installation of 6 inch perf. horizontal collector pipe for HC-28.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-28 was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 4 loads x (6.5 TN avg. weight) = 26 TN ; loader buckets (5 CY bucket) = 3
- Observed excavation around vertical wells HC-27A and HC-26A.
- Observed fusing of 6 inch HDPE tee to H-28B well and fusing of 6 inch HDPE tee to 6 inch perf. pipe.
- Observed fusing of 6 inch HDPE tee to 6 inch HDPE - 90º elbow. Also observed fusing of 6 inch HDPE - 90º elbow to 6 inch HDPE perf. horizontal collector pipe and fusing of 6 inch HDPE - tee to H-26A well.
- At the end of the day ERC placed tarp over open trench with exposed waste (HC-26A well and HC-27A well).
- All operations completed at 6:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/26/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
61ºF	38ºF	Clear	Windy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:28am.
- Observed the excavation of the trench for horizontal collector line HC-29, from HC-29A well to high point. Approx. 374 lf.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-29 was backfilled with good soil stockpiled next to trench.
- Total length of trench backfilled with tire chips = 194 lf.
- Total 6 inch HDPE perf. pipe installed = 374 lf
- Tire chips loads hauled = 3 loads x (6.5 TN avg. weight) = 19.5 TN
- Observed welding of 6 inch HDPE perf. pipe.
- Attended Project weekly meeting at 10:30am.
- Observed fusing of 6 inch HDPE tee to 6 inch HDPE - 90º elbow. Also observed fusing of 6 inch HDPE horizontal collector pipe and 6 inch HDPE - 90º elbow and observed electrofusion of electrofusion coupling to 6 inch HDPE tee and H-27A well pipe.
- Observed fusing of 6 inch HDPE tee to 6 inch HDPE - 90º elbow. Also observed fusing of 6 inch HDPE horizontal collector pipe and 6 inch HDPE - 90º elbow and observed electrofusion of electrofusion coupling to 6 inch HDPE tee and H-28A well pipe.
- At the end of the day ERC placed tarp over 194 lf of open trench with exposed waste on HC-29. 180 lf of trench left uncovered on HC-29.
- Advised ERC that there was excessive flagging throughout Section 9 and that this needed to be cleaned up.
- All operations completed at 6:45pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/27/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
65ºF	39ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundal HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Continued excavation of trench for horizontal collector line HC-29, from high point to HC-29B. Approx. 114 lf.
- Observed placement of geotextile fabric over the tire chips. The trench for horizontal collector line HC-29 was backfilled with good soil stockpiled next to trench (approx. 180 lf from HC-29 to high point).
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-29 (from high point to HC-29B) was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 12 loads x (6.5 TN avg. weight) = 78 TNs
- Observed fusing of 6 inch HDPE perf. pipe.
- Observed excavation of trench from HC-28A well south 15 ft.
- Observed HC-26A, HC-27A and HC-28A wells backfilled with tire chips and then tarped.
- At the end of the day ERC placed tarp over open trench with exposed waste (HC-28 trench south - 15 lf).
- All operations completed at 5:15pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/28/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
72ºF	46ºF	Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
Operator		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:34am.
- Continued trenching operations for horizontal collector line HC-29 installation from HC-29B north 184 lf to HC-29-R-N wellhead.
- Observed excavation of waste in trench for installation of 6 inch HDPE solid pipe for HC-25, from end of 6 inch perf. horizontal collector pipe to HC-25-R-N wellhead at a1.2% slope. Backfilled trench with good soil.
- Observed excavation of waste in trench for installation of 6 inch HDPE solid pipe for HC-26, from end of 6 inch perf. horizontal collector pipe to HC-26-R-N wellhead at a1.2% slope. Backfilled trench with good soil.
- Observed excavation of waste in trench for installation of 6 inch HDPE solid pipe for HC-27, from end of 6 inch perf. horizontal collector pipe to HC-27-R-N wellhead at a1.2% slope. Backfilled trench with good soil.
- Observed fusing of 6 inch HDPE tee to HC-29B well and fusing of 6 inch HDPE tee to 6 inch perf. pipe.
- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- After slope check, 2 foot thick layer of tire chips was placed over 6 inch perf. pipe, survey tubes were installed every 50 feet and geotextile fabric was placed over the tire chips. The trench for horizontal collector line HC-29 line (from HC-29B well to 3 lf north of end of 6 inch perf. pipe) was backfilled with good soil stockpiled next to trench.
- Tire chips loads hauled = 4 loads x (6.5 TN avg. weight) = 26 TN ; Loader buckets loads = 1 x (5 CY) = 5 CY
- Observed fusing and assembling of 6 inch HDPE solid horizontal collector pipe with blind flange and wellhead casing (HC-29-R-N) with a cap for pressure testing.
- All operations completed at 5:45pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 3/29/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
76ºF	50ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)
Operator		

Work Performed:

- Started excavation activities at 7:30am.
- Continued trenching operations for installation of 6 inch HDPE solid pipe for HC-29, from end of 6 inch perf. horizontal collector pipe to HC-29-R-N wellhead at a1.5% slope. Trash screen was removed to trench through north berm.
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-29-R-N) with a cap.

  Starting Time: 8:33am — Starting Pressure: 10 psi
  Ending Time: 9:33am — Ending Pressure: 10 psi — **TEST PASSED**
  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 114 ft.

- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-28-R-N) with a cap.
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-28-R-N) with a cap.

  Starting Time: 10:25am — Starting Pressure: 10 psi
  Ending Time: 11:25am — Ending Pressure: 10 psi — **TEST PASSED**
  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 110 ft.

- Continued trenching of HC-28 horizontal collector line from tie in to 6 inch solid horizontal collector pipe to HC-29-R-N wellhead at a1.3% slope. Trash screen was removed to trench through north berm.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-N) with a cap.
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-N) with a cap.

  Starting Time: 12:10pm — Starting Pressure: 10 psi
  Ending Time: 1:10pm — Ending Pressure: 10 psi — **TEST PASSED**
  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 120 ft.

- Peavey Surveyors on-site to as-built horizontal collector pipes installed (perf. and solid).

- Observed installation of 114 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-29-R-N) with a cap to 6 inch HDPE perf. horizontal collector pipe in trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE perf. horizontal collector pipe.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit and trench was backfilled using good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-29 line north.
- Observed placement of tire chips 1 foot thick at the bottom of the HC-28 trench to 3 lf north of end of 6 inch perf. pipe.
- Observed installation of 110 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead (HC-28-R-N) casing with a cap to 6 inch HDPE perf. horizontal collector pipe in trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE perf. horizontal collector pipe.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit and trench (HC-28) was backfilled pipe using good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-28 line.
- Tire chips loader buckets loads = 2 x (5 CY) = 10 CY
- Reinstalled trash screens at end of day.
- All operations completed at 4:15pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/1/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: B. Curtis	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
85ºF	65ºF	Clear	Moderate Wind	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundal HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	Sub (DBE) - Liberty Hauling	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)
Operator		

Work Performed:

- Started excavation activities at 7:30am.
- Observed excavation of soil from trench HC-27. Trash screen was removed to install pipe.
- Observed placement of tire chips 1 foot thick at the bottom of the HC-27 trench to 3 lf north of end of 6 inch perf. pipe.
- Observed installation of 100 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-N) with a cap to 6 inch HDPE perf. horizontal collector pipe in trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE perf. horizontal collector pipe.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit and trench (HC-27) was backfilled using good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-27 line.
- Observed excavation of soil from trench HC-26 and HC-25. Trash screen was removed to install pipe.
- Observed placement of tire chips 1 foot thick at the bottom of HC-26 and HC-25 trenches to 3 lf north of end of 6 inch perf. pipe.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-N) with a cap.
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-N) with a cap.

  Starting Time: 9:25am — Starting Pressure: 10 psi

  Ending Time: 10:25am — Ending Pressure: 10 psi — **TEST PASSED**

  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%

  Length of Pipe: 110 ft.
- Observed installation of 110 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-N) with a cap to 6 inch HDPE perf. horizontal collector pipe in trench.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit and trench (HC-26) was backfilled using good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-26 line.

- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-25-R-N) with a cap.
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-25-R-N) with a cap.

  Starting Time: 11:00pm — Starting Pressure: 10 psi

  Ending Time: 12:00pm — Ending Pressure: 10 psi — **TEST PASSED**

  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%

  Length of Pipe: 100 ft.
- Observed installation of 100 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-N) with a cap to 6 inch HDPE perf. horizontal collector pipe in trench.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit and trench (HC-25) was backfilled using good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-26 line.
- Tire chips loader buckets loads = 3 x (5 CY) = 15 CY
- Observed excavation of waste from trench south of HC-26A - approx. 90 ft - towards wellhead HC-26-R-S. Removed trash screens for excavation of trench. Tarped trench overnight but backfilled with good soil along berm area.
- Observed excavation of waste from trench south of HC-27A - approx. 50 ft - towards wellhead HC-26-R-S. Removed trash screens for excavation of trench. Tarped trench overnight but backfilled with good soil along berm area.
- Trash screens were not re-installed at end of day.
- All operations completed at 6:45pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/2/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
84ºF	60ºF		Morning Fog/Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:45am.
- Continued excavation of waste from trench south of HC-27A at a 2.25% slope.
- Observed excavation of waste from trench south of HC-26A at a 1.5% slope.
- Observed excavation of waste from trench south of HC-28A at a 1.0% slope.
- Observed excavation of waste from trench south of HC-29A at a 1.0% slope.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-S) with a cap (from HC-26A well tee to HC-26-R-S).

  Pressure Test 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-S) with a cap (from HC-26A well tee to HC-26-R-S).

  Starting Time: 10:55am — Starting Pressure: 10 psi
  Ending Time: 11:55am — Ending Pressure: 10 psi — **TEST PASSED**
  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 135 ft.
- Observed installation of 135 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-26-R-S) with a cap in trench. Also observed fusing of 6 inch HDPE solid horizontal collector pipe to 6 inch HDPE tee at HC-26A well.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit. Placed 2 foot of tire chips over 6 inch tee. Backfilled 6 inch solid horizontal collector pipe (HC-26) with good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-26 line.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-S) with a cap (from HC-27A well tee to HC-27-R-S).
- Pressure Test of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-S) with a cap (from HC-27A well tee to HC-27-R-S).

  Starting Time: 3:11pm — Starting Pressure: 10 psi
  Ending Time: 4:11pm — Ending Pressure: 10 psi — **TEST PASSED**
  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 140 ft.

- Observed installation of 140 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-27-R-S) with a cap in trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE tee at HC-27A well.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit. Placed 2 foot of tire chips over 6 inch tee. Backfilled 6 inch solid horizontal collector pipe (HC-27) with good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-27 line.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-28-R-S) with a cap (from HC-28A well tee to HC-28-R-S).

  Pressure Test 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-28-R-S) with a cap (from HC-28A well tee to HC-28-R-S).

  Starting Time: 6:02pm — Starting Pressure: 10 psi

  Ending Time: 7:02pm — Ending Pressure: 10 psi — **TEST PASSED**

  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%
- Length of Pipe: 135 ft.
- Tire chips loader buckets loads = 2 x (5 CY) = 5 CY
- Trash screens were not re-installed at end of day.
- All operations completed at 7:15pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/3/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
85ºF	65ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	(Sub: Liberty Hauling) Left site @ 12:30pm	Excavator (John Deere 200D LC)
Operator/Laborer		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:40am.
- Started excavation of trench HC-30 for installation of 6 inch perf. horizontal collector pipe - from HC-30A towards the north.
- Continued excavation of trench south of HC-29A at a 1.0% slope.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-29-R-S) with a cap (from HC-29A well tee to HC-29-R-S).

  Pressure Test: 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-29-R-S) with a cap (from HC-29A well tee to HC-29-R-S).

  Starting Time: 12:02pm — Starting Pressure: 10 psi

  Ending Time: 1:02pm — Ending Pressure: 10 psi — **TEST PASSED**

  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%

  Length of Pipe: 133 ft.
- Observed installation of 133 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-29-R-S) with a capin trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE tee at HC-29A well.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit. Placed 2 foot of tire chips over 6 inch tee. Backfilled 6 inch solid horizontal collector pipe (HC-29) with good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-29 line.
- Observed installation of 135 ft. of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-28-R-S) with a cap in trench. Also observed fusing of 6 inch HDPE soild horizontal collector pipe to 6 inch HDPE tee at HC-28A well.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit. Placed 2 foot of tire chips over 6 inch tee. Backfilled 6 inch solid horizontal collector pipe with good soil hauled from borrow area.
- ERC installed survey tubes every 50 feet for HC-28 line.
- Attended Progress weekly meeting at 10:30am. CK on-site to review progress of project.

- Observed placement tire chips 1 foot thick at bottom of trench, then placement of 6 inch HDPE perf. pipe over tire chips and slope checked @ 20 ft intervals in the field using Trimble GPS.
- Started placement of approximately 2 foot layer of tire chips over 6 inch perforated pipe and placement of geotextile fabric over tire chips but only 75 ft. completed. Remainder of 6 inch perf. pipe in trench tarped overnight for HC-30 line.
- Tire chips loads hauled = 4 loads x (6.5 TN avg. weight) = 26 TN , loader bucketsloads= 2 x(5 CY) = 10 CY
- All operations completed at 7:10pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/4/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
79ºF	66ºF		Cloudy/Windy/Rain	1.8 inch

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:15am.
- Completed placement of approximately 2 foot layer of tire chips over the 6 inch perforated pipe and placment of geotextile fabric over tire chips for HC-30. The trench for horizontal collector line HC-30 was backfilled with good soil hauled from borrow area.
- Re-graded areas around previous installed horizontal collector lines to prevent erosion from rain.
- Tire chips loads hauled = 2 loads x (6.5 TN avg. weight) = 13 TN
- All operations completed at 11:37am due to heavy rain.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/5/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
79ºF	66ºF		Cloudy/Windy/Rain on and off	1.2 inch

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started construction activities at 7:15am.
- Re-graded areas around previous installed horizontal collector lines to prevent erosion from rain and picked up flagging around Section 9.
- Observed fusing of 6 inch HDPE solid pipe.
- All operations completed at 4:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/8/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
86ºF	62ºF	Clear	Windy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
		Welding Machines (2)
		(1 Volvo Off Road Truck removed from site over weekend)

Work Performed:

- Started excavation activities at 7:15am.
- Continued excavation of trench south of HC-30A well at a 1.2% slope.
- Observed fusing of 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-30-R-S) with a cap (from HC-30A well tee to HC-30-R-S).

  Pressure Test: 6 inch HDPE solid horizontal collector pipe with blind flange and 6 inch tee to wellhead casing (HC-30-R-S) with a cap (from HC-30A well tee to HC-30-R-S).

  Starting Time: 1:35pm — Starting Pressure: 10 psi

  Ending Time: 2:02pm — Ending Pressure: 10 psi — **TEST PASSED**

  Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%

  Length of Pipe: 125 ft.
- Observed fusing of 10 inch HDPE header pipe.
- Observed fusing of 6 inch HDPE - 90º elbow to 6 inch HDPE tee. Also observed electrofusion of electrofusion coupling to 6 inch tee and HC-30A perf. pipe well.
- Observed fusing of 6 inch HDPE solid horizontal flange and 6 inch tee to wellhead casing (HC-30-R-S) with a cap to 6 inch 90º elbow at HC-30A well.
- ERC installed survey tubes every 50 feet for HC-30 line.
- Pipe slope checked @ 20 ft intervals in the field using Trimble GPS unit. Placed 2 foot of tire chips over 6 inch tee. Backfilled 6 inch solid horizontal collector pipe with good soil hauled from borrow area.
- Attended Progress weekly meeting at 10:30am. CK and BC on-site to review progress of project.
- Tire chips loads hauled = 1 loads x (6.5 TN avg. weight) = 6.5 TN
- All operations completed at 6:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/9/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
87ºF	64ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started construction activities at 7:30am.
- Observed fusing of 10 inch HDPE header pipe. Total welded = 860 ft.
- Observed fusing of 2 inch HDPE air supply pipe. Total welded = 840 ft.
- Observed fusing of 10 inch x 8 inch to 8 inch x 6 inch HDPE reducers. Total welded = 7 ea.
- Observed fusing of 8 inch HDPE vertical access points. Total welded = 2 ea.
- Delivered 11 ea. wellheads to the site.
- Assembled/Installed 5 (HC-25-R-S, HC-26-R-S, HC-27-R-S, HC-28-R-S, HC-29-R-S) wellheads. Did not install orifice plate. Discussed with D. Caswell (County) which orifice plate should be installed. DC indicated that 0.75 orifice plate should be installed in the wellhead.
- All operations completed at 4:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/10/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
88ºF	68ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundal HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer	1 Resigned at 2:00pm.	Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started construction activities at 7:33am.
- Observed fusing of various components (Access point, etc.) to 10 inch HDPE header pipe.
- Observed fusing of 2 inch HDPE air supply pipe and access point components.
- Contractor laying out alignment of 10 inch header along north side slope.
- All operations completed at 5:33pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/11/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
87ºF	70ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer	1 Resigned at 7:35am	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:35am.
- County requested that ERC pick up / clean up pipe remains and shavings from area on SW corner of Section 9. ERC cleaned up and graded SW area on Section 9.
- Started excavation of trench for 10 inch header and 2 inch air supply pipe at 5.6% slope, from U-trap (U-1) location towards the west. Size of trench was approx.. 3.5 ft (deep) x 2 ft (wide). Observed excavation operation carefully for waste removal and trench size adherence. Completed excavation of trench at terrace on north side slope.
- First 25 ft. of trench waste was removed but did not encounter waste again until approx. 40 ft. east of terrace.
- Total trench excavated = 286 ft.
- Observed fusing of 6 inch stub outs to 10 inch HDPE header pipe.
- Observed placement of 10 inch HDPE header pipe and 2 inch HDPE air supply pipe in trench. Backfilled pipes with good soil removed from trench and hauled from borrow area.
- Total 10 inch HDPE header pipe installed = 286 ft. Total 2 inch HDPE air supple pipe installed = 286 ft.
- All operations completed at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/12/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
87ºF	70ºF		Partly Cloudy/Windy/Overcast	

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		1- Volvo (A25F)Off Road Trucks
		Tool Trailer
		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Continued excavation of trench for 10 inch header and 2 inch air supply pipe at 5.2% slope, from terrace heading west to HC-29-R-N well head. Also excavated trenches for 6 inch stub and 3-6inch laterals to wellheads (HC-29-R-N, HC-28-R-N, and HC-27-R-N). Size of trench approx. 3.5 ft (deep) x 2 ft (wide). Observed excavation operation carefully for waste removal and trench size adherence. Completed excavation of trench 4 ft. west of HC-29-R-N wellhead.
- Waste was excavated in entire length of trench except for approximately 20 ft.
- Total trench excavated = 210 ft.
- Observed placement of 10 inch HDPE header pipe with stub out and laterals and 2 inch HDPE air supply pipe in trench. Total 10 inch HDPE header pipe installed = 210 ft. Total 2 inch HDPE air supple pipe installed = 210 ft.
- ERC did not fuse 2 inch access point (AP) to 2 inch HDPE air supply pipe. Also end of 2 inch HDPE air supply pipe was capped instead of a blind flange fused to it. ERC to replace cap with blind flange prior to final installation and pressure testing.
- Backfilled 10 inch header and 2 inch air supply pipe with good soil (2.5 ft of soil cover over pipes) hauled from borrow area. Did not backfill last 51 ft. towards the west since 2 inch AP still needed to be installed and 10 inch header blind flange bolts, nuts, and back up rings were not coated with polymer rubberized primer and wrapped in plastic prior to backfilling (2 inch blind flange also requires to be installed). ERC did not have polymer rubberized primer on site.
- 51 ft. of tarp placed over open trench overnight.
- All operations completed at 7:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/15/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
89ºF	69ºF		Partly Cloudy/Windy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Continued excavation of trench for 10 inch header and 2 inch air supply line, from U-trap (U-1) towards the tie-in to 16 inch header. Only excavated 10 lf of trench.
- Started excavation of northeast corner of Section 9 on the terrace to locate the existing 16 inch header line. Approximate depth of existing 16 inch header 7ft. to 9 ft. ERC decided to modify location of the tie-in of the 10 inch header to existing 16 inch header to the terrace area in order tomaintain 5% slope on the 10 inch header.
- Located existing 16 inch header at 2 pm, the existing header was 13 ft. deep. While excavating waste, the excavator inadvertently damaged existing 16 inch header. County personnel, slightly closed valve V-8 in order for ERC to temporarily repair 16 inch header pipe. ERC temporarily repaired existing 16 inch header pipe with visqueen.
- Observed fusing of U-trap (U-1).
- Placed tarp over open trench at northwest corner at proposed connection to existing 16 inch header.
- All operations completed at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/16/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
91ºF	66ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
Operator/Laborer		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:35am.
- Started excavation of trench for U-trap (U-1).
- While excavating trench, excavator damaged existing 4 inch lateral connected to existing 8 inch LCO.
- ERC cut damaged section of existing 4 inch lateral and capped remaining section for repair later. Also removed existing concrete collar around existing 8 inch LCO and removed/cut 12 lf of existing 8 inch LCO (including section with 4 inch branch saddle) and capped remaining section for repair later.
- Installed U-trap (U-1) and partially backfilled with good soil excavated from trench.
- Observed fusing of 12 inch HDPE solid pipe header and 8 inch HDPE solid pipe access point for 12 inch header.
- Observed fusing of U-trap (U-2).
- Attended project meeting at 10:30am. CK and BC on site to review progress of project.
- At the project meeting, the depth of the existing 16 inch header was discussed. It was decided that it would be safer and less costly to install electrofusion couplings for the connection of the 16 inch x 10 inch tee to the existing 16 inch header.
- Observed fusing of 2 inch access point on the 2 inch air supply line on the west side of the north side slope.
- At end of day placed tarp over the trench for the U-trap (U-1) and trench for existing 8 inch LCO (CO 8-2).
- All operations completed at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/17/13	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: M. Austin	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
81ºF	68ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (John Deere 200D LC)
Operator/Laborer		
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:40am.
- Began Trench at U-trap U-1 on north slope and continued east upslope towards header connection point. Approx 260 LF of trenching.
- Observed the fusion of two large lengths of 10" HDPE header approx. 300 ft in total length
- Pipe was placed into trench and slope checked @ 20 ft intervals in the field using Trimble GPS unit then backfilled from header connection point towards the the U-trap.
- 10" header line was then connected to U-trap using elbow Fitting 22.5 degree welded with slight upward angle to promote drainage.
- 2" airline was placed in trench and fused to 2" airline installed earlier in the week
- U-Trap area excavation was backfilled up to an elevation below the head pipe.
- All open excavations were covered using tarps and tires as ballasts.
- All operations complete at 5:30pm

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/18/13	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: M. Austin	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
88ºF	70ºF	Clear		20% Scattered Afternoon showers

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (John Deere 200D LC)
Operator/Laborer		
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:40am.
- Began Trench at LCO 9-2 for lateral pipe to connect to 10" Header upslope. LCO 9-2 was exposed by hand using shovel. Continued trenching up to header but did not expose header pipe. Approx 200 lf of Trench
- Observed welded of 6" lateral for LCO 9-2.
- Presure tested Lateral
- Began Test: 9:15 Start Pressure: 10 PSI
- End Test: 10:15 End Pressure: 9.8 PSI
- Spoke With Dave Caswell of the County and he asked that all connections to the existing ststem be made by Monday to not interfere with his testing on Tuesday.
- Spoke with ERC about this and the Contractors plan is to Connect to existing 16" header on Monday, make repair to LCO 8-1 and LC0 8-1 later for LFG extraction and to tie in U-1 discharge line on Friday 04/19/13.
- Observed Tenching operations for Horizonal wellhead lateral pipes for the following horizontal wells; HC-25R, HC-26R, HC-27R, HC-28R. All connection points to the header were exposed by hand using shovel. The header had the connection Tees already welded with duct tape cover 6" connection point on the reducer.
- After completion of trenching for the horizontal well 6" laterals were placed in trench and fused to header tees. All open trenches were backfilled using clean backfilled trucked over to the terrace using offroad truck.
- Lateral for LCO 9-2 was place in trench and backfilled from the header connection downslope leaving approx.. 20 feet exposed to make connection to LCO 9-2. No connection was made on this day.
- All open trenches were backfilled using clean backfilled trucked over to the terrace using offroad truck.
- All operations completed at 6:45pm

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/19/13	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: M. Austin	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
85ºF	70ºF	Partly Cloudy		20% Scattered Afternoon showers

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		2- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (John Deere 200D LC)
Operator/Laborer		
Operator/Laborer		
Operator		

Work Performed:

- Started excavation activities at 7:45am.
- Excavated around HC-25 and HC-26 Lateral risers to make plumb. Hand dug around Riser fittings and beaneath using shovel. Backfilled around risers using clean backfill.
- Set up equipment for the testing of the header pipe and all connected laterals.
- Connected pipe; 10" header from header connection to blind flange and laterals for horizontal wells on north slope of landfill.
- Spoke with ERC about plan for LCO 8-1 repair to Cleanout pipe and Lateral connection. After discussion I sent over sket to Cliff for approval.
- Existing cleanout pipe was removed from trench and new 8" tee and reducer were all welded together and new 4" branch saddle was installed on existing LCO 8-1 cleanout pipe.
- Cleanout Pipe was not re-installed at the end of the day, planned for Monday morning.
- Header pipe was fused with testing assembly. Gate valve and pressure gauge were replaced but pressure gauge was 160 psi type making it difficult to read and test for pressure loss. After filling to 15 PSI the header was left pressurized for the weekend to attempt testing on Monday.
- Tarp arounf the 16" header was spread over the area and reinforced since it had blown around the night before and exposed some open waste. Berm and trench were placed on upslope above excavation and tarp was placed in trench with some soil backfill to keep it in place.
- All open trenches were backfilled using clean backfilled trucked over to the terrace using offroad truck.
- All operations completed at 6:45pm

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/22/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
84ºF	64ºF		Morning Fog/Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 8:00am.

