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- **FDEP DATE-STAMPED RECEIVED PAGE/TRANSMITTAL PAGE**

- **COVER LETTER**

- **SEALED CERTIFICATION OF CONTRUCTION COMPLETION OF A SOLID WASTE MANAGEMENT FACILITY (DEP FORM 62-701.900(2)**

HDR | ONE COMPANY *Many Solutions*℠

Transmittal

Attention: Kim Rush	Date: 9-18-2012	Fed Ex#: **184579**
To: Florida Department of Environmental Protection Central District Office Waste Management Program 3319 Maguire Blvd, Suite 232 Orlando, Florida 32803-3767		Phone: 407 894-7555

Regarding: Tomoka Farms Road Landfill Phase III GCCS Report of Construction

We are sending you: ☒ **Attached** ☐ **Under separate cover via _____ the following items**

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change Order ☐ Other _____

Copies	Date	No.	Description
1			Signed and Sealed original report
1			CD of construction report

These are transmitted as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review/comment ☐ Other _____
☐ For bids due _____ ☐ Prints returned after loan to us

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SEP 19 2012
DEP Central District

Remarks Attached Phase III Sequence 1 GCCS expansion construction report for Tomoka Farms Road Landfill.

Copy to Signed Cliff Koenig

If enclosures are not as noted, please notify us at once

N:\users\Gail\Stationery & Forms\Forms\Transmittal.doc

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SEP 19 2012
DEP Central District

HDR ONE COMPANY | *Many Solutions*

September 10, 2012

Caroline Shine, PE
Air Resource Management Administrator
Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3333

RE: Volusia County - Tomoka Farms Road Landfill
Landfill Gas Collection System Expansion for Closure Notification

Facility ID: 1270117
Permit No. 1270117-005-AV

Dear Ms. Shine:

HDR Engineering, Inc. (HDR) is submitting this certification report on behalf of Volusia County (County) for the Phase III Sequence 1 Landfill Gas Construction project at the Tomoka Farms Road Landfill (Landfill).

This report provides certification of construction of the North Cell Landfill Gas Collection System Construction for Closure – Sequence 1. This sequence of closure included the installation of 22 vertical gas collection wells as well as additional upgrades to the existing landfill gas collection system. These upgrades consisted of adding a new 18" header line with four new condensate sumps on the South edge of the North cell of the facility, extending the North 16" gas collection header outside of waste and installing a new condensate sump, the installation of two new subheader lines connecting the North and South header lines of the North Cell together, adding air and force mains to the system, additional items outside the original scope of work were added during construction per County staff request. Construction at the Tomoka Farms Road Landfill was carried out starting December 8, 2011 with substantial completion on April 16, 2012.

HDR Engineering, Inc.
200 W Forsyth Street
Suite 800
Jacksonville, FL 32202-4321
Phone: (904) 598-8900
Fax: (904) 598-8988
www.hdrinc.com

If you should have any questions regarding this request, please do not hesitate to contact me at (904) 598-8931.

Sincerely,
HDR Engineering, Inc.

Cliff Koenig, PE
Project Manager

Cc: Leonard Marion, Volusia County
Jennifer Stirk, Volusia County
Tom Lubozynski, Florida Department of Environmental Protection

Reset Form | Print Form

Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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

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DEP Central District

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SF64-0078767-028 County: Volusia

Name of Project: North Cell Landfill Gas Construction for Closure Sequence 1

Name of Owner: Volusia County Board of County Commissioners

Name of Engineer: Cliff Koenig, HDR Engineering, Inc.

Type of Project: Gas collection system construction for closure. Vertical well and piping installation to collect landfill gas for combustion in engines or flare.

Cost: Estimate $ 605, 000.00 Actual $ 850,000.00

Site Design Quantity: NC ton/day Site Acreage: 67-North Cell Acres

Deviations from Plans and Application Approved by DEP (attach additional pages as needed):

No deviations from gas collection system masterplan. Notification to Mr. Lubozynski was made on December 2, 2011 for the gas system expansion for closure.

Address and Telephone No. of Site: 1990 Tomoka Farms Road Port Orange, FL 32128-3752
386-947-2952

Name(s) of Site Supervisor: Junos Reed

Date Site inspection is requested: October 9, 2012

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.: SF64-0078767-028 Dated: May 9, 2012

Date: 9-18-2012

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SEP 19 2012
DEP Central District

Signature of Professional Engineer

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