- Pressure test of 10 inch HDPE header was started on Friday afternoon and left pressurized at 15 psi over the weekend. The pressure gauge was not replaced by ERC as requested by HDR on Friday. After discussing this issue with CK, CK approved the use of the existing pressure gauge for this test but requested that the pressure guage be replaced with a correct pressure gauge for next pressure test.

  Pressure Test: 10 inch HDPE solid header pipe with blind flange, 2- 8 inch AP, 2 - 6 inch stub outs (10 ft. long), 6 inch remote well head, U-trap (U-1), and 4 - 6 inch lateral with risers.

  Starting Time: 1:00pm (4/19/2013) Starting Pressure: 15 psi

  Ending Time: 8:00am (4/22/2013) Ending Pressure: 15 psi **TEST PASSED**

  Diameter: 10 inch HDPE pipe % Change in Pressure: 0%

  Length of Pipe: 742 ft.

- Observed repair of existing 4 inch lateral to existing 8 inch LCO (CO 8-1).
- Observed fusing of new 8 inch x 4 inch branch saddle to 8 inch tee. Observed fusing of 8 inch tee to existing 8 inch LCO pipe.
- Observed electrofusing of electorfusion coupling to 8 inch x 4 inch branch saddle and existing 8 inch LCO pipe.
- Observed fusing of new 4 inch lateral pipe (approx. 12 ft.) to existing 4 inch lateral and fusing of new 4 inch lateral pipe to new 8 inch x 4 inch branch saddle.
- Observed fusing of 6 inch lateral to U-trap (U-1) (approx. 6 ft.).
- Observed fusing of 6 inch riser pipe (approx. 10 ft.) with 6 inch tee to 8 inch x 6 inch reducer from 8 inch LCO.
- Observed fusing of 6 inch 90º bend to 6 inch tee on riser and fusing of 6 inch 90º bend to 6 inch lateral from U-trap (U-1) .

- Continued excavating waste from trench at connection point to 16 inch header in order to make trench safe to enter in order to make connection.
- ERC noted that they would not be able to complete connection to 16 inch header by COB today as requested by County on Friday. ERC requested to make connection of 16 inch header tomorrow (Tuesday, 4/23/2013). After discussing with CK and County, ERC's request was granted. Connection will be made tomorrow.

- Observed fusing of 2 inch tee to 2 inch pipe (approx. 13 ft.) to 2 inch 90º bend to 2 inch pipe (approx. 5 ft) to 2 inch tee. This will be used to connect existing 2 inch air supply line to new 2 inch air supply pipe.

- At end of day placed tarp over the trench for the U-trap (U-1) and trench for existing 8 inch LCO (CO 8-1). Also tarped trench for existing 16 inch connection point.

- All operations completed at 6:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/23/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
86ºF	60ºF	Clear	Windy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- County personnel closed valve (V-8) and opened wellheads on west side in order to dissipate some of the gas in the existing 16 inch header.
- Observed electrofusion of electrofusion couplings to 16 in x 10 inch tee and existing 16 inch header line and.
- Observed fusing of 10 inch header pipe (approx.. 12 lf) to 16 inch x 10 inch tee and fusing of 10 inch header pipe to 10 inch 90º elbow.
- Observed fusing of 10 inch header to 10 inch 90º elbow.
- Observed fusing of 2 inch tee connection assembly to existing 2 inch air supply line.
- Started backfilling of trench for connection point on northeast corner. Backfilled half of the trench.
- Pressure Test of 2 inch HDPE air supply line on north side (from connection point to blind flange).
  Starting Time: 3:20pm — Starting Pressure: 15 psi
  Ending Time: 4:20pm — Ending Pressure: 15 psi — **TEST PASSED**
  Diameter: 2 inch HDPE pipe — % Change in Pressure: 0%
  Length of Pipe: 750 ft.
- Attended project weekly meeting at 10:30am. CK and BC on site to review progress of project.
- Started excavation of trench for 12 inch header on south side slope, from blind flange towards the east. Excavated waste in 100 ft. of trench.
- Peavey Surveyors onsite to as-built north side slope.
- At end of day placed tarp over the 100 ft. of trench on north side slope.
- All operations completed at 6:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/24/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
88ºF	64ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Surveyed 10 inch header in field using trimble GPS (from U-trap (U-1) to 10 inch 90º bend at connection point, including 6 inch lateral to 8 inch LCO (CO 8-1).
- Continued trenching operations for 12 inch header on south side slope at 6.14% slope. Trenched approx. 130 ft. to existing pump station.
- Observed installation of approx. 232 ft. of 12 inch header on south side slope (including blind flange).
- Observed coating of blind flange stainless steel bolts, nuts, and back-up rings with polycoat rubberized primer. Observed that blind flange was wrapped with plastic, then taped with duck tape and placed in trench.
- Observed electrofusing of electrofusion couplings to existing 8 inch LCO (CO 9-2) and 8 inch x 6 inch tee.
- Observed fusing of 6 inch 45º bend to 8 inch x 6 inch tee.
- Observed fusing of 6 inch x 6 inch tee to 6 inch 45º bend.
- Observed fusing of 6 inch lateral to 6 inch x 6 inch tee.
- Backfilled trench to connection to existing 8 inch LCO (CO 9-2) with good soil excavated from trench.
- Finished backfilling connection point on northeast corner with good soil hauled from borrow area. Placed warning tape 1 ft. below final grade.
- Observed fusing of 4 inch HDPE condensate pipe, 4 inch AP, 2 inch air supply pipe and 2 inch AP.
- Placed approx. 232 ft. of 4 inch HDPE condensate pipe and 2 inch air supply pipe in same trench as 12 inch header.
- Observed coating of 4 inch and 2 inch blind flange stainless steel bolts, nuts, and back-up rings with polycoat rubberized primer. Observed that blind flanges were wrapped with plastic, then taped with duck tape and placed in trench.
- Slope checked @ 20 ft intervals in the field using Trimble GPS unit.
- Trench for 12 inch header was backfilled with good soil excavated from trench. Warning tape was placed 1 ft. below final grade.
- All operations completed at 5:40pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/25/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
88ºF	65ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Observed excavation of existing 10 inch LCO (CO 9-1) in front of existing pump station on south side.
- Observed fusing of 2 - 10 inch x 6 inch branch saddles approx. 1.5 ft. apart (3 ft. from edge of existing concrete pad of pump station) to existing 10 inch LCO (CO 9-1). Taped open ings on branch saddles.
- Excavated trench area for U-trap (U-2) on south side slope.
- Installed U-trap (U-2).
- Observed fusing of 10 inch header (west side) to U-trap (U-2).
- Observed electrofusing of 6 inch electrofusion coupling to 6 inch lateral stub out on U-trap (U-2) and 6 inch lateral pipe with cap toexisting 10 inch LCO (CO 9-1)(approx. 23 ft.).
- Observed coating of 10 inch and 2 inch blind flanges stainless steel bolts, nuts, and back-up rings with polycoat rubberized primer. Observed that blind flanges were wrapped with plastic, then taped with duck taped and backfilled with good soil.
- Installed Fernco reducing coupling over lateral riser pipe at HC-25 wellhead. Also installed 2 inch kanaflex hose to riser and wellhead with power lock clamps.
- Observed fusing of 6 ft. of 6 inch riser with cap to 90º bend and 35 ft. of 6 inch lateral pipe.
- At end of day placed tarp over U-trap (U-2) area and trench for connection to exisitng 10 inch LCO in front of exisitng pump station.
- All operations completed at 6:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/26/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
89ºF	65ºF	Clear		

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Observed fusing of 6 inch tees to each 10 inch x 6 inch branch saddles on the existing 10 inch LCO (CO 9-1).
- Observed fusing of 6 inch 18.5º bends to each 6 inch tee.
- Observed fusing of 6.5 ft. of 6 inch HDPE pipe with blind flange with monitoring port to each 6 inch 18.5º bend. Taped opening in blind flange for monitoring port.
- Observed fusing of 12 inch 22.5º bend to 12 inch header pipe from U-trap (U-2).
- Layed out alignment of 12 inch header from U-trap (U-2) to HC-26 wellhead (approx. 230 ft.). Then fused approximately 230 ft. of 12 inch header to 12 inch 22.5º bend.
- Observed fusing of 19.5 ft.of 6 inch lateral to 8 inch x 6 inch butt reducer at HC-30 and 4 ft.of 6 inch lateral to 8 inch x 6 inch butt reducer at HC-29 well head riser locations.
- Observed fusing of 6.5 ft. of 6 inch riser to 90º bend and 22.5º bend (riser sections). Then fused riser section to 19.5 ft. of 6 inch lateral at HC-30 and 4 ft.of 6 inch lateral at HC-29 well head riser locations.

Observed fusing of 6 ft. of 6 inch riser for remote well head to 90º elbow and 35 ft. of 6 inch lateral pipe to existing 10 inch LCO 9-1.

Pressure Test: 6 ft. of 6 inch riser with cap to 90º elbow and 35 ft. of 6 inch lateral pipe.

Starting Time: 11:49am — Starting Pressure: 15 psi

Ending Time: 12:49pm — Ending Pressure: 15 psi — **TEST PASSED**

Diameter: 6 inch HDPE pipe — % Change in Pressure: 0%

Length of Pipe: 41 ft.

- Observed fusing of 80 ft. of 2 inch air supply pipe to 2 inch air supply pipe previously placed in trench.
- Observed fusing of 80 ft. of 4 inch condensate pipe to 4 inch condensate pipe previously placed in trench.
- Partially backfilled U-trap (U-2) with good soil excavated from trench. Did not completely backfill area, left trench area for the connection 10 inch LCO open and tarped.
- Backfilled 6 inch laterals risers at HC-30 and HC-29 well heads with good soil excavated from trench.
- Cut off caps on well head lateral riser pipes on northside (HC-26 thru HC-29). Then installed Fernco reducing couplings on wellhead latera riser pipes and connected 2 inch kanaflex hose to wellhead lateral riser pipe and wellhead pipes with power lock clamps.

- At end of day replaced trash screens.
- All operations completed at 5:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/29/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
85ºF	66ºF		Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:30am.
- Continued trenching operations for 12 inch header from approx. 6 ft. east of U-trap (U-2) towards the connection to existing 16 inch header at a 6.25% slope. Trenched approx. 220 ft.
- Excavated trench for 6 inch lateral connection to existing 10 inch LCO.
- Observed fusing of 6 inch 90º elbow to 6 inch tee on 6 inch riser at existing 10 inch LCO 9-1 connection.
- Observed fusing of 6 inch 22.5º bend to 6 inch 90º elbow.
- Observed fusing of 35 ft. of 6 inch lateral pipe with 6 ft. of 6 inch riser to 6 inch 22.5º bend.
- Partially backfilled lateral pipe with good soil excavated from trench.
- Observed fusing of 6 inch remote wellhead riser pipe to 12 inch x 6 inch tee onto 12 inch header.
- Observed fusing of 2-6 inch wellhead lateral riser pipe (HC-28 and HC-27) to 12 inch x 6 inch tees onto 12 inch header.
- Observed fusing of 6 inch stub out (10 ft. long) onto 12 inch header.
- Observed fusing of 8 inch AP and 12 inch x 6 inch tee for 6 inch lateral riser pipe (HC-25) onto 12 inch header.
- Observed fusing of approx. 203 ft. of 12 inch header pipe with blind flange.
- Placed 12 inch header pipe in trench (from approx. 6 ft. east of U-trap (U-2) to H-25 wellhead). At H-25 wellhead 12 inch header crosses over the 6 inch wellhead pipe and remainder of header pipe placed above ground.
- Relocated HC-25 wellhead approx. 10 ft. back inside the perimeter berm of Section 9. Observed fusing of an additional 4 ft. of 6 inch HDPE pipe to the wellhead casing in order for the wellhead to extend 4 ft. above the final grade of the berm.
- Observed fusing of testing assembly to 12 inch header pipe.
- Observed fusing of 423 ft. of 2 inch air supply pipe to 2 inch air supply pipe previously placed in trench, including AP.
- Observed fusing of 423 ft. of 4 inch condensate pipe to 4 inch condensate pipe previously placed in trench, including AP.
- Backfilled all components of 12 inch header pipe, 4 inch condensate and 2 inch air supply pipe with good soil hauled from borrow area and placed warning tape 1 ft. under final grade.
- All operations completed at 6:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 4/30/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
90ºF	67ºF		Windy/Cloudy	

Contractor's Employees / Title		Equipment Used
Project Manager		Hyundai HL 760-7A Loader
Superintendent		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
Operator/Laborer		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started excavation activities at 7:00am.
- Constructed berm around U-trap (U-2)area to direct stormwater around U-trap and existing 10 inch LCO 9-1connection area in case of rain.
- Replaced all open trash screens on south side.
- Observed fusing of 4 inch condensate pipe.
- Excavated trench thru perimeter berm on east corner of downchute on south side slope and continued trenching operations towards existing 16 inch connection point at 8.5% slope.
- Waste was encountered during trenching and was removed and hauled to working face.

Pressure Test: 12 inch header at south side slope (from blind flange at east side to blind flange at existing 16 inch header connection), including various components.

Starting Time: 10:09am — Starting Pressure: 10 psi

Ending Time: 11:09pm — Ending Pressure: 10 psi — **TEST PASSED**

Diameter: 12 inch HDPE pipe — % Change in Pressure: 0%

- Length of Pipe: 717 ft.
- Attended Project weekly meeting at 10:30am. CK, BC and C. LeBron on site to review progress of project.
- Placed approx. 203 ft. in trench to connection point. Placed 12 inch header around downchute above ground.
- Observed excavation of existing 16 inch blind flange. Found blind flange approx. 3 ft. under ground. Did not locate existing 2 inch air supply pipe and 4 inch condensate pipe at same location as existing 16 inc h blind flange. After discussing with CK and reviewing as-built drawings, it was concluded that the existing 2 inch air supply pipe and 4 inch condensate pipe would be located around wellhead LCO 7-1 (Approx. 6 ft. to the east of the existing 16 inch blind flange).
- Removed plastic cover over existing 16 inch blind flange and removed existing bolts, nuts, back-up rings and flange.
- Observed fusing of 16 inch x 12 inch reducer to 12 inch header pipe.
- Connected 16 inch x 12 inch reducer to existing 16 inch header flange.
- Installed stainless steel bolts, nuts, back-up ring and coated stainless steel bolts, nuts, back-up ring with polymer rubberized primer. Then wrapped connection in plastic and taped with duck tape.

- Observed electrofusion of electrofusion coupling to 6 inch 90° elbow and 6 inch riser to existing LCO 9-1. (This was performed twice since there are 2 risers to existing LCO 9-1).

- Observed fusing of 423 ft. of 4 inch condensate pipe to 4 inch condensate pipe previously placed in trench, including AP.

Pressure Test: 4 inch condensate pipe at south side slope (from blind flange at east side to connection point), including various components.

Starting Time: 3:16pm	Starting Pressure: 10 psi	
Ending Time: 4:16pm	Ending Pressure: 10 psi	**TEST PASSED**
Diameter: 4 inch HDPE pipe	% Change in Pressure: 0%	

- Length of Pipe: 723 ft.

- Backfilled all components of 12 inch header pipe, 4 inch condensate and 2 inch air supply pipe with good soil hauled from borrow area and placed warning tape 1 ft. under final grade.

- All operations completed at 5:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/1/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
83ºF	67ºF		Rain/Windy/Cloudy	1.8"

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started construction activities at 7:30am.
- Hauled good backfill soil from borrow area to south side slope and stockpiled along berm and on SW corner of downchute.
- Backfilled 12 inch header pipe, 4 inch condensate and 2 inch air supply pipe with good soil and placed warning tape 1 ft. under final grade.

Pressure Test: 2 inch air supply pipe at south side slope (from blind flange at east side to connection on SE side), including AP.

Starting Time: 8:43am — Starting Pressure: 10 psi

Ending Time: 9:43pm — Ending Pressure: 10 psi — **TEST PASSED**

Diameter: 2 inch HDPE pipe — % Change in Pressure: 0%

Length of Pipe: 723 ft.

- Cut off caps on well head lateral riser pipes on southside (HC-26 thru HC-30). Then installed Fernco reducing couplings on wellhead latera riser pipes and connected 2 inch kanaflex hose to wellhead lateral riser pipe and wellhead pipes with power lock clamps.
- Peavey Surveyors onsite to asbuilt southside.
- Replaced blind flanges on horizontal collector pipe at all wellhead locations with blind flanges with monitoring ports. The blind flanges did not include the monitoring ports therefore the hole were taped.
- All operations completed at 3:00pm.
- Heavy rain occurred at 3:30pm. County personnel observed erosion occurring around the downchute. The heavy rains cause sediment from the backfill stockpiles and Section 9 to be carried down the downchute into the concrete swale.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/2/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
83ºF	66ºF		Cloudy	

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		1- Volvo (A25F)Off Road Trucks
Operator/Laborer		Tool Trailer
		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machines (2)

Work Performed:

- Started construction activities at 7:30am.
- Started clean up of sediment in concrete swale in front of dwon chute.
- Picked up waste debris in downchute.
- Removed stockpiles of backfill along south slope berm.
- Removed stockpile fo backfill soil on SW corner of downchute and created a berm in front of the downcute by covering the exposed 12 inch header around the downchute with backfill soil and installing 2 – 10 inch HDPE pipe on the SW corner and SE corner of the berm to direct the stormwater into the downchute.
- Peavey Surveyors onsite to asbuilt southside.
- ERC removed approx.. 10' – 15' of sediment from the concrete swale. WM noted that they would remove the remainder of the sediment in the concrete swale.
- Water truck delivered to site.
- Off road truck and 1 welding machine removed from site.
- All operations completed at 3:37pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/3/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
82ºF	65ºF		Morning Fog/Partly Cloudy	

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Operator/Laborer	1 left site at 10 am	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck

Work Performed:

- Started construction activities at 7:30am.
- Performing inventory of materials and equipment and clean up of lay down area.
- Dozer delivered to site.
- Graded northside terrace and northeast corner.
- All operations completed at 2:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/6/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
78ºF	59ºF	Clear	Windy	

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Operator/Laborer	1 left site at 10 am	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:00am.
- Graded northside side slope and south side slope.
- Excavated 10 inch header and 2 inch air supply pipe trench from terrace to blind flange at SW corner to installed warning tape 1 ft. under final grade.
- Construction activities ended at 4:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/7/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
78ºF	59ºF	Clear	Windy	

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Subcontractor (Sod)	Sunbelt Sod & Grading Co.	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Sunbelt (Sod Subcontractor) started placed sod on NW corner of northside slope.
- Fusing new 2 inch air supply and 4 inch condensate pipes to existing 2 inch air supply and 2 inch condensate pipes
- Attended project weekly meeting at 10:30am. CK, BC, and RS on site to review progress of project.
- Placed water in U-traps (U-1 and U-2) using a water truck.
- Installed stainless steel bolts, nuts and backup rings to blind flanges on 6 inch risers at LCO 9-2.
- Construction activities ended at 3:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/8/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
82ºF	59ºF	Clear	Windy	

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Subcontractor (Sod)	Sunbelt Sod & Grading Co.	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Sunbelt (Sod Subcontractor) continue to placed sod on northside slope.
- Observed fusing 6 inch blind flange to 6 inch riser at CO 8-2.
- Started watering (using sprinklers and water truck) sod on northside.
- Re-installed bollards around isolation valve V-9.
- Backfilled connection point next to isolation valve V-9.
- Installed PVC bollards at blind flange locations (SW and NW corners) of 12 inch hear and 10 inch header.
- Installed orifice plates in all wellheads.
- Construction activities ended at 3:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/9/2013	Day: Thursday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
86ºF	59ºF	Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Subcontractor (Sod)	Sunbelt Sod & Grading Co.	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Sunbelt (Sod Subcontractor) continue to placed sod on southside slope.
- Watering (using sprinklers and water truck) sod on northside.
- Construction activities ended at 3:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/10/2013	Day: Friday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
89ºF	64ºF	Clear		

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Subcontractor (Sod)	Sunbelt Sod & Grading Co.	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Sunbelt (Sod Subcontractor) continue to placed sod on southside slope.
- Watering (using sprinklers and water truck) sod on northside and south side slopes.
- Construction activities ended at 2:00pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/13/2013	Day: Monday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
86ºF	64ºF	Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
Subcontractor (Sod)	Sunbelt Sod & Grading Co.	Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Sunbelt (Sod Subcontractor) continue to placed sod on southside slope.
- Watering (using sprinklers and water truck) sod on northside and south side slopes.
- Construction activities ended at 3:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/14/2013	Day: Tuesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
84ºF	55ºF	Clear		

Contractor's Employees / Title		**Equipment Used**
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Watering (using sprinklers and water truck) sod on northside and south side slopes.
- Construction activities ended at 3:30pm.

Daily Field Report

Project Name: SCLF Gas System Expansion – Section 9	Date: 5/15/2013	Day: Wednesday
Project Owner: Hillsborough County SW	Contractor: ERC	
HDR Project No. 193820	CQA: I. Rivera-Frisco	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Clear	Other	
87ºF	57ºF	Clear		

Contractor's Employees / Title		Equipment Used
Superintendent		Hyundai HL 760-7A Loader
Operator/Laborer		Tool Trailer
		Excavator (Kobelco 235 SR LC)
		Excavator (John Deere 200D LC)
		Welding Machine
		Water Truck
		Dozer

Work Performed:

- Started construction activities at 7:30am.
- Watering (using sprinklers and water truck) sod on northside and south side slopes.
- County personnel and HDR started up LFG system.
- Attended project weekly meeting at 10am.
- Substantial Completion walkthrough was performed at 10:15am. Attendees: LR (Cty), RG (Cty), DC, (Cty), RS (HDR), CK(HDR), IRF (HDR), JP (ERC).
- Installed monitoring ports in blind flanges at risers and all wellheads.
- Installing lettering on all wellheads, U-traps, and risers.
- Dozer removed from site.
- Construction activities ended at 3:30pm.

ATTACHMENT C
HORIZONTAL COLLECTOR WELL BORING INSTALLATION AND DRILLING LOGS

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 25A	
Project # :	CIP No. 54056									
Start Date:	3/8/2013									
Completed:	3/8/2013									
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"	
Inspector:	Itza Rivera							Total Depth Excavated:	17	
above ground surface	decomposition	moisture	0.5				temp			
sand/HHT/ash, 33% each	none	dry	0				96		PIPE MATERIALS	
sand/HHT , 50% each	slight	dry	5				96		SDR 11 HDPE	
sand/HHT, 50% each	slight	dry	10				103			
sand/HHT/ash, 33% each	slight	dry	15				98			
sand/HHT/ash, 33% each	slight	dry	17				98		SCREENED LENGTH	10 ft
									BACKFILL LOG	
									Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		section 9	
d. Boring Identification Number.		HC 25A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		330pm	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	
j. Thickness of each soil or refuse stratum.		n/a	
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 25B		
Project # :	CIP No. 54056										
Start Date:	3/8/2013										
Completed:	3/8/2013										
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"		
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"		
Inspector:	Iza Rivera							Total Depth Excavated:	41		
above ground surface	decomposition	moisture	0.5				temp				
cover/HHT/ash, 33 % each	none	dry	0				53				
plastic/sand/HHT 33% each	slight	dry	5				65				
sludge/HHT, 50% each	heavy	moist	10				86				
sludge/HHT, 50% each	heavy	moist	15				166				
sand/HHT/ash, 33% each	slight	moist	20				119				
sand/HHT/ash, 33% each	slight	moist	25				120				
sand/HHT , 50% each	slight	moist	30				108				
sand/HHT , 50% each	slight	moist	35				108				
sand/carpet, 50% each	slight	moist	40				99				
sand/carpet, 50% each	slight	most	41				101				

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED	40'
LENGTH	
BACKFILL LOG	
Structural fill	0'

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 25B	
d. Boring Identification Number.		HC 25B	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		805am	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 26A
Project # :	CIP No. 54056								
Start Date:	3/8/2013								
Completed:	3/8/2013								
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"
Inspector:	Itza Rivera							Total Depth Excavated:	19
above ground surface	decomposition	moisture	0.5				temp		
cover/HHT/ash, 33% each	none	dry	0				96		
sand/HHT, 50% each	slight	dry	5				98		
ash/sand/HHT, 33% each	slight	dry	10				108		
ash/sand/HHT, 33% each	slight	dry	15				98		
ash/sand/HHT, 33% each	slight	dry	19				98		

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED LENGTH	18
BACKFILL LOG	
Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 26A	
d. Boring Identification Number.		HC 26A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		1000am	
h. Reference point for all depth measurements.		staked offset	
I. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 26B		
Project # :	CIP No. 54056										
Start Date:	3/7/2013										
Completed:	3/7/2013										
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"		
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"		
Inspector:	Itza Rivera							Total Depth Excavated:	40		
above ground surface	decomposition	moisture	0.5				temp				
cover	none	dry	0				75		PIPE MATERIALS		
HHT	slight	moist	5				98		SDR 11 HDPE		
HHT	heavy	moist	10				106				
HHT	heavy	moist	15				108				
HHT	heavy	moist	20				109		SCREENED LENGTH	39	
HHT	heavy	moist	25				125				
sand/ash , 50% EACH	none	dry	30				122		BACKFILL LOG		
sand/ash, 50% EACH	none	dry	35				125				
sand/ash, 50% EACH	none	dry	40				125		Structural fill	0	

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/7/2013	
c. Location.		HC 26B	
d. Boring Identification Number.		HC 26B	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		345pm	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 27A	
Project # :	CIP No. 54056									
Start Date:	3/8/2013									
Completed:	3/8/2013									
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"	
Inspector:	Itza Rivera							Total Depth Excavated:	21	
above ground surface	decomposition	moisture	0.5				temp			
sand/HHT/ash, 33% each	none	dry	0				79			
sand/HHT/ash, 33% each	slight	dry	5				88			
sand/HHT/ash, 33% each	slight	dry	10				98			
sand/HHT/ash, 33% each	slight	dry	15				103			
sand/HHT/ash, 33% each	slight	dry	20				103			
sand/HHT/ash, 33% each	slight	dry	21				103			

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED LENGTH:	20
BACKFILL LOG	
Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 27A	
d. Boring Identification Number.		HC 27A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		1100am	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 27B		
Project # :	CIP No. 54056										
Start Date:	3/7/2013										
Completed:	3/7/2013										
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"		
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"		
Inspector:	Itza Rivera							Total Depth Excavated:	39		
above ground surface	decomposition	moisture	0.5				temp				
cover	none	dry	0				96		PIPE MATERIALS		
HHT/ash, 50%	slight	dry	5				97		SDR 11 HDPE		
HHT/ash, 50%	slight	dry	10				97				
sand/ash/HHT, 33%	slight	dry	15				105				
sand/ash/HHT, 33%	slight	dry	20				105		SCREENED LENGTH	39	
sand/ash/HHT, 33%	slight	dry	25				108				
sand/ash/HHT, 33%	slight	dry	30				118		BACKFILL LOG		
sand/ash/HHT, 33%	slight	dry	35				119				
sand/ash/HHT, 33%	slight	dry	39				119		Structural fill	0	

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/7/2013	
c. Location.		HC 27B	
d. Boring Identification Number.		HC 27B	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		2:30 PM	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 28A	
Project # :	CIP No. 54056									
Start Date:	3/8/2013									
Completed:	3/8/2013									
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"	
Inspector:	Itza Rivera							Total Depth Excavated:	23	
above ground surface	decomposition	moisture	0.5				temp			
cover/hht	none	dry	0				83			
sand/HHT/ash	slight	dry	5				102			
sand/HHT/ash	slight	dry	10				122			
sand/HHT/ash	slight	dry	15				127			
sand/HHT/ash	slight	dry	20				123			
sand/HHT/ash	slight	dry	23				123			

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED LENGTH	22
BACKFILL LOG	
Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 28A	
d. Boring Identification Number.		HC 28A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		1220pm	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System								Well Number:	HC 28B	
Project # :	CIP No. 54056										
Start Date:	3/7/2013										
Completed:	3/7/2013										
Contractor:	Quality Drilling Services, Inc.								Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130								Pipe Material Diameter	6"	
Inspector:	Itza Rivera								Total Depth Excavated:	40	
above ground surface	decomposition	moisture					temp				
cover/ash/HHT, 33% EACH	none	dry	0				96		PIPE MATERIALS		
cover/ash/HHT, 33% EACH	none	dry	5				107		SDR 11 HDPE		
sand	slight	dry	10				103				
sand	slight	dry	15				103				
HHT/sand/ash, 33% EACH	slight	dry	20				108		SCREENED	39	
HHT/sand/ash, 33% EACH	slight	dry	25				108		LENGTH		
HHT/sand/ash, 33% EACH	slight	dry	30				108		BACKFILL LOG		
HHT/sand/ash, 33% EACH	slight	dry	35				108				
HHT/sand/ash, 33% EACH	slight	dry	40				108		Structural fill	0	

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/7/2013	
c. Location.		HC 28B	
d. Boring Identification Number.		HC 28B	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		100pm	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 29A	
Project # :	CIP No. 54056									
Start Date:	3/8/2013									
Completed:	3/8/2013									
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"	
Inspector:	Itza Rivera							Total Depth Excavated:	23	
above ground surface	decomposition	moisture	0.5				temp			
cover/ash, 50% each	none	dry	0				77			
sand/ash/HHT, 33% each	slight	dry	5				82			
sand/ash/HHT, 33% each	slight	dry	10				82			
sand/ash/HHT, 33% each	slight	dry	15				115			
carpet	slight	dry	20				101			
carpet	slight	dry	23				101			

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED LENGTH	22
BACKFILL LOG	
Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 29A	
d. Boring Identification Number.		HC 29A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		130pm	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System			Well Number:	HC 29B
Project # :	CIP No. 54056				
Start Date:	3/7/2013				
Completed:	3/7/2013				
Contractor:	Quality Drilling Services, Inc.			Boring Diameter:	36"
Rig:	Catapillar 324 DLN AF-130			Pipe Material Diameter	6"
Inspector:	Itza Rivera			Total Depth Excavated:	41

above ground surface	decomposition	moisture	0.5	temp
sand/HHT	none	dry	0	66
sand/HHT	none	dry	5	66
HHT/sand/ash	slight	dry	10	84
HHT/sand/ash	slight	dry	15	84
HHT/sand/ash	slight	dry	20	105
HHT/sand/ash	slight	dry	25	105
HHT/sand/ash	slight	dry	30	107
HHT/sand/ash	slight	dry	35	107
HHT/sand/ash	slight	dry	40	107
HHT/sand/ash	slight	dry	41	107

PIPE MATERIALS	
SDR 11 HDPE	
SCREENED LENGTH	40
BACKFILL LOG	
Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/7/2013	
c. Location.		HC 29B	
d. Boring Identification Number.		HC 29B	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		1100am	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

Well As-Builts Boring Log

Site Name:	Southeast County Landfill, sections 7,8, and 9 Landfill Gas Collection and Control System							Well Number:	HC 30A	
Project # :	CIP No. 54056									
Start Date:	3/8/2013									
Completed:	3/8/2013									
Contractor:	Quality Drilling Services, Inc.							Boring Diameter:	36"	
Rig:	Catapillar 324 DLN AF-130							Pipe Material Diameter	6"	
Inspector:	Itza Rivera							Total Depth Excavated:	21	
above ground surface	decomposition	moisture	0.5				temp			
sand/HHT, 50% each	none	dry	0				87		PIPE MATERIALS	
sand/ash , 50% each	slight	dry	5				90		SDR 11 HDPE	
sand/ash, 50% each	slight	dry	10				118			
sand/ash/HHT, 33% each	slight	dry	15				120			
ash/wire/foam/sand, 25% each	slight	dry	20				120		SCREENED LENGTH	20
ash/wire/foam/sand, 25% each	slight	dry	21				122		BACKFILL LOG	
									Structural fill	0

2. Driller's log: During the drilling of the vertical component, prepare and maintain a complete			
log that includes:			
a. Logger's Name.		Sean Slayton	
b. Date.		3/8/2013	
c. Location.		HC 30A	
d. Boring Identification Number.		HC 30A	
e. Equipment Used.		Catapillar 324 DLN AF-130	
f. Drill Crew.		Sean Slayton	
g. Time.		2:40 PM	
h. Reference point for all depth measurements.		staked offset	
i. Depth at which each soil to refuse change occurs.		n/a	ft
j. Thickness of each soil or refuse stratum.		n/a	ft
k. Depth at which the leachate is encountered, if applicable.		none	
l. Depth to refuse and depth of undisturbed soil.		shown	ft
m. Visual description of refuse at 5-foot intervals:		shown	
1) Type of waste encountered including the estimated percentage of the following			
components (by volume) on visual inspection:			
a) Plastic/Cardboard.			
b) Plastic.			
c) Yard waste.			
d) Construction debris.			
e) Textiles.			
f) Tires.			
g) Sludge.			
h) Dirt.			
2) Temperature of excavated refuse.			
n. Depth of location of any lost drilling material, tools, or any other unusual occurrences.		n/a	
o. Total depth of completed vertical component of horizontal collector well.		shown	
p. Total depth of boring.		shown	
q. Well screen interval.		shown	
r. Solid pipe casing interval.		n/a	
3. Typed final copies of the well logs shall be submitted with the Record Drawings.		submitted	
Handwritten logs will not be acceptable for submittal with the Record Drawings.			

ATTACHMENT D
PROGRESS PHOTOGRAPHS

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-5-13	
Comments: Installation of silt fence (Southside slope of Section 9).	

Date: 3-5-13	
Comments: Off road truck stockpiling backfill soil along trench alignment for horizontal collectors.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-7-13 Comments: Drill rig mobilizing/setting up at horizontal collector vertical boring (HC-30B).	

Date: 3-7-13 Comments: Commencing drilling of vertical boring (HC-30B).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-7-13	
Comments: Verifying depth of vertical boring (HC-30A).	

Date: 3-7-13	
Comments: Peavey Surveyors laying out the alignment of the horizontal collector pipes.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-7-13 Comments: Installing 6-inch HDPE perforated pipe into vertical boring (HC-29B).	

Date: 3-7-13 Comments: Placing tire chips around 6-inch HDPE perforated pipe in vertical boring (HC-30B).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-8-13 Comments: Taking the temperature of the excavated waste from vertical boring (HC-26A).	

Date: 3-8-13 Comments: Completed vertical boring (HC-26A).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13	
Comments: Horizontal collector pipe trench operations for HC-25.	

Date: 3-11-13	
Comments: Verifying trench depth and slope during horizontal collector pipe trench operations.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13 Comments: Placement of tire chips (1 ft. thick) at bottom of trench (HC-25).	

Date: 3-11-13 Comments: Verifying tire chip depth and slope during tire chip placement on the bottom of trench.	

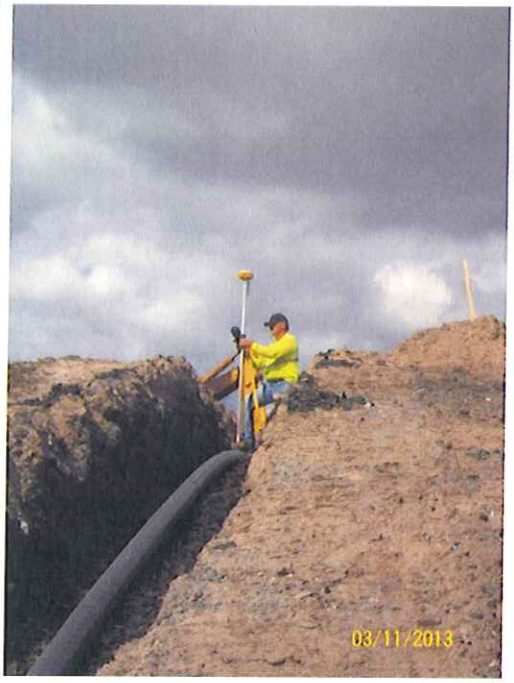
Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13	
Comments: Installing 6-inch HDPE perforated horizontal collector pipe on tire chips in trench (HC-25).	

Date: 3-11-13	
Comments: Cutting excess 6-inch HDPE perforated pipe on vertical boring (HC-25).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13 Comments: Fusion of 6-inch - 90° elbow to perforated pipe at vertical boring (HC-25A).	

Date: 3-11-13 Comments: Surveying and verifying horizontal collector pipe depth and slope using Trimble unit.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13 Comments: Fusion of 6-inch HDPE perforated horizontal collector pipe to 6-inch - 90° elbow on vertical well (HC-25A).	

Date: 3-11-13 Comments: Placement of tire chips (2 ft. thick) over 6-inch HDPE perforated horizontal collector pipe (HC-25).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-11-13	
Comments: Placement of geotextile fabric over tire chips in trench (HC-25).	

Date: 3-12-13	
Comments: Fusing 6-inch HDPE horizontal collector pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-13-13	
Comments: Excavation around vertical boring (HC-25B) in order to connect 6-inch perforated HDPE horizontal collector pipe with vertical boring.	

Date: 3-13-13	
Comments: 6 inch tee at vertical boring (HC-25B) fused to 6 inch perforated HDPE horizontal collector pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-14-13	
Comments: Starting trenching operations at vertical boring (HC-26A) for the installation of 6-inch HDPE horizontal collector pipe.	

Date: 3-14-13	
Comments: Backfilling of trench (HC-25) with soil from borrow area previously stockpiled along trench.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-15-13 Comments: View north at trenching operations for HC-26 line.	

Date: 3-15-13 Comments: Placement of tire chips (1 ft. thick) at bottom of trench (HC-26).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-15-13	
Comments: View south at the installation of 6-inch HDPE perforated horizontal collector pipe on tire chips in trench (HC-26).	

Date: 3-18-13	
Comments: View northeast at trenching operations for HC-26.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-19-13	
Comments: Installing survey tubes every 50 ft. along trench HC-26.	

Date: 3-20-13	
Comments: Starting trenching operations at vertical boring (HC-27A) for the installation of 6-inch HDPE horizontal collector pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-25-13 Comments: Installing survey tubes every 50 feet in trench HC-28.	

Date: 3-25-13 Comments: Excavating waste around HC-26A.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-25-13 Comments: Placing excavated waste into off road truck to be hauled to working face for disposal.	

Date: 3-25-13 Comments: Fusion of 6-inch - 90° elbow to 6-inch tee.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-27-13 Comments: Fusion of 6-inch solid HDPE well casing and tee.	

Date: 3-28-13 Comments: 6-inch solid HDPE well casing fused to 6-inch solid HDPE horizontal collector pipe and blind flange ready for pressure test.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-28-13	
Comments: Pressure test assembly fused to end of 6-inch solid HDPE horizontal collector pipe.	

Date: 3-28-13	
Comments: Excavating through perimeter berm (northside) for the installation of 6 inch solid HDPE horizontal collector pipe and 6-inch well casing.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 3-29-13 Comments: 6-inch well casing fused to 6-inch solid HDPE horizontal collector pipe and blind flange installed in trench (HC-30).	

Date: 3-29-13 Comments: Placing tire chips (2 ft. thick) over 6-inch perforated HDPE horizontal collector pipe and over 3 ft. of 6-inch solid HDPE horizontal collector pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-2-13	
Comments: Excavation of trench HC-27 from vertical boring HC-27A towards HC-27-R-S.	

Date: 4-11-12	
Comments: Excavating through perimeter berm (southside) for the installation of 6 inch solid HDPE horizontal collector pipe and 6 inch well casing.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-2-13 Comments: Excavation of trench HC-29 from vertical boring HC-29A towards HC-29-R-S.	

Date: 4-2-13 Comments: Final grading bottom of trench (HC-27 – from HC-27A to HC27-R-S) with shovels.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-2-13	
Comments: Installing 6-inch solid HDPE horizontal collector and 6-inch solid HDPE well casing with flange in trench (HC-27).	

Date: 4-3-13	
Comments: Looking north at trenching operations for HC-30 on side slope.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-3-13	
Comments: Placing waste in off road truck for waste disposal at working face.	

Date: 4-8-13	
Comments: Fusion of 10-inch solid HDPE header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-9-13 Comments: Fusion of 2-inch solid HDPE air supply pipe.	

Date: 4-9-13 Comments: Cutting 6-inch well (HC-26-R-N) casing cap in order to install wellhead.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-9-13	
Comments: Installing wellhead on (HC-27-R-N) 6-inch well casing.	

04/10/2013

Date: 4-10-13	
Comments: Fusion of 6-inch solid HDPE stub out to 10-inch solid HDPE header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-11-13	
Comments: Excavation of trench on north side slope (from U-trap (U-1) towards west) for the installation of 10-inch solid HDPE header pipe.	

Date: 4-11-13	
Comments: Verifying trench depth and slope during 10-inch header pipe trench operations.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-11-13	
Comments: Installing 10-inch solid HDPE header pipe in trench on north side.	

Date: 4-11-13	
Comments: Excavating trench for 6-inch lateral on 10-inch solid HDPE header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-11-13 Comments: Verifying that 8-inch AP is plumb prior to backfilling trench.	

Date: 4-11-13 Comments: Backfilling and compacting over 10-inch solid HDPE header pipe on north side slope.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-11-13	
Comments: Placing "warning" tape 1 ft. under final grade of 10-inch solid HDPE header pipe trench on north side slope.	

Date: 4-12-13	
Comments: Excavation of trench near HC-30-R-N wellhead for 10-inch solid HDPE header pipe installation.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-12-13	
Comments: Excavating waste from trench on top northwest side of north side slope.	

Date: 4-12-13	
Comments: Installation of 10-inch solid HDPE header pipe along top of north side slope.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-12-13	
Comments: 10-inch solid HDPE header pipe installed in trench on north side slope.	

Date: 4-15-13	
Comments: View of assembled U-trap (U-1).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-15-13	
Comments: Excavation of trench for U-trap (U-1) installation.	

Date: 4-15-13	
Comments: U-trap (U-1) installed in trench.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-17-12	
Comments: Looking east at installation of 10 inch header pipe in trench on north side slope.	

Date: 4-17-13	
Comments: Looking west at 10 inch header pipe installed in trench from U-trap (U-1) towards existing 16 inch header connection on east side.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-17-12	
Comments: Fusion of 10 inch - 22.5° bend to 10 inch outlet pipe on U-trap (U-1).	

Date: 4-17-13	
Comments: Backfilling 10 inch header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-18-12	
Comments: View south at 6 inch lateral from remote wellhead to LCO 9-2.	

Date: 4-22-13	
Comments: Excavating northeast corner of Section 9 to locate existing 16-inch header pipe for connection with 10-inch header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-23-13	
Comments: 16-inch x 10-inch tee installed.	

Date: 4-23-13	
Comments: Fusion of 2-inch solid HDPE air supply pipe to existing 2-inch air supply pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-23-13	
Comments: Backfilling connection point at northeast corner of south side slope.	

Date: 4-23-13	
Comments: Excavation of trench on south side slope for installation of 12-inch solid HDPE header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-24-13	
Comments: Verifying trench depth and slope during 12-inch header pipe trench operations.	

Date: 4-24-13	
Comments: Excavating trench for 6-inch lateral to HC-29-R-S wellhead on south side slope.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-24-13 Comments: Installing 12-inch header pipe in trench on west end of south side slope.	

Date: 4-24-13 Comments: Coating surfaces of bolts, washers, nuts and backup rings on 12-inch header blind flange with polycoat rubberized primer.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-24-13 Comments: Wrapping 12-inch header blind flange in plastic and securing plastic with duck tape prior to placing in trench and backfilling.	

Date: 4-24-13 Comments: Fusion of 6-inch lateral from remote wellhead on north side slope to 6 inch cleanout at existing LCO 9-2.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-24-13	
Comments: 2-inch air supply blind flange, 4-inch condensate blind flange, and 12-inch header blind flange wrapped in plastic and placed in trench on south side slope.	

Date: 4-24-13	
Comments: View west at 2-inch air supply pipe and AP, 4-inch condensate pipe and AP, and 12-inch header and AP in trench.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-24-13 Comments: Placing "warning" tape in trench on south side slope.	

Date: 4-25-13 Comments: HC-26-R-N wellhead.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-25-13	
Comments: Wrapping 10-inch header blind flange in plastic after coating the surfaces of bolts, washers, nuts and backup rings on the blind flange with polycoat rubberized primer.	

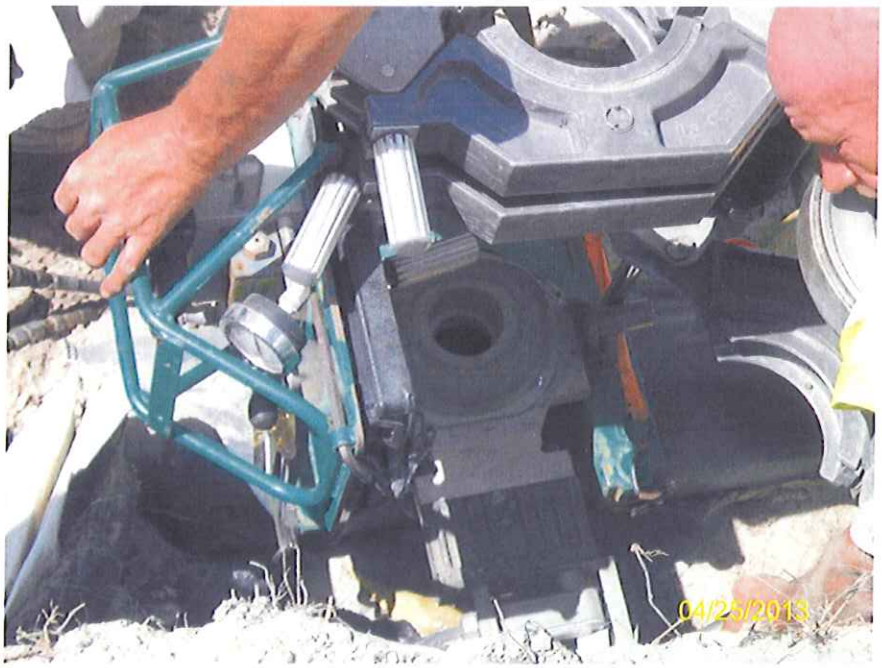
Date: 4-25-13	
Comments: Excavating in front of the existing pump station (LCO 9-1) in order to locate the existing 10-inch LCO pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-25-13	
Comments: Excavating of trench for U-trap (U-2) installation.	

Date: 4-25-13	
Comments: Installing U-trap (U-2) on south side of Section 9.	

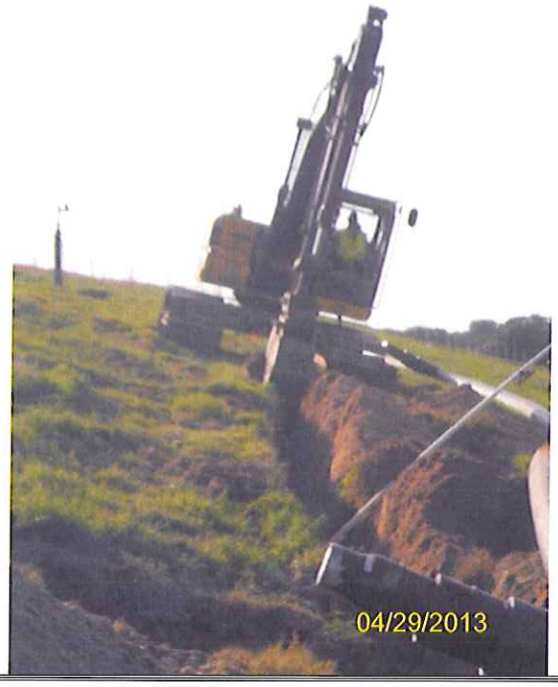
Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-25-13 Comments: Placement of concave/convex heater plate adapter for installation of 6-inch branch saddles on existing 10-inch LCO pipe at LCO 9-1.	

Date: 4-25-13 Comments: Two 6-inch branch saddles installed (fused) on existing 10-inch LCO pipe at LCO 9-1.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-26-13	
Comments: 12-inch header pipe installed in trench on south side slope.	

Date: 4-29-13	
Comments: Excavation of trench (from U-trap (U-2) towards eastern connection point) for the installation of 12-inch header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-29-13 Comments: Connection of 6-inch lateral pipe for remote wellhead to existing 10-inch LCO pipe at LCO 9-1.	

Date: 4-29-13 Comments: Fusion of 8-inch AP to 12-inch header pipe.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-29-13 Comments: Excavation of trench on southwest corner of downchute for installation of 12-inch header pipe.	

Date: 4-29-13 Comments: Surveying and verifying 12-inch header depth and slope using Trimble unit.	

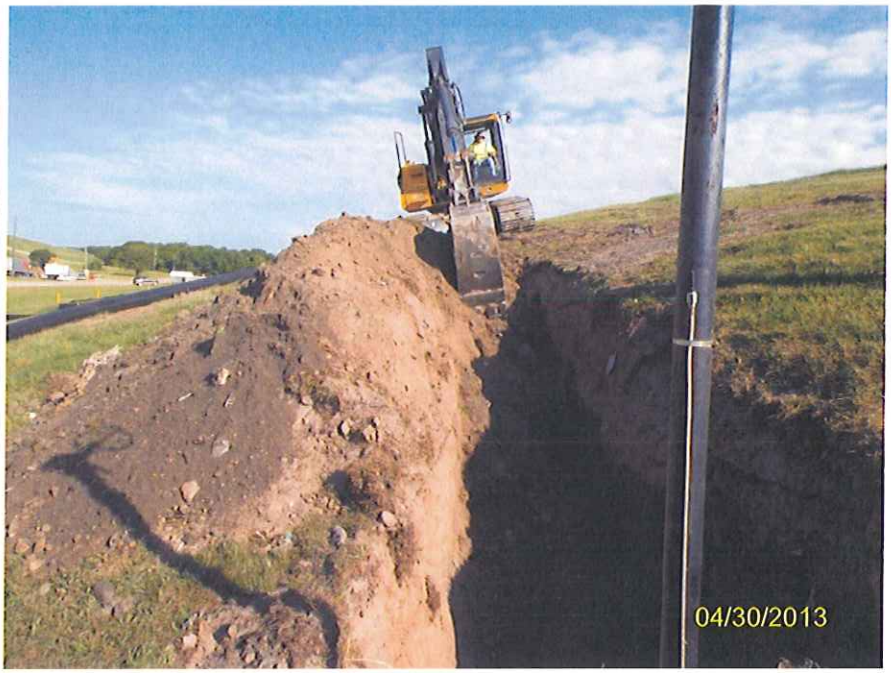
Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-29-13	
Comments: Fusion of 6-inch lateral for HC-26-R-S wellhead to 12-inch header pipe.	

Date: 4-30-13	
Comments: Removing bollards around valve V-9 (point of connection for 12 inch header).	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-30-13	
Comments: Starting excavation of existing 16 inch blind flange.	

Date: 4-30-13	
Comments: Looking west at 12 inch header pipe excavation operations from connection point towards the downchute.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-30-13	
Comments: Pressurizing 12 inch header pipe and various other components (8 inch AP, etc.) to commence pressure test.	

Date: 4-30-13	
Comments: Removal of existing bolts, nuts, washers, backup rings on existing 16 inch blind flange.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-30-13 Comments: Placement of 12 inch header pipe in trench by connection point.	

Date: 4-30-13 Comments: Fusion of 16 inch x 12 inch reducer and flange.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 4-30-13 Comments: View west at 12 inch header pipe around existing downchute.	

Date: 4-30-13 Comments: Installing new bolts, nuts, washers, and backup rings at connection point.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 5-1-13 Comments: Installing wellhead on (HC-29-R-S) 6-inch well casing.	

Date: 5-1-13 Comments: Installing monitoring port blind flange at HC-30-R-S wellhead.	

Photographic Record
Project Name: Southeast County Landfill Section 9 LFG Expansion
Owner: Hillsborough County Public Utilities Department, Solid Waste Management Group

Date: 5-7-13	
Comments: Placing sod along north side slope.	

Date: 5-8-13	
Comments: New 6 inch diameter PVC bollard filled with concrete and painted yellow at 12 inch header pipe buried blind flange location.	

ATTACHMENT E
SOUTHEAST COUNTY LANDFILL GAS SYSTEM EXPANSION – SECTION 9 RECORD DRAWINGS

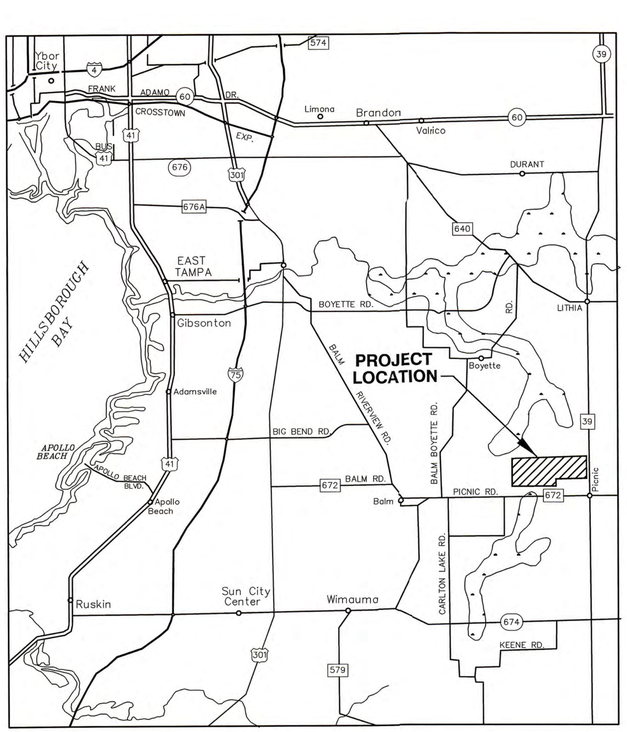
Full size drawings are provided as a separate bound document

Hillsborough County
Florida

BOARD OF COUNTY COMMISSIONERS:
KEVIN BECKNER
VICTOR CRIST
KEN HAGAN
AL HIGGINBOTHAM
LES MILLER
SANDRA MURMAN
MARK SHARPE

HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CA# 4213



SITE VICINITY MAP

SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION

SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

CIP NO. 54056

BID NO. ITB-C-0029-0-2013/DV
RECORD DRAWINGS
JUNE 2012

DRAWING INDEX

RECORD DRAWING

THIS DOCUMENT HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS AND DEPICTS THE CONTRACTOR'S RECORD OF INSTALLATIONS. HDR ENGINEERING, INC. DOES NOT WARRANT THE ACCURACY OF SUCH INFORMATION OR COMPLETENESS OR FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED INTO THIS DOCUMENT BASED ON THE INFORMATION.

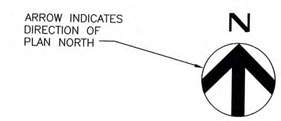
CLIFFORD G. KOENIG, P.E.
FLORIDA P.E. NO. 64078
HDR ENGINEERING, INC.

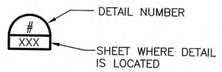
CLIFFORD G. KOENIG
LICENSE
No. 64078
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7-25-13

ENGINEERING SYMBOLOGY

HC–1A	HORIZONTAL COLLECTOR VERTICAL COMPONENT
EW–10	LFG EXTRACTION WELL
EW–46	DOWNSLOPE LFG EXTRACTION WELL
EW–12R	REMOTE WELLHEAD LOCATION
EW–107	CAISSON LFG EXTRACTION WELL
UT–2	SLOPED CONDENSATE U–TRAP
CS–1	CONDENSATE SUMP WITH PUMP
CT–5	SELF–DRAINING CONDENSATE TRAP
HC–18R	UPSLOPE HORIZONTAL COLLECTOR WELLHEAD
V–8	HEADER ISOLATION VALVE
AR–24	HEADER ACCESS RISER
	BLIND FLANGE FOR FUTURE EXPANSION
AV–2	AIR ISOLATION VALVE/BLOWOFF
CV–3	CONDENSATE DRAIN LINE ISOLATION VALVE
10"	HEADER/LATERAL DIAMETER
HP	HIGH POINT
	HEADER/LATERAL PIPE
	AIR SUPPLY LINE
	CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
	ROAD CROSSING
CO 4–1	EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT
FM	EXISTING LEACHATE FORCE MAIN
	LANDFILL LIMITS
	PHASE/SECTION LIMIT
	HORIZONTAL COLLECTOR PERFORATED PIPE
CDW	DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW
LFG	DIRECTION OF LANDFILL GAS FLOW
159.5	SPOT ELEVATION
	MAJOR CONTOUR
	MINOR CONTOUR

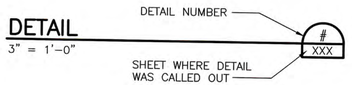
GENERAL SYMBOLOGY





DETAIL MARKER

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.



DETAIL TITLE

GENERAL NOTES

SURVEY AND MAP REPORT:

1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JANUARY 8, 2012. COORDINATES REFERENCE FLORIDA STATE PLAN WEST ZONE, NAD 83, 1990 ADJUSTMENT. ELEVATIONS ARE TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.

SPECIFIC NOTES:

1. 2 WEEKS PRIOR TO INITIATING WORK, THE CONTRACTOR WILL SUBMIT FOR APPROVAL A SCHEDULE TO THE ENGINEER, FOR COMPLETION OF THE PROJECT.
2. ALL EXCAVATION AND DRILLING WITHIN THE LANDFILL LIMITS SHALL CEASE PRIOR TO 3:00 PM MONDAY THRU SATURDAY. ALL WASTE EXCAVATED SHALL BE DELIVERED TO THE ACTIVE FACE OF THE LANDFILL DAILY BY 5:00 PM MONDAY THRU SATURDAY. CHANGES IN WORK HOURS ARE BASED UPON OWNER'S APPROVAL.
3. HOURS FOR CONSTRUCTION: 7:30 AM TO 5:30 PM MONDAY THRU SATURDAY, NO WORK ALLOWED ON SUNDAY UNLESS OTHERWISE APPROVED BY OWNER AND PERMIT.
4. CONTRACTOR MAY CONTAINERIZE WASTE AND TARP OVERNIGHT BASED ON OWNER APPROVAL.

EROSION AND SEDIMENT CONTROL:

1. CONTRACTOR WILL ADD EROSION AND SEDIMENT CONTROL AS NECESSARY TO PREVENT SEDIMENTATION AND DAMAGE TO ADJACENT AREAS AND AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR WILL INSPECT AND REPAIR, AS NECESSARY, ANY EROSION AND SEDIMENT CONTROL DAILY AND FOLLOWING EACH MEASURABLE RAIN EVENT.
3. EROSION AND SEDIMENT CONTROL WILL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
4. CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND SEDIMENT RESULTING FROM CONSTRUCTION.
5. EROSION CONTROL FENCING MUST MEET THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION, STATE OF FLORIDA STANDARD SPECIFICATIONS. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES.
6. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.

EARTHWORK:

1. EXCAVATION IS UNCLASSIFIED AND INCLUDES REMOVAL OF EARTH FILLS, RUBBLE, TRASH, AND OTHER MATERIALS ENCOUNTERED IN EXCAVATION AND GRADING OPERATIONS TO DEPTH AND EXTENT SHOWN ON DRAWINGS OR SPECIFIED. THE ENGINEER SHALL BE THE FINAL AUTHORITY AND SHALL MAKE THE FINAL DECISION DURING CONSTRUCTION AS TO THE DEPTH AND EXTENT TO WHICH MATERIALS MUST BE REMOVED AND REPLACED.
2. SURVEY BENCHMARKS, MONUMENTS AND OTHER REFERENCE POINTS WILL BE PROTECTED FROM DAMAGE AND DISPLACEMENT. IF DISTURBED OR DESTROYED, THEY WILL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
3. CONTRACTOR SHALL KEEP DIRT, DUST, NOISE AND OTHER OBJECTIONABLE NUISANCES PER PERMIT REQUIREMENTS.
4. ALL FILL AREAS ARE TO BE COMPACTED AS DEFINED IN THE SPECIFICATIONS AND DRAWINGS.
5. CUT AND FILL SLOPES FOR STRUCTURAL EMBANKMENTS SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.

UTILITIES:

1. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK PRIOR TO CONSTRUCTION. ALL DAMAGE MADE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL COORDINATION AND REQUIRED UTILITY COMPANY TEMPORARY PROTECTION SHALL BE AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE UNINTERRUPTION OF SERVICE AND REPLACEMENT OF DAMAGED UTILITIES.

AS-BUILT SURVEY DATA:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MINIMIZING LANDFILL GAS EMISSIONS FROM SURVEY TUBES (E.G. SEAL TOP OF SURVEY TUBES).
2. THE CONTRACTOR SHALL PROVIDE SURVEY DATA TO THE ENGINEER SHOWING THE LANDFILL GAS SYSTEM HAS BEEN PROPERLY CONSTRUCTED AND MEETS THE MINIMUM SLOPES REQUIRED AS SHOWN ON THE DRAWINGS.
3. THE SURVEY DATA SUBMITTED TO THE ENGINEER SHALL BE GROUND SURFACE ELEVATIONS AND TOP OF PIPE ELEVATIONS AT 50 FOOT INTERVALS ON CENTER AND AT EACH FITTING, LATERAL CONNECTION, VALVE, BEND AND AT OTHER SIGNIFICANT FEATURES.
4. ALL REQUESTED SURVEY DATA MUST BE PROVIDED TO ENGINEER IN FLORIDA STATE PLANE COORDINATES AND BE PERFORMED BY A STATE OF FLORIDA LICENSED SURVEYOR.

GENERAL NOTES:

1. THE CONTRACTOR IS ADVISED THAT NO ACTIVITIES MAY INTERFERE, DISRUPT, BLOCK, OR OTHERWISE CONFLICT WITH LANDFILL OPERATIONS. IF CONFLICTS ARE ANTICIPATED THEY SHALL BE COORDINATED AND APPROVED BY THE OWNER AND ENGINEER PRIOR TO DISRUPTION.
2. PROJECT SITE IS A SOLID WASTE CLASS I LANDFILL, AS SUCH, CONDITIONS ARE SUBJECT TO CHANGE WITH TIME. CONTROLS, IN PARTICULAR VERTICAL CONTROL, SHOULD BE EXPECTED (AND ANTICIPATED) TO VARY FROM THOSE SHOWN ON THESE DRAWINGS DUE TO ONGOING SUBSIDENCE RESULTING FROM REFUSE DECOMPOSITION AND ONGOING WASTE FILLING WITHIN THE PROJECT LIMITS. RELATIVE ELEVATION DIFFERENCES IN EXISTING AND PROPOSED ELEVATIONS SHOWN ON THE DRAWINGS SHALL BE ADJUSTED ACCORDINGLY. LOCATION OF STRUCTURES SHALL BE PLACED IN ACCORDANCE WITH HORIZONTAL CONTROLS. VERTICAL PLACEMENT OF STRUCTURES SHALL BE IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS, OR AS APPROVED BY THE ENGINEER.
3. CONSTRUCTION OF LANDFILL GAS COLLECTION SYSTEM EXPANSION WILL INVOLVE REFUSE EXCAVATION. THE CONTRACTOR SHALL MAKE ALL SAFETY AND ENVIRONMENTAL PRECAUTIONS TO PROTECT ITS WORKERS AND SUBCONTRACTORS, AT NO ADDITIONAL COST TO THE OWNER. ALL EXCAVATED WASTES SHALL BE PLACED AT THE WORKING FACE. CONTRACTOR IS ADVISED THAT THE POTENTIAL FOR ENCOUNTERING ASBESTOS CONTAINING MATERIAL EXISTS. SHOULD SUSPECT ASBESTOS-CONTAINING MATERIAL BE ENCOUNTERED, IT SHALL BE MAINTAINED IN A MOIST CONDITION DURING THE REMOVAL AND TRANSFER PROCESS TO MINIMIZE/PREVENT EMISSIONS FROM SUCH. DISTURBED REFUSE (INCLUDING ANY SUSPECT ASBESTOS-CONTAINING MATERIAL) WILL BE TRANSPORTED BY THE CONTRACTOR TO THE WORKING FACE OF THE LANDFILL BY THE END OF EACH WORKING DAY FOR PROPER DISPOSAL AND BURIED BY THE LANDFILL OPERATOR WITH A MINIMUM OF SIX (6) INCHES OF SOIL COVER.
4. ANY AND ALL FINES IMPOSED ON THE OWNER BY ANY REGULATORY AGENCY DUE TO ACTIONS OF THE CONTRACTOR SHALL BE PAID BY THE CONTRACTOR.
5. INSPECTION: EXAMINE AREAS FOR CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. REPORT IN WRITING TO THE ENGINEER ALL CONDITIONS CONTRARY TO THOSE SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN AND ALL OTHER CONDITIONS THAT WILL AFFECT SATISFACTORY EXECUTION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. STARTING WORK CONSTITUTES ACCEPTANCE OF THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. AFTER SUCH ACCEPTANCE, THE CONTRACTOR SHALL, AT CONTRACTORS EXPENSE, BE RESPONSIBLE FOR CORRECTING ALL UNSATISFACTORY AND DEFECTIVE WORK RESULTING FROM SUCH UNSATISFACTORY CONDITIONS.
6. PROTECTIONS: INSTALL TEMPORARY BARRIERS, FENCES, BARRICADES, LIGHTS, WARNING SIGNS AND OTHER DEVICES NECESSARY TO PROTECT STRUCTURES, UTILITIES, LANDSCAPING, EXCAVATIONS, AND OTHER ITEMS AS NECESSARY. PROTECT SURVEY BENCHMARKS AND MONUMENTS FROM DISPLACEMENT.
7. ALL WORK SHALL BE PERFORMED IN A QUALITY WORKMANLIKE MANNER.
8. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER OR OWNER MAY CAUSE THE WORK TO BE UNACCEPTABLE AND WILL BE ADJUSTED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY LICENSES AND PERMITS ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT UNLESS NOTIFIED OTHERWISE IN WRITING BY THE OWNER.
10. LATERAL PIPING ALIGNMENTS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY TO ASSURE REQUIRED SLOPE AND DIRECTION OF GAS AND CONDENSATE FLOW.
11. SUGGESTED INSTALLATION FOR SEQUENCE 1 OF THE LFG EXPANSION: THE FOLLOWING INSTALLATION SEQUENCE HAS BEEN ASSUMED IN THE ENGINEERING CALCULATIONS.
    (A.) TRENCH HEADER LINE FROM END POINTS TO CONNECTION POINTS IN THE ACTIVE GAS COLLECTION SYSTEM.
    (B.) INSTALL HEADER, AIR SUPPLY LINE AND CONDENSATE/DEWATERING LINES.
    (C.) DRILL ALL VERTICAL COMPONENTS AND COMPLETE INSTALLATION WITH HORIZONTAL COLLECTOR.
    (D.) TRENCH HORIZONTAL COLLECTORS TO CONNECTION POINT WITH HEADER LINE.
    (E.) CONNECT HORIZONTAL COLLECTORS TO HEADER LINE.
    (F.) COMPLETE WELLHEAD INSTALLATION.
12. PRIOR TO INSTALLATION OF GAS COLLECTION SYSTEM, ENGINEER TO BE PROVIDED WITH SURVEY TO CONFIRM LAYOUT, MINIMUM SLOPES, AND VERTICAL WELL SCHEDULE.
13. ALL WORK SHALL HAVE A ONE YEAR WARRANTY. ONE YEAR WARRANTY WILL BECOME EFFECTIVE WHEN THE PROJECT IS SUBSTANTIALLY COMPLETE, AS DETERMINED BY ENGINEER.
14. ALL BORE HOLES THAT ARE NOT COMPLETED AT THE END OF THE DAY ARE TO BE COVERED WITH A METAL WELL COVER CAPABLE OF PREVENTING ANY PERSONS FROM FALLING INTO THE HOLE. THE HOLE MUST THEN BE COVERED WITH A PIECE OF PLYWOOD TO SUBSTANTIALLY COVER THE ENTIRE HOLE. SOIL MUST BE PLACED ON TOP OF THE PLYWOOD TO COMPLETELY COVER THE PLYWOOD TO FURTHER PREVENT GAS EMISSIONS. SUBSTITUTE SAFETY MEASURES MAY BE USED IF APPROVED BY ENGINEER.
15. ALL HDPE PIPES SHALL BE PRESSURE TESTED AFTER FUSION FOR LEAKS. THE STANDARD PRESSURE TEST SHALL BE 10 PSI FOR 1 HOUR WITH A MAXIMUM OF 5% LOSS.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL SURVEY TUBES AT THE END OF THE PROJECT, UNLESS INSTRUCTED OTHERWISE BY OWNER OR ENGINEER.
17. ACTUAL DIMENSIONS AND LOCATIONS MAY VARY BASED ON FIELD LOCATIONS.
18. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO ENGINEER FOR APPROVAL.
19. THE CONTRACTOR IS ADVISED THAT THE LANDFILL CONTAINS A SYNTHETIC LINER AS PART OF THE SUBGRADE CONSTRUCTION. ALL COSTS ASSOCIATED WITH REPAIR RESULTING FROM DAMAGE TO THIS LINER SYSTEM SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL INCLUDE, BUT ARE NOT LIMITED TO ENGINEER'S REVIEW, REPAIR OR REPLACEMENT BY A QUALIFIED HDPE/LLDPE LINER INSTALLER, THIRD PARTY OBSERVATION, AND COUNTY REVIEW.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE COST FOR ALL INSPECTION FEES AND ENGINEERING HOURS OVER THE 60 HOURS PER WEEK WORK SCHEDULE AT ACTUAL BILLING RATES. CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER WITHIN FIVE CALENDAR DAYS NOTICE TO JUSTIFY THE EXTENSION OF TIME.

RECORD DRAWING

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CLIFFORD G. KOENIG, P.E.
FLORIDA P.E. NO. 64078
HDR ENGINEERING, INC.

Hillsborough County Florida

HDR

HDR Engineering, Inc.
5426 Bay Center Drive
Suite 400
Tampa, FL 33609-3444
HDR CA# 4213

ISSUE	DATE	DESCRIPTION
B	6/2013	RECORD DRAWINGS
A	7/2012	ISSUED FOR BIDS

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096–171445–002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER 7-25-13

CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

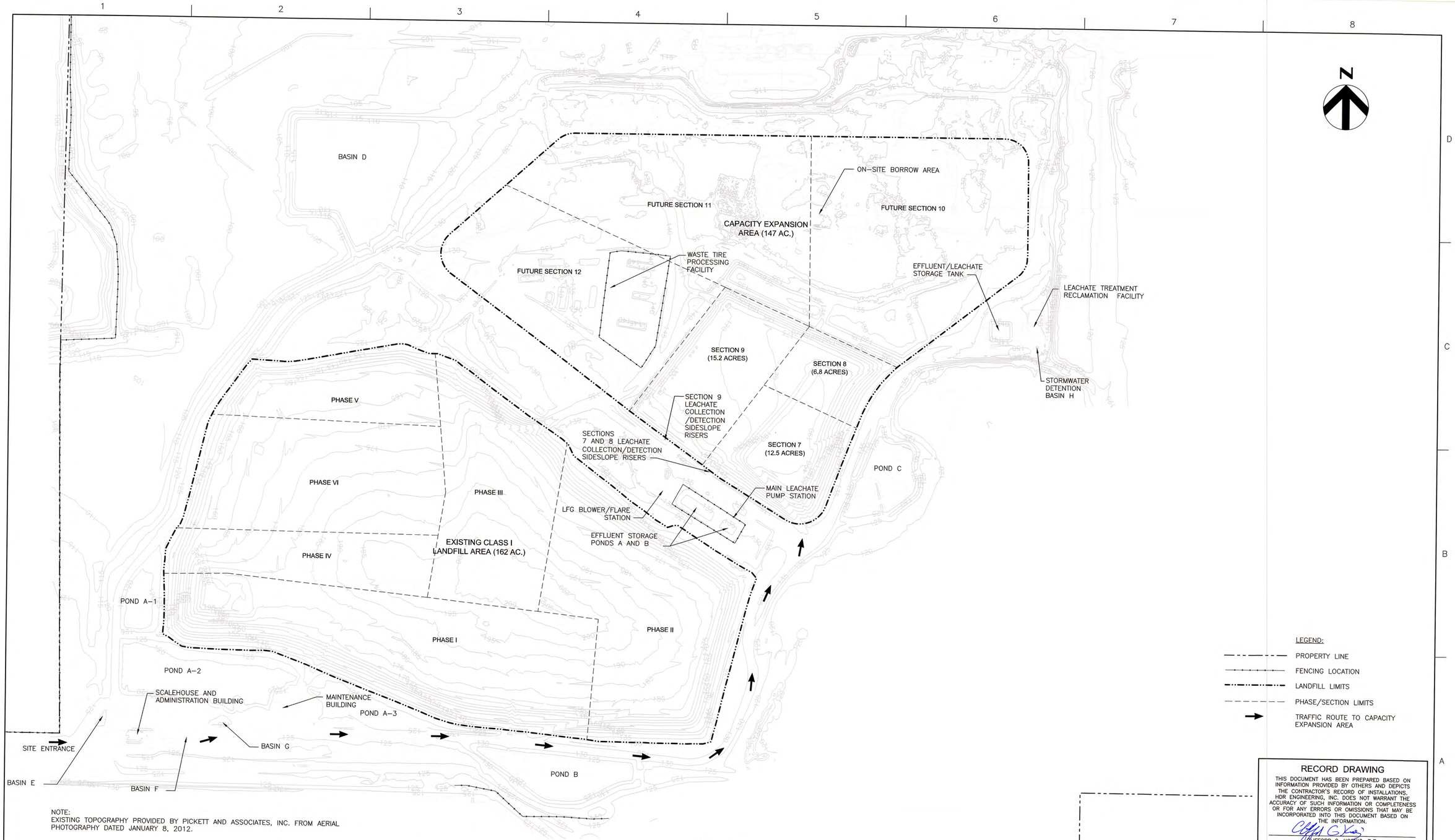
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

GENERAL NOTES AND LEGEND

0 1" 2"

FILENAME	00G–02.DWG
SCALE	AS SHOWN

SHEET **G-02**



NOTE:
EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JANUARY 8, 2012.

LEGEND:

- PROPERTY LINE
- FENCING LOCATION
- LANDFILL LIMITS
- PHASE/SECTION LIMITS
- TRAFFIC ROUTE TO CAPACITY EXPANSION AREA

RECORD DRAWING

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REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER
9-25-13
CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

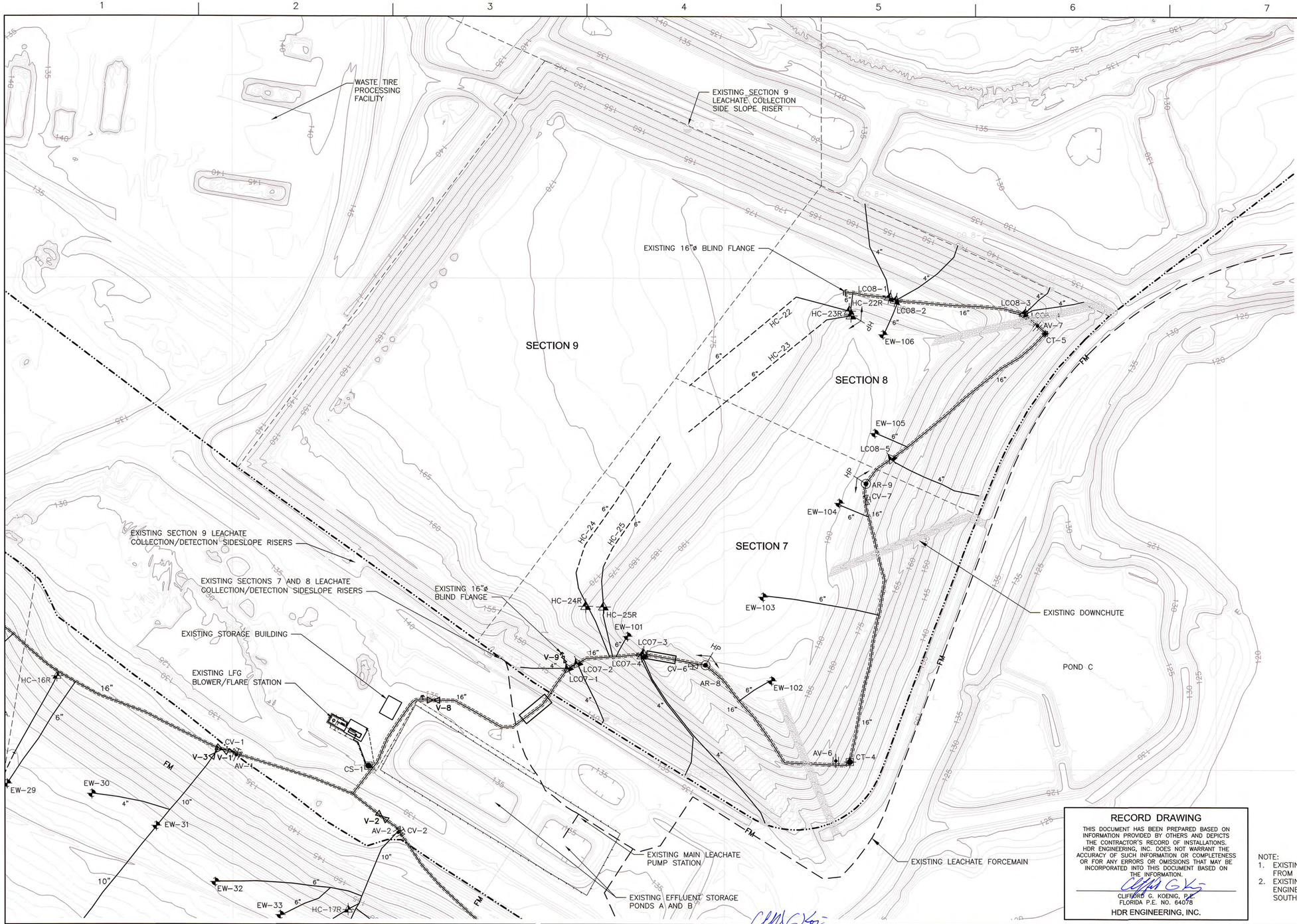
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

OVERALL SITE PLAN

0 1" 2"

FILENAME	00C-01.DWG
SCALE	1=300'

SHEET C-01



LEGEND:

HC-1A	HORIZONTAL COLLECTOR VERTICAL COMPONENT
EW-10	LFG EXTRACTION WELL
EW-46	DOWNSLOPE LFG EXTRACTION WELL
EW-12R	REMOTE WELLHEAD LOCATION
UT-2	SLOPED CONDENSATE U-TRAP
CS-1	CONDENSATE SUMP WITH PUMP
CT-5	SELF-DRAINING CONDENSATE TRAP
HC-18R	UPSLOPE HORIZONTAL COLLECTOR WELLHEAD
V-8	HEADER ISOLATION VALVE
AR-24	HEADER ACCESS RISER
	BLIND FLANGE FOR FUTURE EXPANSION
AV-2	AIR ISOLATION VALVE/BLOWOFF
CV-3	CONDENSATE DRAIN LINE ISOLATION VALVE
10"	HEADER/LATERAL DIAMETER
HP	HIGH POINT
	HEADER/LATERAL PIPE
	AIR SUPPLY LINE
	CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
	ROAD CROSSING
CO 4-1	EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT
	LANDFILL LIMITS
FM	EXISTING LEACHATE FORCE MAIN
	PHASE/SECTION LIMITS
	HORIZONTAL COLLECTOR PERFORATED PIPE
CDW	DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW
LFG	DIRECTION OF LANDFILL GAS FLOW
	DOWNCHUTE

RECORD DRAWING

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CLIFFORD G. KOENIG, P.E.
FLORIDA P.E. NO. 64078
HDR ENGINEERING, INC.

NOTE:
1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JANUARY 8, 2012.
2. EXISTING LANDFILL GAS COLLECTION SYSTEM BASED ON SCS ENGINEERS AS-BUILT PLANS DATED AUGUST 2010 AND SURVEY BY SOUTHEASTERN SURVEYING, INC. DATED DECEMBER 2009.

Hillsborough County Florida

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REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER
225-13
CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

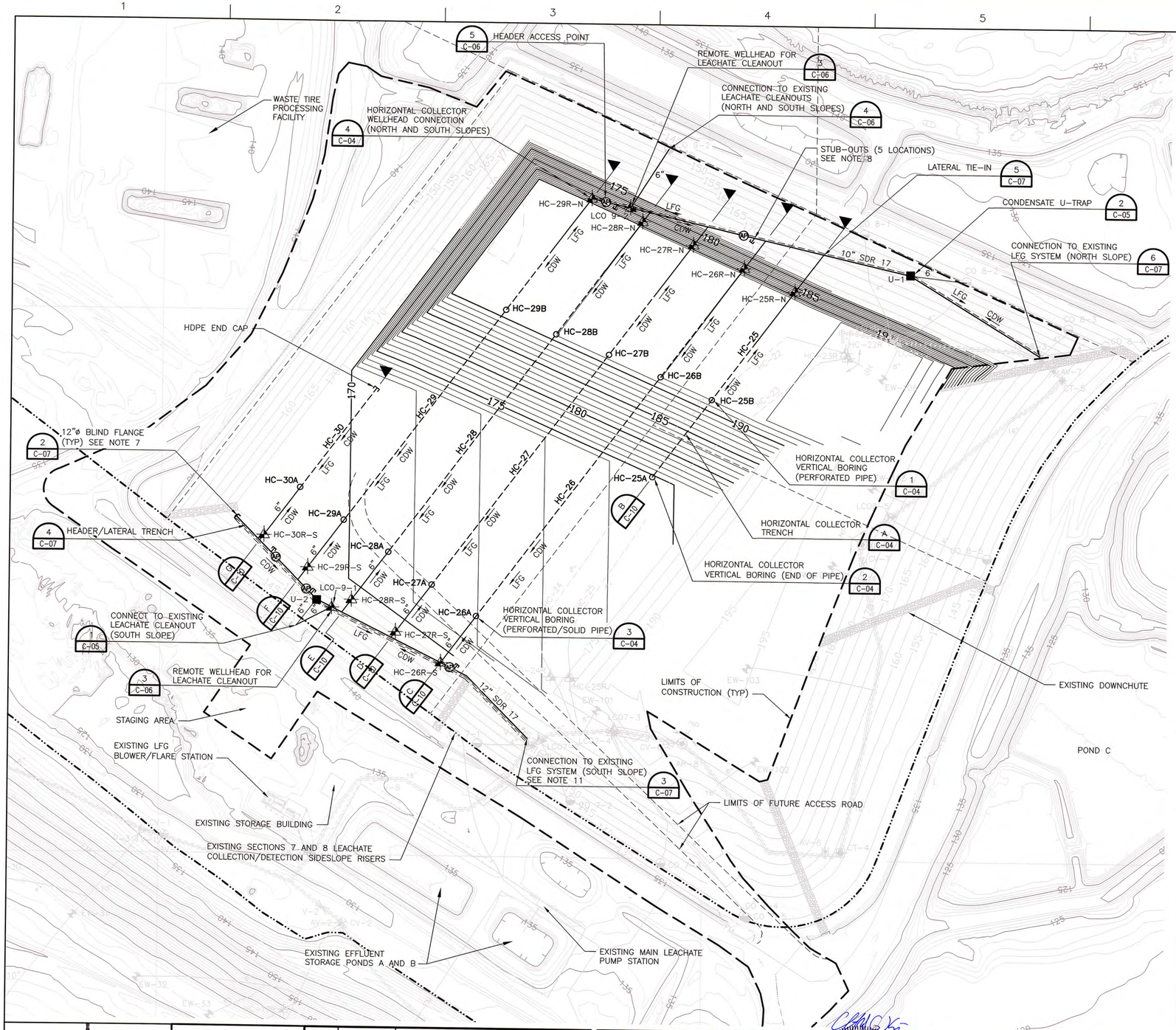
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

EXISTING CONDITIONS

0 1" 2"

FILENAME	00C-02.DWG
SCALE	1=100'

SHEET C-02



N

SEE SHEET C-03A FOR AS-BUILT

NOTES:

1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JANUARY 8, 2012.
2. EXISTING LANDFILL GAS COLLECTION SYSTEM BASED ON SCS ENGINEERS AS-BUILT PLANS DATED AUGUST 2010 AND SURVEY BY SOUTHEASTERN SURVEYING, INC. DATED DECEMBER 2009.
3. PROPOSED SECTION 9 FILL SEQUENCE DESIGN BY HDR ENGINEERING, INC, TAMPA, FLORIDA. ACTUAL CONDITIONS MAY VARY. CONTRACTOR TO VERIFY.
4. CONTRACTOR TO PROVIDE A PRE-CONSTRUCTION SURVEY PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES TO VERIFY EXISTING CONDITIONS.
5. LOCATION AND DENSITY OF SECTION 9 LFGCCS EXPANSION IS APPROXIMATE AND SUBJECT TO CHANGE BASED ON EXISTING CONDITIONS.
6. HEADER PIPE SHALL BE HDPE SDR 17 AND LATERALS/HORIZONTAL COLLECTORS SHALL BE HDPE SDR 11.
7. PROPOSED BLIND FLANGE AT END OF SOUTH HEADER IN SECTION 9 SHALL BE LOCATED 20 FEET FROM EAST SIDE SLOPE. ACTUAL LOCATION TO BE DETERMINED AFTER PRE-CONSTRUCTION SURVEY.
8. CONTRACTOR TO PROVIDE 6"ø STUB-OUTS (5 LOCATIONS) FOR SEQUENCE 2 LFG EXPANSION. STUB-OUT WITH HDPE END CAP TO EXTEND 10 FEET FROM HEADER LINE AT 5% SLOPE. REFER TO DETAIL 5/C-07 FOR ADDITIONAL INFORMATION.
9. CONTRACTOR SHALL REPLACE ALL DAMAGED OR REMOVED SOD AS A RESULT OF CONSTRUCTION.
10. LOCATION OF EXISTING 16"ø HEADER BASED ON SCS ENGINEERS AS-BUILT PLANS DATED AUGUST 2010.
    N. 1,251,931.40
    E. 599,611.02
11. LOCATION OF 16"X16"X16" TEE TO V-9 BASED ON SCS ENGINEERS AS-BUILT PLANS DATED AUGUST 2010.
    N. 1,251,205.66
    E. 598,681.73
    EL. 150.88

LEGEND:

HC-26	EXISTING HORIZONTAL COLLECTOR VERTICAL COMPONENT
EW-10	EXISTING LFG EXTRACTION WELL
EW-46	EXISTING DOWNSLOPE LFG EXTRACTION WELL
EW-12R	EXISTING REMOTE WELLHEAD LOCATION
UT-2	EXISTING SLOPED CONDENSATE U-TRAP
CS-1	EXISTING CONDENSATE SUMP WITH PUMP
CT-5	EXISTING SELF-DRAINING CONDENSATE TRAP
HC-18R	EXISTING UPSLOPE HORIZONTAL COLLECTOR WELLHEAD
V-8	EXISTING HEADER ISOLATION VALVE
AR-24	EXISTING HEADER ACCESS RISER
	EXISTING BLIND FLANGE FOR FUTURE EXPANSION
AV-2	AIR ISOLATION VALVE/BLOWOFF
CV-3	CONDENSATE DRAIN LINE ISOLATION VALVE
10"	EXISTING HEADER/LATERAL DIAMETER
HP	EXISTING HIGH POINT
	EXISTING HEADER/LATERAL PIPE
	EXISTING AIR SUPPLY LINE
	EXISTING CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
	EXISTING ROAD CROSSING
CO 4-1	EXISTING EXISTING LEACHATE COLLECTION SYSTEM CLEANOUT
FM	EXISTING LEACHATE FORCE MAIN
CDW	EXISTING DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW
LFG	EXISTING DIRECTION OF LANDFILL GAS FLOW
	LANDFILL LIMITS
	PHASE/SECTION LIMITS
HC-26	HORIZONTAL COLLECTOR VERTICAL COMPONENT
U-1	CONDENSATE U-TRAP
HC-18R	UPSLOPE HORIZONTAL COLLECTOR WELLHEAD (N-NORTH, S-SOUTH)
AP	HEADER ACCESS POINT
	BLIND FLANGE FOR FUTURE EXPANSION
	HEADER/LATERAL PIPE
	HORIZONTAL COLLECTOR PERFORATED PIPE
	AIR SUPPLY LINE
	CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
	ROAD CROSSING
	LIMITS OF CONSTRUCTION
CDW	DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW
LFG	DIRECTION OF LANDFILL GAS FLOW
	DOWNCHUTE

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HDR ENGINEERING, INC.

Hillsborough County Florida

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Suite 400
Tampa, FL 33609-3444
HDR CA# 4213

ISSUE	DATE	DESCRIPTION
B	6/2013	RECORD DRAWINGS
A	7/2012	ISSUED FOR BIDS

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER 7-25-13

CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

SECTIONS 7, 8 AND 9 GCCS EXPANSION-SEQUENCE 1 (FILL SEQUENCE 13)

0 1" 2"

FILENAME	00C-03.DWG
SCALE	1=100'

SHEET C-03

SURVEYOR's NOTES:

1.) North, coordinates and grid are based on the State Plane Coordinate System, Florida West Zone NAD 1983 based on onsite control provided by client prepared by Pickett & Associates.

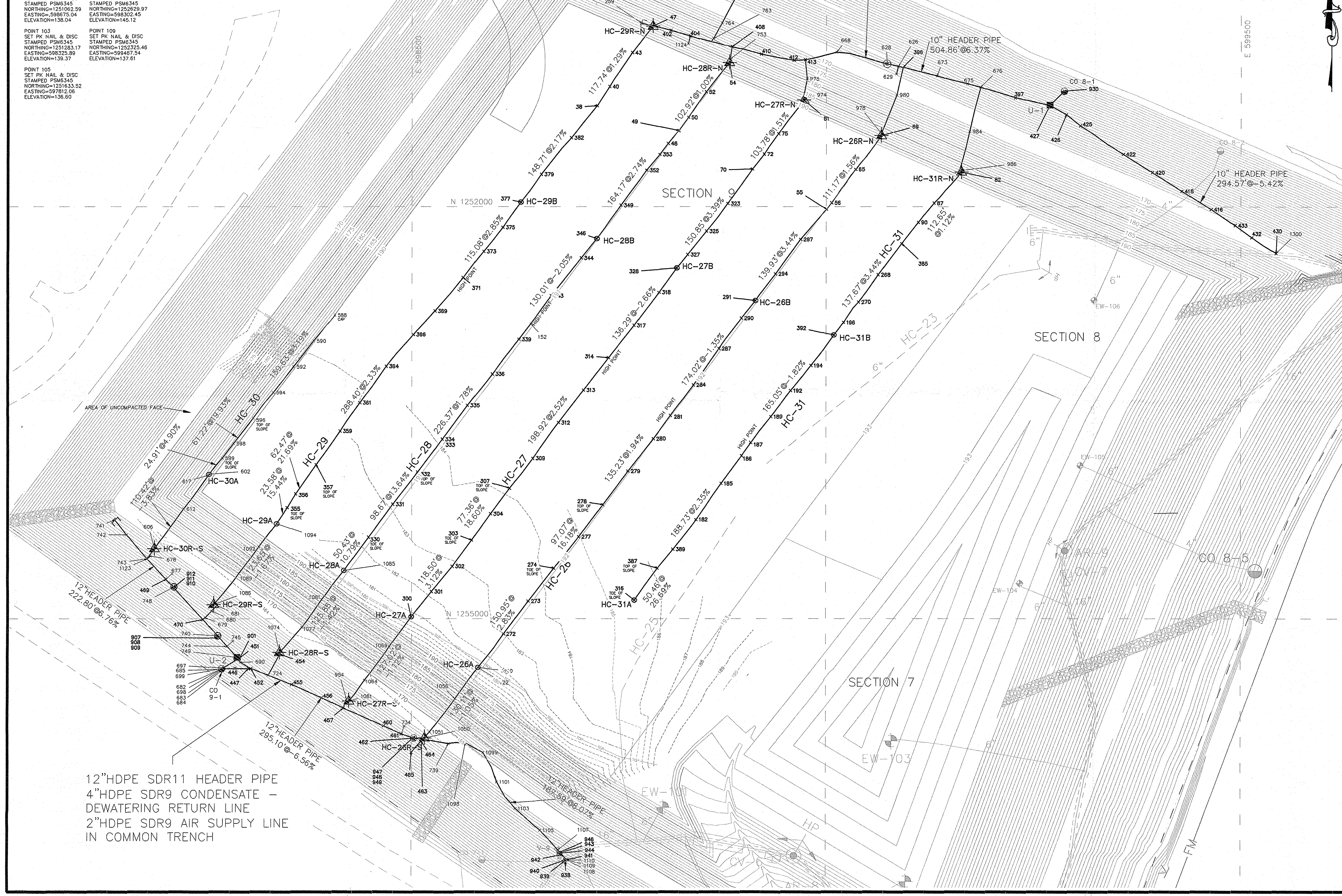
2.) Site Control

POINT 101 SET PK NAIL & DISC STAMPED PSM6345 NORTHING=1251062.59 EASTING=,598675.04 ELEVATION=138.04	POINT 107 SET PK NAIL & DISC STAMPED PSM6345 NORTHING=1252629.97 EASTING=598302.45 ELEVATION=145.12
POINT 103 SET PK NAIL & DISC STAMPED PSM6345 NORTHING=1251283.17 EASTING=598325.89 ELEVATION=139.37	POINT 109 SET PK NAIL & DISC STAMPED PSM6345 NORTHING=1252325.46 EASTING=599467.54 ELEVATION=137.61
POINT 105 SET PK NAIL & DISC STAMPED PSM6345 NORTHING=1251633.52 EASTING=597812.06 ELEVATION=136.60	

SURVEYOR's NOTES:

1.) North and the Coordinates shown hereon are based on the West Zone of the Florida State Plane Coordinate System, and are based upon provided control referenced to Hillsborough County Horizontal Control Monument LW-H (PID AG8963) and BY-E (PID AG8747), the published values used for this survey are North American Datum of 1983, 1990 adjustment.

2.) *Elevations are to National Geodetic Vertical Datum of 1929 and are based upon provided control referenced to Hillsborough County Horizontal Control Monument VR-B (PID AG9078), elevation is 103.08'.*



NO.	DATE	REVISION

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Drawn By: DLP
Party Chief: DR
Field Book: 23
FILE NAME: 137 erc se hills gas asb.dwg

Peavey & Associates
SURVEYING & MAPPING PA
9399 N. LAKE BUFFUM RD
FORT MEADE, FL 33841
PHONE: 863-738-4960
FLORIDA BUSINESS NO.7779

CLIENT:
ERC
890 CARTER ROAD
SUITE 170
WINTER GARDEN, FL

AS-BUILT SURVEY
SECTIONS 7,8 & 9 LANDFILL GAS COLLECTION SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

[illegible]
DEBORAH L. PEAVEY, P.S.M.
FLORIDA REGISTRATION NUMBER 6345
FLORIDA BUSINESS NUMBER 7779

3/29/-5/2/2013
SURVEY DATES

SCALE	DRAWING NO.
1"=50'	137
PROJECT NO.	SHEET
619	C-03A

HILLSBOROUGH SE LANDFILL PROFILES TOP OF PIPE

TOP OF PIPE DESCRIPTION	POINT NUMBER	ELEVATION	DISTANCE	POINT NUMBER	ELEVATION	SLOPE
HC 30 END TO TOP OF SLOPE	588	181.12	159.63	596	176.02	3.19%
HC 30 TOP SLOPE TO TOE OF SLOPE	596	176.02	61.22	599	163.82	19.93%
HC 30 TOE TO HC 30A 90 ELBOW	599	163.82	24.91	602	162.6	4.90%
HC 30A TEE TO HC 30R-S	617	157.84	110.42	606	162.07	-3.83%
HC 29 R-N TO HC 29 PERF	47	184.8	117.74	38	183.28	1.29%
HC 29 PERF TO HC 29B	38	183.58	148.71	377	180.36	2.17%
HC 29B TO HP HC 29	377	180.36	115.08	371	183.64	-2.85%
HC 29 HP TO HC29 TOP OF SLOPE	371	183.64	288.40	357	176.91	2.33%
HC 29 TOP SLOPE TO TOE SLOPE	357	176.91	62.47	355	163.36	21.69%
HC 29 TOE SLOPE TO HC 29A	355	163.36	23.58	1094	159.72	15.44%
HC 29A TO HC 29 R-S	1094	159.72	123.65	1086	161.79	-1.67%
HC 28 R-N TO HC 28 PERF	54	186.01	102.92	49	184.98	1.00%
HC 28 PERF TO HC 28B	49	184.98	164.17	346	180.48	2.74%
HC 28B TO HP HC 28	346	180.48	130.01	152	183.15	-2.05%
HP HC 28 TO TOP SLOPE	152	183.15	226.37	332	179.13	1.78%
HC 28 TOP SLOPE TO TOE SLOPE	332	179.13	98.67	330	165.67	13.64%
HC 28 TOE SLOPE TO HC 28A	330	165.67	50.43	1085	160.23	10.79%
HC 28A TO HC 28 R-S	1085	160.23	125.86	1074	162.02	-1.42%
HC 27 R-N TO HC 27 PERF	81	187.79	103.78	70	186.22	1.51%
HC 27 PERF TO HC 27B	70	186.22	150.85	328	181.11	3.39%
HC 27B TO HC 27 HP	328	181.11	136.29	314	184.73	-2.66%
HC 27 HP TO TOP OF SLOPE	314	184.73	198.92	307	179.72	2.52%
HC 27 TOP OF SLOPE TO TOE SLOPE	307	179.72	77.36	303	165.33	18.60%
HC 27 TOE TO HC 27A	303	165.33	118.15	300	161.64	3.12%
HC 27A TO HC 27 R-S	300	161.64	127.02	1061	163.06	-1.12%
HC 26 R-N TO HC 26 PERF	69	188.6	111.17	55	186.87	1.56%
HC 26 PERF TO HC 26B	55	186.87	139.93	291	182.06	3.44%
HC 26B TO HC 26 HP	291	182.06	174.02	281	184.41	-1.35%
HC 26 HP TO TOP OF SLOPE	281	184.41	135.23	278	181.78	1.94%
HC 26 TOP OF SLOPE TO TOE SLOPE	278	181.78	97.07	274	166.07	16.18%
HC 26 TOE SLOPE TO HC 26A	274	166.07	150.95	1060	161.8	2.83%
HC 26A TO HC 26 R-S	1122	160.13	130.11	465	161.5	-1.05%
HC 31 R-N TO HC 31 PERF	82	189.72	112.65	385	188.46	1.12%
HC 31 PERF TO HC 31B	385	188.46	137.67	392	183.72	3.44%
HC 31B TO HP	392	183.72	165.05	187	186.72	-1.82%
HP TO TOP OF SLOPE	187	186.72	188.73	387	182.28	2.35%
TOP OF SLOPE TO HC 31A (TOE OF SLOPE)	387	182.28	50.46	316	168.81	26.69%
12" HEADER BLIND FLANGE TO U-TRAP (U-2)	741	162.67	222.80	749	147.61	6.76%
12" HEADER U-TRAP TO HP	749	147.61	295.10	1098	166.98	-6.56%
12" HEADER TIE IN AT PT. 1107	1098	166.98	187.59	1107	151.85	8.07%
12" HEADER TO HC 30 R-S	1123	158.72	5.43	678	159.87	-21.19%
12" HEADER TO HC 29 R-S	470	152.15	23.62	681	159.38	-30.61%
12" HEADER TO HC 28 R-S	724	150.34	28.99	454	159.44	-31.39%
12" HEADER TO HC 27 R-S	457	156.07	11.28	954	160.98	-43.51%
12" HEADER REMOTE LEACHATE WELLHEAD	682	139.87	32.41	447	148.29	-25.98%
12" HEADER U-TRAP 6" DRAIN TO C/O	697	139.63	22.66	451	143.9	-18.84%
10" HEADER BLIND FLANGE TO U-TRAP (U-1)	259	185.09	502.74	427	152.91	6.40%
10" HEADER U-TRAP TO HP	427	152.91	291.66	432	168.88	-5.48%
10" HEADER HP TO TIE-IN 90	432	168.88	34.90	430	167.01	5.36%
10" HEADER TIE-IN 90 TO 16" HEADER	430	167.01	10.00	1300	157.01	100.00%
10" HEADER TO HC 28 R-S	408	177.29	15.47	753	182.3	-32.38%
10" HEADER TO HC 27 R-S	413	170.52	47.67	974	184.85	-30.06%
10" HEADER TO HC 26 R-S	396	163.71	84.18	978	186.51	-27.08%
10" HEADER TO HC 25 R-S	676	157.54	104.29	986	186.88	-28.13%
10" HEADER LEACHATE REMOTE TIE-IN	763	177.56	98.78	767	150.94	26.95%
10" HEADER U-TRAP TO C/O	427	152.91	24.45	930	143.7	37.67%

12" HEADER PIPE SOUTH

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
446	1251439.75	598286.13	144.51	6in lateral to LCO 9-1
447	1251439.58	598302.52	148.63	6in lateral 90 elbow to LCO 9-1
451	1251452.09	598291.36	143.90	u-trap tee 6" drain
452	1251439.38	598305.45	148.29	4 in leachate riser/remote well head
455	1251420.12	598354.71	152.56	12in header
456	1251403.96	598390.80	154.69	12in header
457	1251391.33	598417.25	156.07	12in x 6in tee
460	1251369.63	598465.97	159.32	12in header
461	1251360.05	598487.39	161.01	12in x6in tee (stub out)
462	1251355.13	598502.59	162.05	8in AP
463	1251353.36	598511.83	162.67	6in x 12in tee riser
464	1251350.99	598511.35	160.40	6in tee horz riser
465	1251338.15	598499.56	161.50	6in BF
469	1251547.84	598202.56	156.36	12in x 6in tee (stub out)
470	1251498.96	598247.05	152.15	12in x 6in tee
677	1251554.20	598209.81	159.27	6in cap on stub out
678	1251575.81	598183.44	159.87	6in lateral
679	1251501.29	598249.87	153.14	6in lateral
682	1251439.02	598270.12	139.87	remote wellhead lateral tie-in to LCO 9-1
683	1251438.77	598271.00	141.27	6in lateral tee tie-in to LCO 9-1
684	1251438.17	598271.56	141.32	6in lateral 90 elbow tie-in to LCO 9-1
685	1251438.87	598272.50	141.56	6in drain line tie-in to LCO 9-1
690	1251446.99	598292.49	147.58	12in header
697	1251440.09	598272.13	139.63	6in drain line tie-in to LCO 9-1
698	1251440.53	598272.51	141.01	6in drain line tee tie-in to LCO 9-1
699	1251439.76	598273.03	141.16	6in drain line 90 elbow tie-in to LCO 9-1
724	1251431.43	598326.38	150.34	12in x 6in lateral tee
734	1251369.59	598491.02	162.35	6in cap on stub out
739	1251348.37	598544.42	165.37	12in header
740	1251479.02	598265.16	150.60	8in AP
741	1251619.46	598140.58	162.67	blind-flange
742	1251601.83	598155.03	161.15	12in header
743	1251572.37	598179.47	162.12	6in tee blind flange
744	1251466.10	598276.22	149.33	12in x 6in tee (stub out)
745	1251472.63	598283.42	152.33	6in cap on stub out
748	1251538.46	598212.05	155.04	8in AP
749	1251452.82	598288.46	147.61	U-Trap (U-2)
901	1251451.10	598291.33	155.44	top 16in flange
907	1251476.44	598264.26	156.78	top flange 4in pipe
908	1251477.34	598265.96	157.11	top flange 8in pipe
909	1251478.49	598263.34	156.83	top flange 2in pipe
910	1251537.66	598213.70	161.25	top flange 8in pipe
911	1251536.47	598212.34	160.95	top flange 4in pipe
912	1251537.41	598211.41	160.67	top flange 2in pipe
938	1251203.55	598686.20	152.48	top pipe 2in uc
939	1251205.60	598684.79	153.09	top pipe 4in uc
940	1251206.91	598685.09	150.74	top pipe existing 16in
941	1251207.42	598685.51	150.90	top pipe existing 16in tee
942	1251213.42	598680.77	151.43	top pipe existing 16in
943	1251215.24	598677.29	151.34	top pipe 4in
944	1251215.30	598677.41	151.33	top pipe 2in
946	1251215.82	598677.81	161.05	valve
947	1251355.02	598500.97	168.57	top flange 2in pipe
948	1251354.23	598502.58	168.54	top flange 8in pipe
949	1251352.79	598503.30	168.59	top flange 4in pipe
954	1251401.95	598421.07	160.99	12in x 6in tee
1050	1251354.77	598514.96	160.51	6 solid
1098	1251349.02	598564.71	166.98	12in header
1099	1251337.53	598586.21	165.39	12in header
1101	1251301.68	598602.70	161.67	12in header
1103	1251269.67	598625.29	157.37	12in header
1105	1251243.14	598655.07	154.33	12in header
1107	1251219.09	598676.41	151.85	12in x 16in reducer to the 16in flange
1108	1251207.24	598687.54	150.03	Flange
1109	1251207.16	598687.51	150.03	4in tee
1110	1251207.47	598687.28	149.91	2in Tee
1123	1251572.18	598179.40	158.72	12in tee

10" HEADER PIPE NORTH

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
47	1252218.67	598790.40	184.80	HC-29R-N
259	1252221.91	598776.74	185.09	blind flange
397	1252131.82	599227.84	155.15	10in pipe
408	1252193.75	598886.19	177.29	10in tee
410	1252184.71	598921.51	174.98	10in pipe
412	1252176.98	598960.91	172.40	10in pipe
413	1252177.78	598974.55	170.52	10in tee
416	1251996.56	599464.24	165.80	10in pipe
418	1252018.49	599428.84	163.59	10in pipe
420	1252041.05	599393.43	161.27	10in pipe
422	1252063.33	599358.22	159.11	10in pipe
425	1252097.75	599306.34	155.66	10in pipe
426	1252111.36	599289.49	154.68	10in pipe
427	1252122.67	599269.58	152.92	U-Trap(U-1)
430	1251943.13	599542.36	167.01	tie-in to 16in header (90 elbow down to tie-in)
432	1251962.16	599513.11	168.88	10in pipe HP
433	1251977.05	599493.14	167.57	10in pipe
626	1252169.91	599086.86	163.71	10in x 6in tee stubout
628	1252172.87	599073.19	164.03	AP 8in
668	1252187.02	599012.41	167.94	10in pipe
673	1252158.33	599133.43	160.46	10in pipe
675	1252148.84	599169.90	158.21	10in pipe
676	1252144.61	599185.70	157.54	10in tee
763	1252203.21	598863.62	177.56	6 in lateral
764	1252222.27	598874.11	169.55	6 in lateral
765	1252270.53	598900.03	157.72	6 in lateral
766	1252254.03	598890.98	162.69	6 in lateral
767	1252289.86	598911.07	150.94	6 in (tie-in to LCO 9-1)
930	1252139.90	599286.93	143.70	top pipe (tie-in to CO 8-1)
1300	1251943.12	599542.37	157.01	tie-in to 16in header (10in x 16 in tee connection)
1124	1252197.348	598833.163	182.56	6in cap on stubout
404	1252206.688	598835.656	180.14	10in x 6in tee (stubout)
629	1252160.572	599084.363	166.27	6in cap on stubout
402	1252213.201	598812.086	181.14	8in access point

HORIZONTAL COLLECTOR PIPE 29

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
38	1252121.99	598723.21	183.28	end perf
40	1252145.43	598738.13	183.43	6 solid
43	1252186.43	598765.63	183.75	6 solid
47	1252218.67	598790.40	184.80	HC-29R-N
355	1251634.49	598349.09	163.36	6in (Toe of Slope)
356	1251650.88	598359.14	167.67	6in
357	1251686.43	598383.80	176.91	6in (Top of Slope)
359	1251727.04	598412.73	178.27	6in
361	1251761.66	598437.07	179.29	6in
364	1251806.36	598468.93	180.23	6in
366	1251844.86	598501.65	181.30	6in
369	1251873.37	598527.65	181.98	6in
371	1251913.65	598561.41	183.64	6in
373	1251945.46	598586.52	182.56	6in
375	1251974.54	598609.35	181.48	6in
377	1252005.09	598631.28	180.36	HC-29B
379	1252038.79	598655.92	181.23	6in
382	1252083.36	598692.00	182.98	6in
470	1251498.96	598247.05	152.15	12in x 6in tee
679	1251501.29	598249.87	153.14	6 inch lat
680	1251508.92	598257.63	156.80	6 inch lat
681	1251515.62	598263.80	159.38	6 inch lat
1086	1251517.17	598260.26	161.79	6 solid
1089	1251554.59	598290.68	160.75	6 solid
1092	1251587.09	598314.86	159.97	6 solid
1094	1251614.71	598336.25	159.72	HC-29A (top tee south)

HORIZONTAL COLLECTOR PIPE 31

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
82	1252041.64	599163.15	189.72	HC-31R-N
87	1252004.05	599130.22	189.68	6 solid
90	1251980.62	599111.16	189.16	6 solid
182	1251619.77	598843.00	183.68	6in
185	1251663.49	598873.57	185.07	6in
186	1251697.03	598898.08	186.30	6in
187	1251712.95	598909.35	186.72	6in (HP)
189	1251744.51	598933.51	186.07	6in
192	1251776.26	598957.25	185.32	6in
194	1251807.37	598981.91	184.71	6in
196	1251859.48	599021.10	184.61	6in
268	1251917.03	599062.76	187.12	6in
270	1251884.23	599039.11	185.64	6in
316	1251522.35	598768.40	168.81	HC-31A
385	1251954.89	599091.29	188.46	end perf
387	1251561.20	598796.14	182.28	6in
389	1251583.81	598815.07	182.79	6in
392	1251844.20	599009.42	183.72	HC-31B
676	1252144.61	599185.70	157.54	10"tee
984	1252091.00	599172.83	169.99	6in
986	1252043.31	599160.91	186.88	6in

HORIZONTAL COLLECTOR PIPE 26

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
55	1251996.57	599000.43	186.87	end perf
56	1252004.35	599006.61	187.01	6 solid
65	1252044.98	599035.67	187.65	6 solid
69	1252085.94	599066.54	188.60	HC-26R-N
272	1251481.39	598610.59	163.70	6in
273	1251521.40	598640.34	164.64	6in
274	1251560.86	598671.04	166.07	6in (Toe of Slope)
277	1251598.95	598701.20	176.05	6in
278	1251637.61	598730.46	181.78	6in (Top of Slope)
279	1251678.38	598760.70	182.80	6in
280	1251717.84	598791.40	183.78	6in
281	1251745.65	598811.79	184.41	6in (HP)
284	1251783.71	598839.70	183.62	6in
287	1251827.70	598870.64	182.99	6in
290	1251864.63	598897.84	182.27	6in
291	1251886.01	598914.65	182.06	HC-26B
294	1251918.11	598939.00	183.11	6in
297	1251959.90	598969.27	185.24	6in
464	1251350.99	598511.35	160.40	6" tee horz riser
465	1251338.15	598499.56	161.50	6" BF
626	1252169.91	599086.86	163.71	10"tee
629	1252160.57	599084.36	166.27	6in
978	1252088.20	599066.63	186.51	6in solid
980	1252135.16	599085.00	169.04	6in solid
1050	1251354.77	598514.96	160.51	6in solid
1051	1251362.38	598521.51	160.78	6in solid
1056	1251402.77	598552.30	160.95	6in solid
1060	1251440.69	598579.68	161.80	HC-26A top 90
1122	1251440.67	598579.67	160.13	HC-26A tee south

HORIZONTAL COLLECTOR PIPE 27

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
70	1252045.28	598911.00	186.23	end perf
72	1252063.42	598925.12	186.79	6 solid
75	1252088.14	598942.60	187.23	6 solid
81	1252128.51	598972.99	187.80	HC-27R-N
300	1251502.34	598499.06	161.64	HC-27A (top tee south)
301	1251532.58	598523.53	163.23	6in
302	1251563.24	598548.63	164.37	6in
303	1251595.12	598572.20	165.33	6in (Toe of Slope)
304	1251626.93	598594.93	170.50	6in
307	1251657.66	598617.74	179.72	6in (Top of Slope)
309	1251694.00	598645.83	181.66	6in
312	1251737.16	598676.61	183.11	6in
313	1251777.18	598706.89	183.77	6in
314	1251816.75	598737.15	184.73	6in (HP)
317	1251856.00	598767.82	183.53	6in
318	1251895.91	598798.01	182.74	6in
323	1252003.62	598881.29	185.36	6in
325	1251970.04	598855.21	183.52	6in
327	1251941.65	598832.51	182.12	6in
328	1251925.32	598819.54	181.11	HC-27B
413	1252177.78	598974.55	170.52	10"tee
457	1251391.33	598417.25	156.07	12 in tee 6 leachate
954	1251401.95	598421.07	160.99	6in 90 to HC-27R-S
974	1252130.17	598972.21	184.85	6in
975	1252154.78	598976.67	177.46	6in
1061	1251399.83	598424.05	163.06	HC 27R-S
1064	1251425.33	598442.93	162.25	6 solid
1069	1251466.00	598472.80	161.18	6 solid

HORIZONTAL COLLECTOR PIPE 28

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
48	1252076.15	598808.95	184.90	6in
49	1252091.84	598821.79	184.98	end perf
50	1252107.89	598833.47	185.38	6 solid
52	1252138.73	598854.75	185.96	6 solid
54	1252174.44	598883.20	186.01	HC-28R-N
152	1251857.89	598643.43	183.15	6in (HP)
330	1251598.53	598447.52	165.67	6in (Toe of Slope)
331	1251638.28	598476.83	171.87	6in
332	1251677.45	598506.75	179.13	6in (Top of Slope)
333	1251717.06	598536.58	180.10	6in
334	1251717.29	598536.57	180.13	6in
335	1251758.19	598566.81	180.93	6in
336	1251796.96	598597.01	182.09	6in
339	1251839.15	598628.97	182.90	6in
343	1251891.71	598667.76	182.41	6in
344	1251937.35	598703.94	181.08	6in
346	1251960.97	598722.67	180.48	HC-28B
349	1252001.34	598751.90	182.08	6in
352	1252043.86	598782.97	183.71	6in
353	1252063.00	598798.87	184.48	6in
408	1252193.75	598886.19	177.29	10" tee
454	1251456.91	598340.21	159.44	6 lateral 90
724	1251431.43	598326.38	150.34	6 lateral tee
753	1252178.47	598883.74	182.30	6in
1074	1251459.04	598339.74	162.02	HC 28R-S
1077	1251489.47	598367.02	161.47	6 solid
1081	1251523.03	598390.49	160.99	6 solid
1085	1251558.05	598417.44	160.23	HC-28A (top tee south)

HORIZONTAL COLLECTOR PIPE 30

POINT NO.	NORTHING	EASTING	ELEVATION TOP OF PIPE	DESCRIPTION
588	1251868.35	598406.25	181.12	6in end cap
590	1251837.05	598380.91	179.85	6in
592	1251805.69	598356.60	178.77	6in
594	1251774.21	598332.03	177.49	6in
596	1251742.65	598307.85	176.02	6in (Top of Slope)
598	1251712.16	598283.92	166.71	6in
599	1251694.27	598270.33	163.82	6in (Toe of Slope)
602	1251674.88	598254.69	162.60	HC-30A (top 90)
606	1251584.87	598188.56	162.07	6in solid
612	1251632.64	598223.94	159.34	6in solid
617	1251673.80	598254.00	157.84	HC-30A (tee)
678	1251575.81	598183.44	159.87	6 inch lat
743	1251572.37	598179.47	162.12	6" blind flange
1123	1251572.18	598179.40	158.72	12"tee

REVISION | NO. | DATE

THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Drawn By: DLP | Party Chief: DR | Field Book: 23 | FILE NAME: 137 arc se hills gps asb.dwg

Peavey & Associates
SURVEYING & MAPPING PA
9399 N. LAKE BUFFUM RD
FORT MEADE, FL 33841
PHONE:863-738-4960
FLORIDA BUSINESS NO.7779

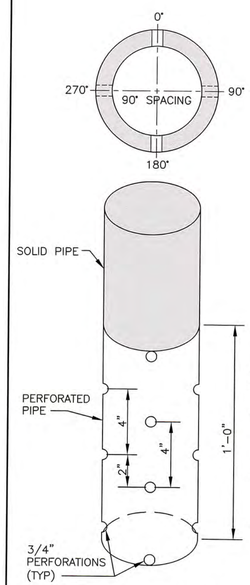
CLIENT: ERC, 890 CARTER ROAD, SUITE 170, WINTER GARDEN, FL

AS-BUILT SURVEY POINT DATA TABLE
SECTIONS 7,8 & 9 LANDFILL GAS COLLECTION SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FL

DEBORAH L. PEAVEY, P.S.M.
FLORIDA REGISTRATION NUMBER 6345
FLORIDA BUSINESS NUMBER 7779

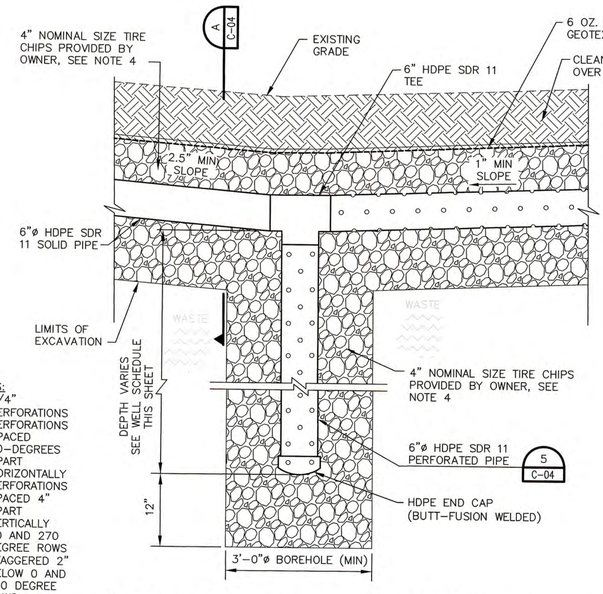
3/29/-5/2/2013
SURVEY DATES

SCALE	DRAWING NO.
1"=50'	137
PROJECT NO.	SHEET
619	C-03B



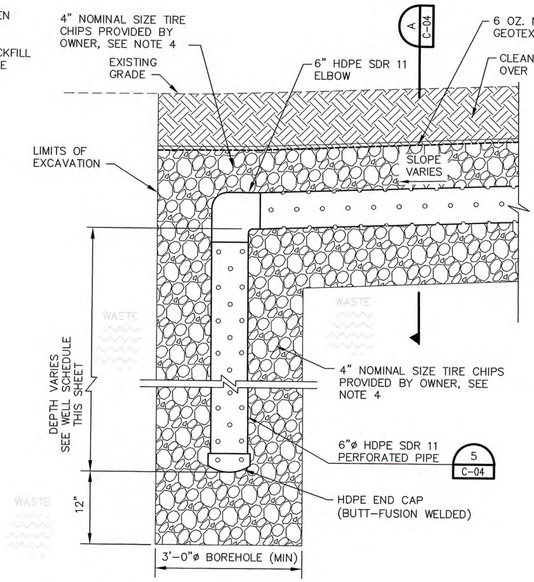
6"ø HDPE SDR 11 PERFORATED PIPE

NOT TO SCALE — 5 / C-04



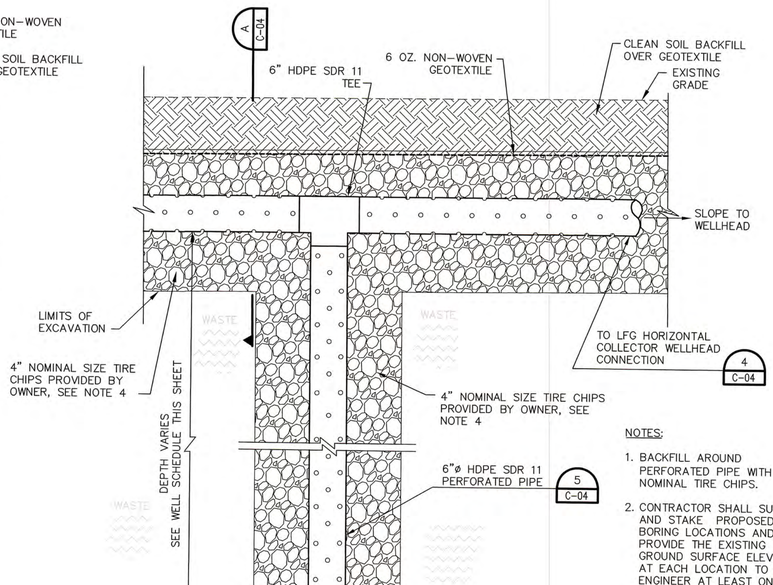
HORIZONTAL COLLECTOR VERTICAL BORING (PERFORATED/SOLID PIPE) DETAIL

NOT TO SCALE — 3 / C-03



HORIZONTAL COLLECTOR VERTICAL BORING (END OF PIPE) DETAIL

NOT TO SCALE — 2 / C-03

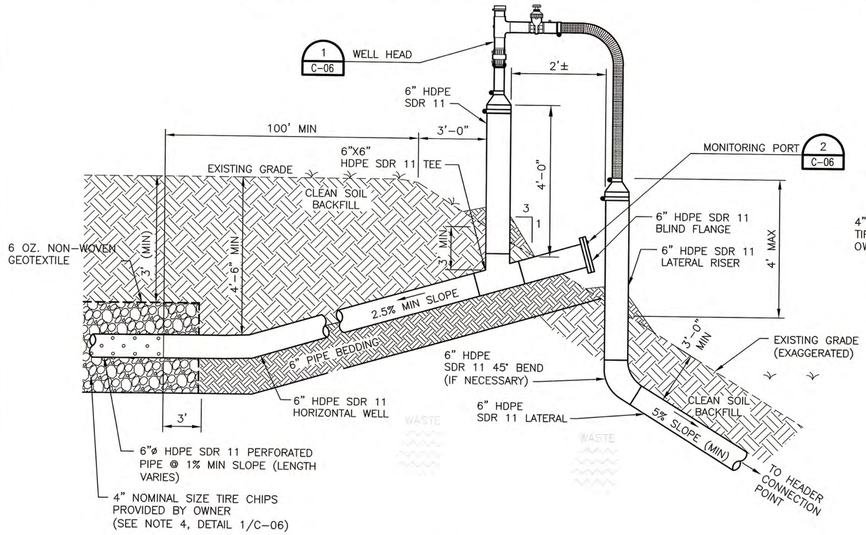


HORIZONTAL COLLECTOR VERTICAL BORING DETAIL

NOT TO SCALE — 1 / C-03

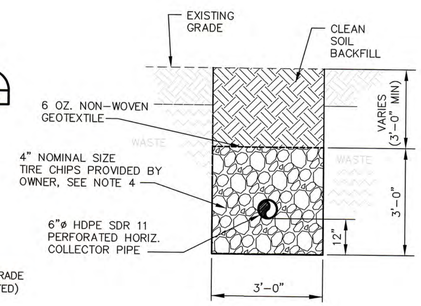
NOTES:

1. BACKFILL AROUND PERFORATED PIPE WITH 4" NOMINAL TIRE CHIPS.
2. CONTRACTOR SHALL SURVEY AND STAKE PROPOSED BORING LOCATIONS AND PROVIDE THE EXISTING GROUND SURFACE ELEVATION AT EACH LOCATION TO THE ENGINEER AT LEAST ONE WEEK PRIOR TO THE COMMENCEMENT OF WELL DRILLING.
3. ENGINEER SHALL ADJUST WELL/BORING SCHEDULE AS NECESSARY BASED ON THE PRE-CONSTRUCTION SURVEY.
4. USE 1"-3" WASHED NON-CALCAREOUS STONE (NO FINE) IF TIRE CHIPS ARE NOT AVAILABLE.



HORIZONTAL COLLECTOR WELLHEAD CONNECTION (NORTH AND SOUTH SLOPES)

NOT TO SCALE — 4 / C-03



SECTION

NOT TO SCALE — A / C-04

NOTES:

1. FINAL GRADE ELEVATION FOR LFGCCS EXPANSION SEQUENCE 1 BASED ON FILL SEQUENCE 13.
2. BASE GRADE ELEVATION BASED ON SECTION 9 TOPOGRAPHIC SURVEY OF PROTECTIVE COVER BY SOUTHEASTERN SURVEYING, INC. DATED MAY 8, 2008.
3. ALL DISTANCES ARE IN FEET.

LFG EXTRACTION WELL SCHEDULE

WELL ID	DESIGN								
	GRID COORDINATES		FINAL GRADE ELEVATION 1, 2	BASE GRADE ELEVATION 3	CALCULATED DEPTH OF WASTE (DR)	CALCULATED BOREHOLE DEPTH (DB)	PERFORATED PIPE (DP)	DEPTH TO TOP OF HORIZONTAL COLLECTOR PIPE AT VERTICAL BORING (HD)	DEPTH OF COVER SOIL AT VERTICAL BORING
	NORTHING	EASTING							
SEQUENCE 1									
HC-25A	1,251,704.24	598,832.63	175	[illegible]	[illegible]	25.5	20	4.5	3.0
HC-25B	1,251,844.65	599,009.45	192.5			43	35.7	6.3	4.8
HC-26A	1,251,441.51	598,580.16	172			25	17	6.9	5.4
HC-26B	1,251,885.39	598,914.94	192	134.5	57.5	42.5	35	6.4	4.9
HC-27A	1,251,498.39	598,497.85	171	130	41	26	18	6.6	5.1
HC-27B	1,251,925.11	598,819.66	191.5	134	57.5	42.5	34	6.4	4.9
HC-28A	1,251,557.52	598,417.64	170.5	128	42.5	27.5	21	5.3	3.8
HC-28B	1,251,961.68	598,722.02	191	132	59	44	36.5	6.5	5.0
HC-29A	1,251,615.19	598,335.83	170	128	42	27	20.5	5.3	3.8
HC-29B	1,252,005.25	598,629.64	190.5	131	59.5	44.5	37	6.5	5.0
HC-30A	1,251,674.09	598,255.00	170	129	41	26	20	5.1	3.6
					TOTALS:	374	295		

SEE SHEET C-03B FOR AS-BUILT

RECORD DRAWING

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Hillsborough County Florida

HDR

HDR Engineering, Inc.
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Suite 400
Tampa, FL 33609-3444
HDR CA# 4213

ISSUE	DATE	DESCRIPTION
B	6/2013	RECORD DRAWINGS
A	7/2012	ISSUED FOR BIDS

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER 2-25-13

CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

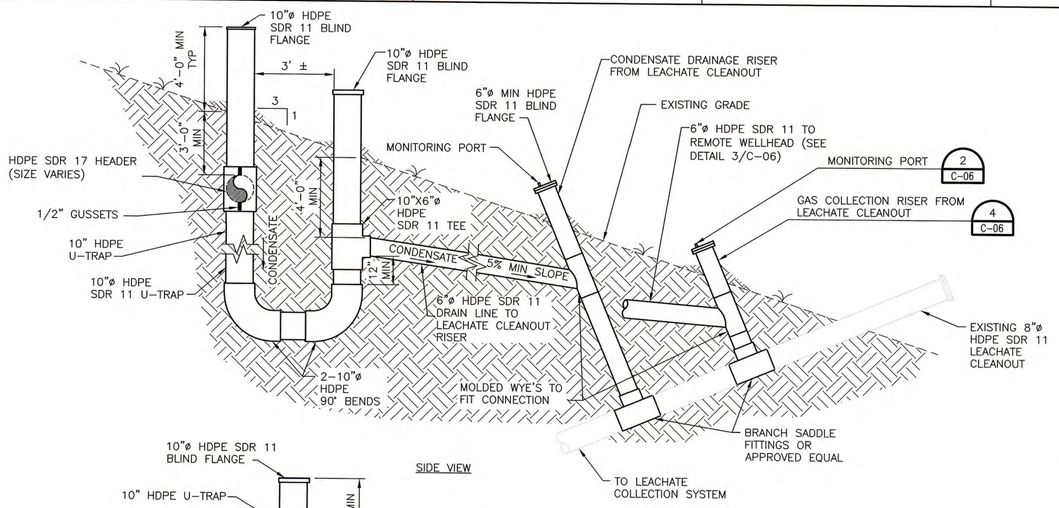
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

HORIZONTAL COLLECTOR DETAILS

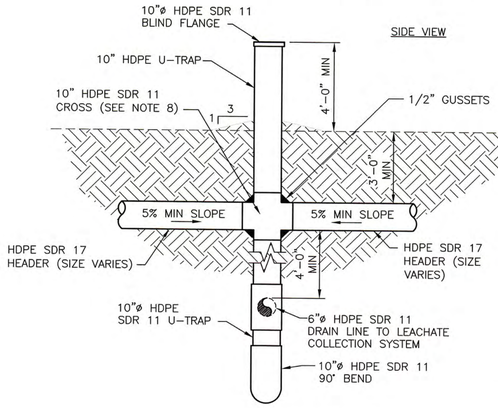
0 1" 2"

FILENAME	00C-04.DWG
SCALE	AS SHOWN

SHEET C-04



SIDE VIEW

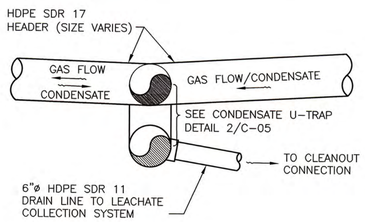


FRONT VIEW

NOTES:
1. U-TRAP BEDDING TO BE COMPACTED 6" BELOW AND TO THE MIDPOINT OF ALL PIPING. ADDITIONAL SOIL BACKFILL SHALL BE PLACED AROUND U-TRAP TO PROVIDE STABILITY AND SUPPORT.
2. PIPE BEDDING SHALL BE EITHER COARSE SAND, PEAGRAVEL, CRUSHED GRAVEL, GRAVEL, CRUSHED STONE SCREENINGS OR CRUSHED STONE.
3. EXISTING LEACHATE CLEANOUT PIPE (NORTH SLOPE) IS ASSUMED TO BE 8"ø HDPE. CONTRACTOR TO FIELD VERIFY.
4. ORIENTATION, PIPE SIZES, AND LOCATIONS FOR INSTALLED U-TRAP MAY VARY BASED ON FIELD CONDITIONS.
5. CONTRACTOR TO ADD WATER TO U-TRAP AFTER PRESSURE TEST. OWNER TO PROVIDE WATER AT NO COST TO CONTRACTOR.
6. BACKFILL AND BEDDING NOT SHOWN FOR CLARITY.
7. FORCEMAIN CONNECTION TO ACCESS RISER TO BE INSTALLED BELOW GRAVITY DRAIN LINE.
8. CONTRACTOR TO INSTALL 12"X10" CONCENTRIC REDUCER ON SOUTH SLOPE HEADER LINE.
9. GUSSETS INSTALLED ON ALL WYE AND CROSS FITTINGS.

CONDENSATE U-TRAP FRONT/SIDE VIEW 2 C-03

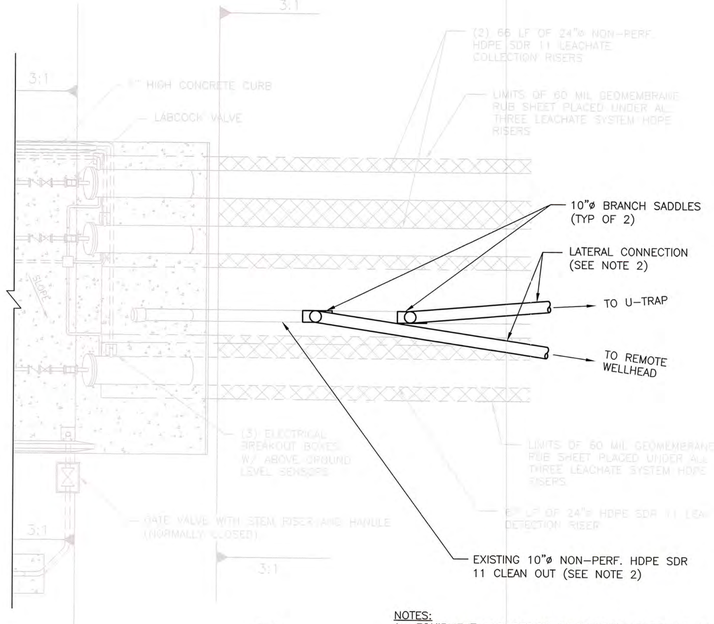
NOT TO SCALE



NOTES:
1. GRADE NOT SHOWN FOR CLARITY.
2. SEE SHEETS C-03 FOR U-TRAP LOCATION.
3. ACTUAL DIMENSIONS AND LOCATION MAY VARY BASED ON FIELD CONDITIONS.
4. ORIENTATION OF HEADER PIPING ENTERING U-TRAP VARIES ON LOCATION OF U-TRAP.

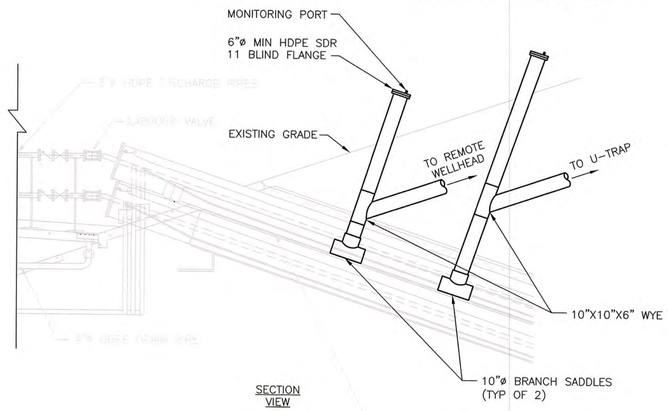
CONDENSATE U-TRAP PLAN VIEW 3 C-03

NOT TO SCALE



PLAN VIEW

NOTES:
1. EQUIPMENT AND DESIGN INFORMATION SCREENED BACK REPRESENTS EXISTING CONDITIONS FOR THE LEACHATE COLLECTION SYSTEM SUBMITTED BY JONES EDMUNDS DATED JANUARY 2007. DETAILS PROVIDED FOR INFORMATION PURPOSES ONLY.
2. CONNECTION TO CLEANOUT TO BE MADE ON 10"ø HDPE SDR 11 CLEANOUT PIPE. REFER TO DETAIL 4/C-06.
3. CONTRACTOR TO EXERCISE EXTREME CAUTION DUE TO PROXIMITY TO COLLECTION RISER.



SECTION VIEW

CONNECTION TO EXISTING LEACHATE CLEANOUT (SOUTH SLOPE) 1 C-03

NOT TO SCALE

RECORD DRAWING

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DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER 7-25-13

CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

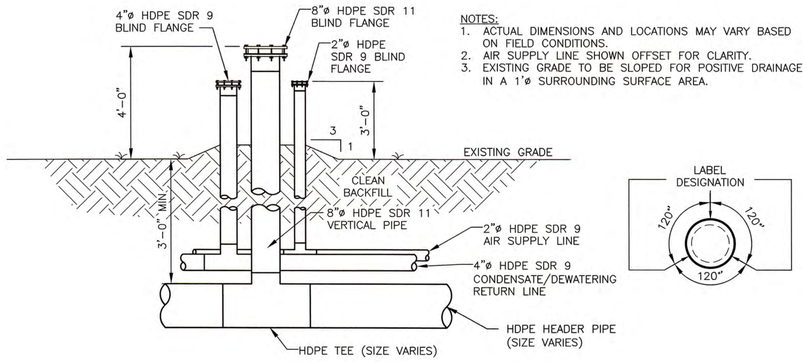
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

WELLHEAD AND CONFIGURATION DETAILS

0 1" 2"

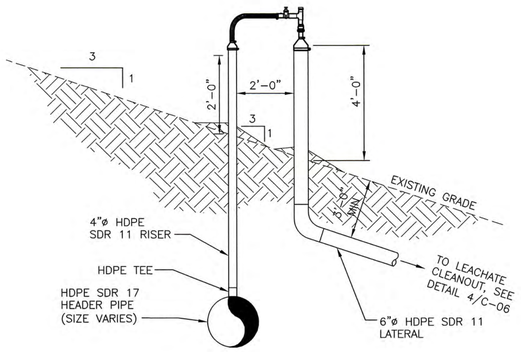
FILENAME	00C-05.DWG
SCALE	AS SHOWN

SHEET C-05

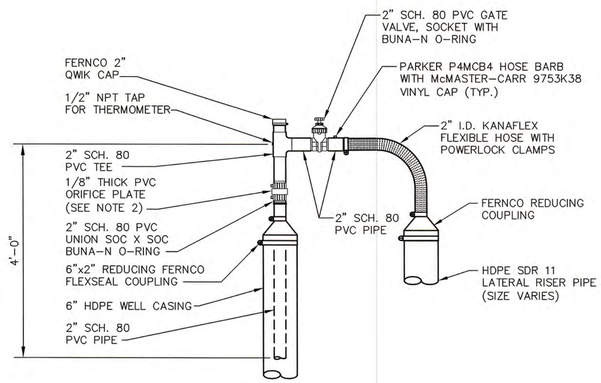


NOTES:
1. ACTUAL DIMENSIONS AND LOCATIONS MAY VARY BASED ON FIELD CONDITIONS.
2. AIR SUPPLY LINE SHOWN OFFSET FOR CLARITY.
3. EXISTING GRADE TO BE SLOPED FOR POSITIVE DRAINAGE IN A 1'ø SURROUNDING SURFACE AREA.

HEADER ACCESS POINT DETAIL
NOT TO SCALE — 5 / C-03

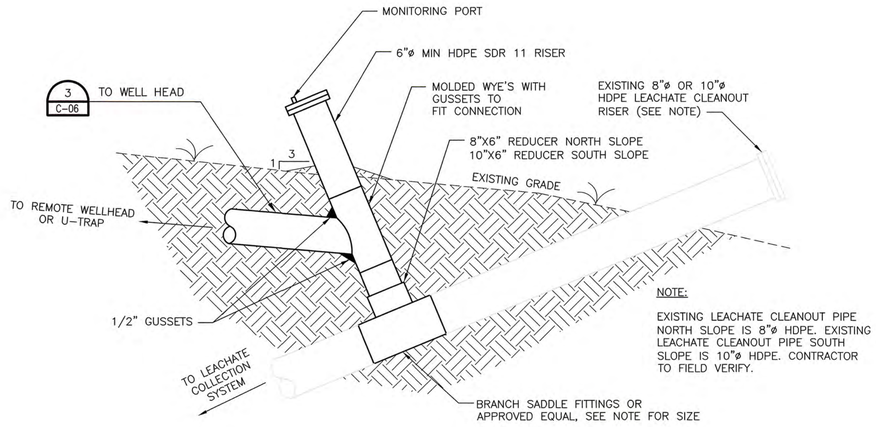


REMOTE WELLHEAD FOR LEACHATE CLEANOUT
NOT TO SCALE — 3 / C-03



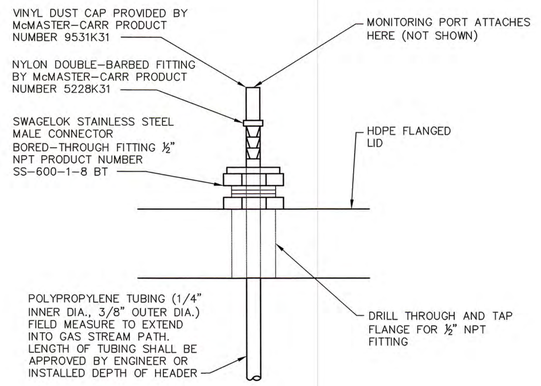
NOTES:
1. WELLHEAD DETAIL BASED ON MATERIAL CUT SHEET PROVIDED BY FORRER SUPPLY OF GERMANTOWN, WI (800-255-1030).
2. ORIFICE PLATE TO FIT INSIDE UNION. EACH WELLHEAD TO BE PROVIDED WITH 0.25", 0.50", 0.75", 1.00", 1.25", AND 1.50" ORIFICE PLATES.

WELL HEAD DETAIL
NOT TO SCALE — 1 / C-04



NOTE:
EXISTING LEACHATE CLEANOUT PIPE NORTH SLOPE IS 8"ø HDPE. EXISTING LEACHATE CLEANOUT PIPE SOUTH SLOPE IS 10"ø HDPE. CONTRACTOR TO FIELD VERIFY.

CONNECTION TO EXISTING LEACHATE CLEANOUT (NORTH AND SOUTH SLOPES)
NOT TO SCALE — 4 / C-03



MONITORING PORT DETAIL (TYP)
NOT TO SCALE — 2 / C-04, C-05

RECORD DRAWING

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DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

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9-25-13
CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

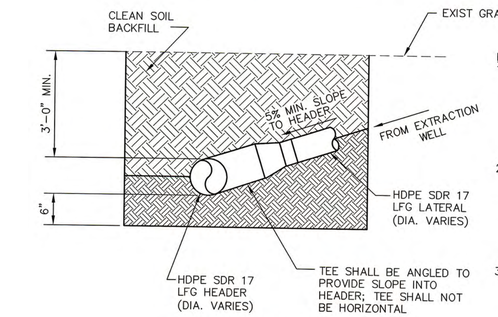
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

WELLHEAD AND CONFIGURATION DETAILS

0 1" 2"

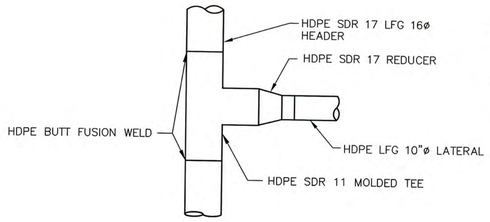
FILENAME	00C-06.DWG
SCALE	AS SHOWN

SHEET C-06

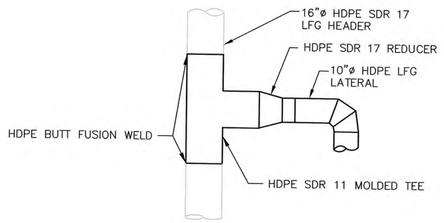


NOTES:
1. MOLDED HDPE TEES SHALL BE INSTALLED FOR ALL TIE-INS OF LATERALS TO HEADERS OR OTHER LATERALS 10"ø AND SMALLER. TEE SHALL BE ANGLED TO MAINTAIN SLOPE INTO THE HEADER AS SHOWN IN SECTION VIEW.
2. CONSECUTIVE SIZE REDUCERS SHALL BE USED TO TRANSITION FROM THE MOLDED TEE TO THE LFG LATERAL. FOR EXAMPLE, TO TRANSITION FROM A 10" TEE, A 10"x8" REDUCER AND 8"x6" REDUCER SHALL BE INSTALLED.
3. 1' MIN. OF SAND SHALL BE PLACED BELOW EACH TEE. THE SAND SHALL BE INSTALLED SO IT EXTENDS 3' MIN. IN EACH DIRECTION OF THE TEE. SAND SHALL BE SLIGHTLY MOISTENED AND HAND-TAMPED PROVIDING SUPPORT TO ALL POINTS OF THE TEE. CLEAN, GRADED SOIL WILL BE HAND-TAMPED ABOVE TEE (1' MIN.) BEING CAREFUL TO ELIMINATE VOIDS.
4. HDPE BRANCH SADDLES SHALL ONLY BE USED TO TIE-IN VERTICAL WELL RISERS. BRANCH SADDLES SHALL BE SHOP-FABRICATED.
5. CONTRACTOR TO INSTALL HDPE END CAP (BUTT-FUSION WELDED) FOR STUB-OUTS DURING SEQUENCE 1.

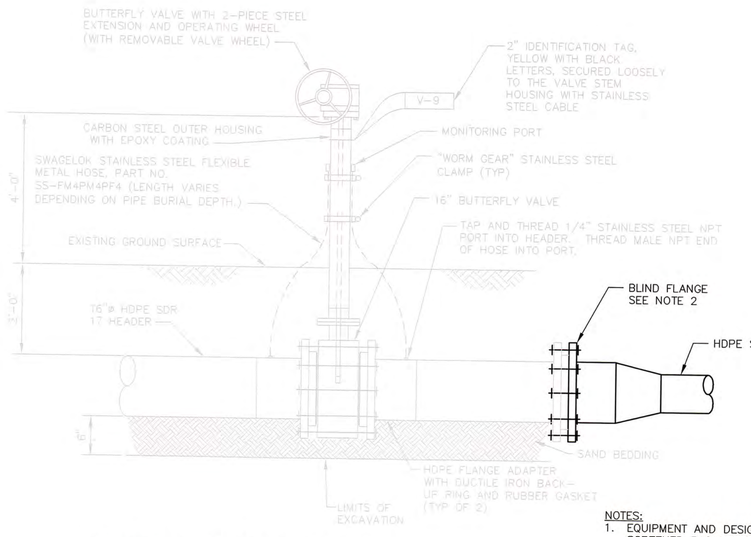
SECTION B / C-10
NOT TO SCALE



LFG LATERAL TIE-IN WITH TEE DETAIL 5 / C-03
NOT TO SCALE

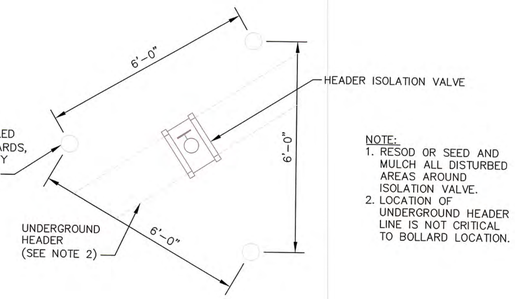


CONNECTION TO EXISTING LFG SYSTEM (NORTH SLOPE) DETAIL 6 / C-03
NOT TO SCALE



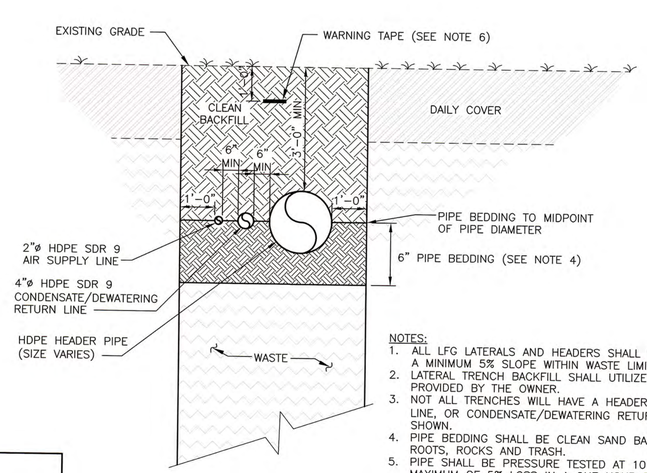
CONNECTION TO EXISTING LFG SYSTEM (SOUTH SLOPE) DETAIL 3 / C-03
NOT TO SCALE

NOTES:
1. EQUIPMENT AND DESIGN INFORMATION SCREENED BACK REPRESENTS EXISTING CONDITIONS AS SUBMITTED BY SCS ENGINEERS DATED AUGUST 2010. DETAILS PROVIDED FOR INFORMATION PURPOSES ONLY.
2. CONTRACTOR TO PROVIDE 16"X12" REDUCER FOR HEADER EXTENSION ON SOUTH SLOPE.
3. REFER TO DETAIL 1/C-07 FOR BOLLARD LAYOUT AROUND HEADER ISOLATION VALVE.



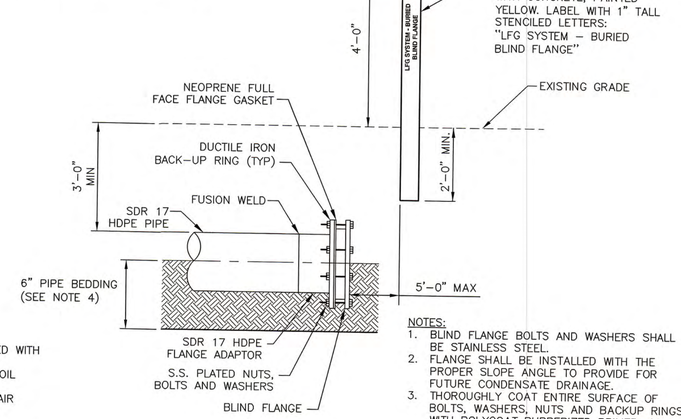
NOTE:
1. RESOD OR SEED AND MULCH ALL DISTURBED AREAS AROUND ISOLATION VALVE.
2. LOCATION OF UNDERGROUND HEADER LINE IS NOT CRITICAL TO BOLLARD LOCATION.

BOLLARD LAYOUT FOR HEADER ISOLATION VALVE DETAIL 1 / C-07
NOT TO SCALE



NOTES:
1. ALL LFG LATERALS AND HEADERS SHALL BE INSTALLED WITH A MINIMUM 5% SLOPE WITHIN WASTE LIMITS.
2. LATERAL TRENCH BACKFILL SHALL UTILIZE ON-SITE SOIL PROVIDED BY THE OWNER.
3. NOT ALL TRENCHES WILL HAVE A HEADER, LATERAL, AIR LINE, OR CONDENSATE/DEWATERING RETURN LINE AS SHOWN.
4. PIPE BEDDING SHALL BE CLEAN SAND BACKFILL FREE FROM ROOTS, ROCKS AND TRASH.
5. PIPE SHALL BE PRESSURE TESTED AT 10 PSI WITH A MAXIMUM OF 5% LOSS IN A ONE HOUR PERIOD. SEGMENTS THAT FAIL SHALL BE REPAIRED AND RETESTED.
6. WARNING TAPE FOR HEADER/LATERALS SHALL BE MIN. 3" WIDE AND IMPRINTED WITH "GAS LINE BURIED BELOW".

HEADER/LATERAL TRENCH DETAIL 4 / C-03
NOT TO SCALE



NOTES:
1. BLIND FLANGE BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
2. FLANGE SHALL BE INSTALLED WITH THE PROPER SLOPE ANGLE TO PROVIDE FOR FUTURE CONDENSATE DRAINAGE.
3. THOROUGHLY COAT ENTIRE SURFACE OF BOLTS, WASHERS, NUTS AND BACKUP RINGS WITH POLYCOAT RUBBERIZED PRIMER, OR EQUAL, AFTER TIGHTENING BOLTS. WRAP FLANGE IN PLASTIC WRAP PRIOR TO BACKFILLING.
4. PIPE BEDDING SHALL BE CLEAN SAND BACKFILL FREE FROM ROOTS, ROCKS AND TRASH.

BLIND FLANGE WITH LOCATOR BOLLARD DETAIL 2 / C-03
NOT TO SCALE

RECORD DRAWING

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7-25-13
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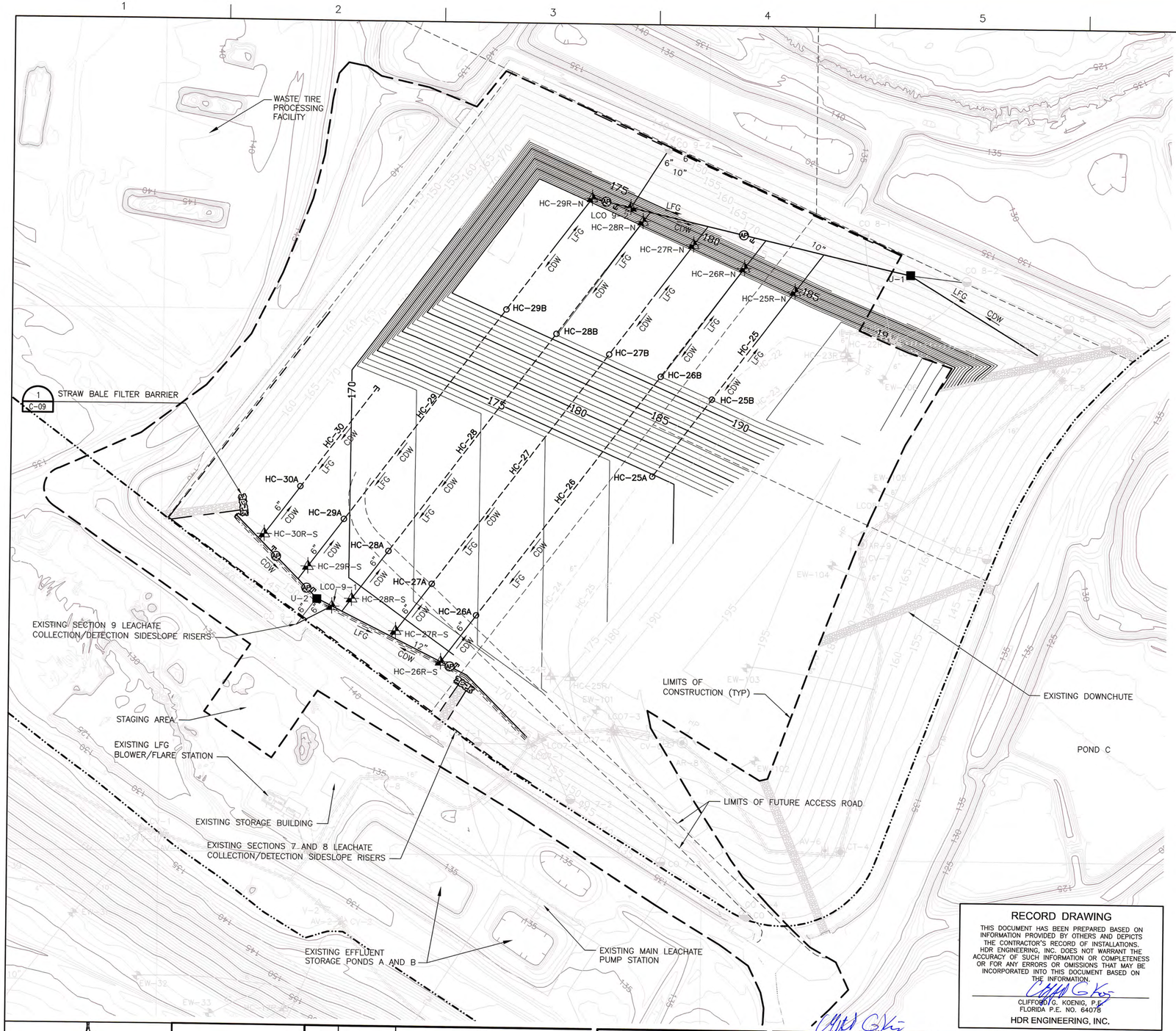
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

GENERAL DETAILS

0 1" 2"

FILENAME 00C-07.DWG
SCALE AS SHOWN

SHEET C-07



GENERAL NOTES:

1. EXISTING TOPOGRAPHY PROVIDED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPHY DATED JANUARY 8, 2012.
2. PROPOSED SECTION 9 FILL SEQUENCE DESIGN BY HDR ENGINEERING, INC, TAMPA, FLORIDA. ACTUAL CONDITIONS MAY VARY. CONTRACTOR TO VERIFY.

SEDIMENT AND EROSION CONTROL NOTES:

1. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH STANDARDS IN THE CONSTRUCTION DOCUMENTS AND APPLICABLE ENVIRONMENTAL REGULATIONS.
2. ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND MADE OPERATIONAL PRIOR TO COMMENCEMENT OF EARTHWORK ACTIVITIES.
3. CONTRACTOR AND ENGINEER WILL EVALUATE THE EXISTING CONDITION OF THE PERIMETER DRAINAGE CHANNELS AT START OF WORK. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE CHANNEL AND PONDS AND RESTORING THEM TO THE ORIGINAL CONDITION AT START OF WORK PRIOR TO DEMOBILIZING.
4. EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED TO THE SATISFACTION OF THE ENGINEER. FAILURE TO DO SO WILL RESULT IN STOPPAGE OF ALL OTHER WORK UNTIL SAID MEASURES COMPLY WITH ACCEPTABLE STANDARDS.
5. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 2 WEEKS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 4 WEEKS.
6. ADDITIONAL TEMPORARY DITCHES AND/OR DIVERSIONS MAY BE REQUIRED TO PERFORM CONSTRUCTION. WHERE SUCH MEASURES ARE REQUIRED, THEY SHALL BE CONSTRUCTED SO AS TO DIRECT RUNOFF FROM DISTURBED AREAS TO APPROPRIATE TEMPORARY CONTROL FEATURES. NO ADDITIONAL PAYMENT SHALL BE MADE FOR ADDITIONAL MEASURES REQUIRED TO CONTROL EROSION.
7. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN ONE-HALF INCH OF PRECIPITATION DURING ANY 24 HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
8. RESTORE AND STABILIZE ALL DISTURBED AREAS INCLUDING STOCKPILES AND STORAGE AREAS. PERFORM PERMANENT SEEDING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
9. BETWEEN SUBSTANTIAL COMPLETION AND FINAL COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM THE EROSION CONTROL MEASURES THAT RECEIVED DRAINAGE DURING CONSTRUCTION.
10. ANY ERODED MATERIALS SHALL BE PROMPTLY REMOVED FROM ROADWAYS, DRIVES, WALKS, DITCHES, WATER COURSES, DRAINAGE CULVERTS, AND/OR STRUCTURES.
11. SILT FENCE, STRAW BALE BARRIERS, ETC. SHALL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION. CONTRACTOR SHALL REPLACE AS REQUIRED.
12. ALL TEMPORARY EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED UPON SATISFACTORY COMPLETION OF WORK AND SITE STABILIZATION.

LEGEND:

- LANDFILL LIMITS
- PHASE/SECTION LIMITS
- HC-26 — HORIZONTAL COLLECTOR VERTICAL COMPONENT
- U-1 — CONDENSATE U-TRAP
- HC-18R — UPSLOPE HORIZONTAL COLLECTOR WELLHEAD (N-NORTH, S-SOUTH)
- AP — HEADER ACCESS POINT
- BLIND FLANGE FOR FUTURE EXPANSION
- HEADER/LATERAL PIPE
- HORIZONTAL COLLECTOR PERFORATED PIPE
- AIR SUPPLY LINE
- CONDENSATE DRAIN LINE/LEACHATE DEWATERING LINE
- ROAD CROSSING
- LIMITS OF CONSTRUCTION
- SILT FENCE
- FILTER BARRIER
- CDW — DIRECTION OF CONDENSATE/DEWATERING LIQUID FLOW
- LFG — DIRECTION OF LANDFILL GAS FLOW
- DOWNCHUTE

RECORD DRAWING

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Hillsborough County Florida

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HDR CA# 4213

ISSUE	DATE	DESCRIPTION
B	6/2013	RECORD DRAWINGS
A	7/2012	ISSUED FOR BIDS

PROJECT MANAGER	R. SIEMERING
REVIEWED BY	C. LEBRON
DESIGN BY	C. KOENIG
DESIGN BY	C. RESTREPO
DRAWN BY	B. JOHNSON
PROJECT NUMBER	0096-171445-002

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER
2-25-13
CLIFFORD G. KOENIG, P.E.
LICENSE NO. 64078

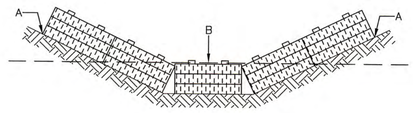
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

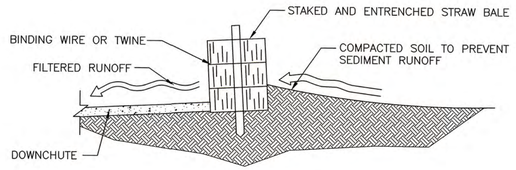
SEDIMENTATION AND EROSION CONTROL PLAN

0 1" 2"

FILENAME	00C-08.DWG
SCALE	1=100'

SHEET C-08





NOTES:
1. SINGLE ROW OF STRAW BALES TO BE PLACED AT ENTRANCE OF DOWNCHUTES PRIOR TO START OF EXCAVATIONS.
2. POINTS A SHOULD BE HIGHER THAN POINT B.

STRAW BALE FILTER BARRIER (1 / C-08)

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

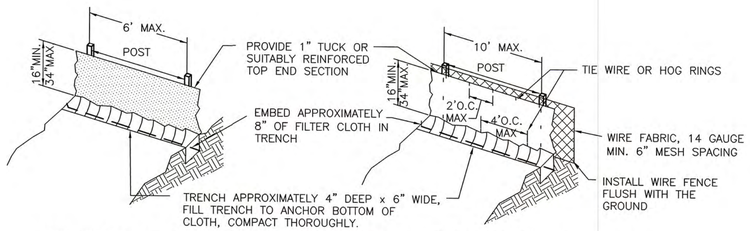
MATERIALS

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF POLYPROPYLENE, NYLON PLOYESTER, OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	TEST	REQUIREMENTS
FILTERING EFFICIENCY	ASTM D-5141	75% (MIN)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION*	VTM-52	EXTRA STRENGTH- 50 LBS./LIN. IN. (MIN.) STANDARD STRENGTH- 30 LBS./LIN. IN. (MIN.)
FLOW RATE	ASTM D-5141	0.3 GAL./SQ. FT./MIN.
ULTRAVIOLET RADIATION	ASTM D-4355 AND G-28	90% (MIN.)

* REQUIREMENTS REDUCED BY 50% AFTER 6 MONTHS OF INSTALLATION.

2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 F TO 120 F.



EXTRA STRENGTH FILTER CLOTH FABRIC (WITHOUT WIRE)

STANDARD STRENGTH FILTER CLOTH FABRIC

SILT FENCE DETAIL (2 / C-08)

NOT TO SCALE

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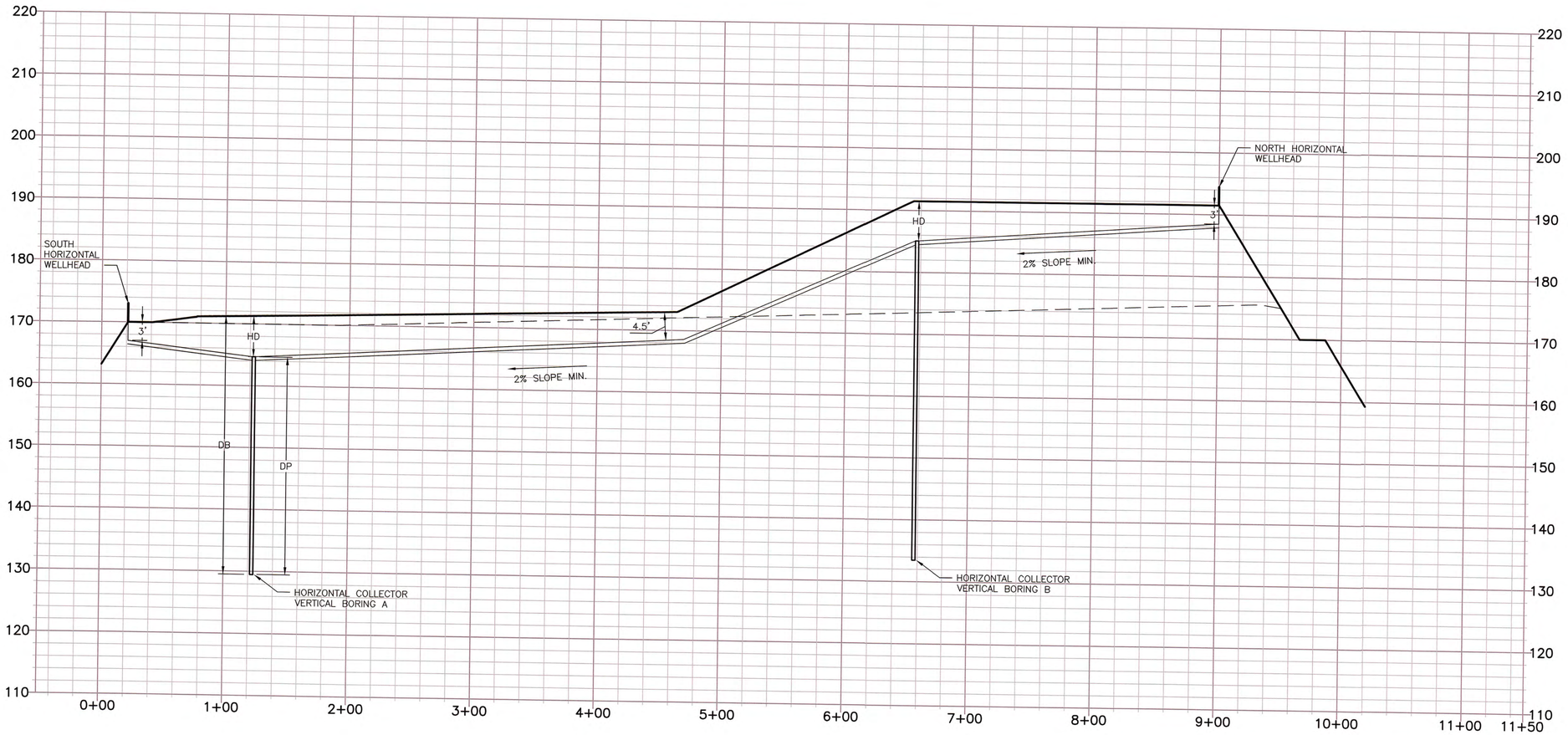
SECTIONS 7, 8, AND 9 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION SOUTHEAST COUNTY LANDFILL HILLSBOROUGH COUNTY, FLORIDA

SEDIMENTATION AND EROSION CONTROL DETAILS

0 1" 2"

FILENAME	00C-09.DWG
SCALE	AS SHOWN

SHEET C-09



NOTES:

1. HORIZONTAL COLLECTOR PIPING CROSS SECTION SHOWS 6" PIPING. TIRE CHIPS NOT SHOWN FOR CLARITY.
2. THIS PROFILE IS A GENERAL ILLUSTRATION OF THE HORIZONTAL COLLECTOR VERTICAL WELL COMPONENTS. THE MINIMUM SLOPE REQUIREMENTS AND THE DEPTH OF THE HORIZONTAL COLLECTOR PIPING 3. SEE THE REVISED WELL SCHEDULE FOR THE DIMENSIONS "DB", "DP" AND "HD."

PROFILE

H: 1"=50' / V: 1"=10'

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PROFILE 27A AND 27B

0 1" 2"

FILENAME	00C-10.DWG
SCALE	AS SHOWN

SHEET C-10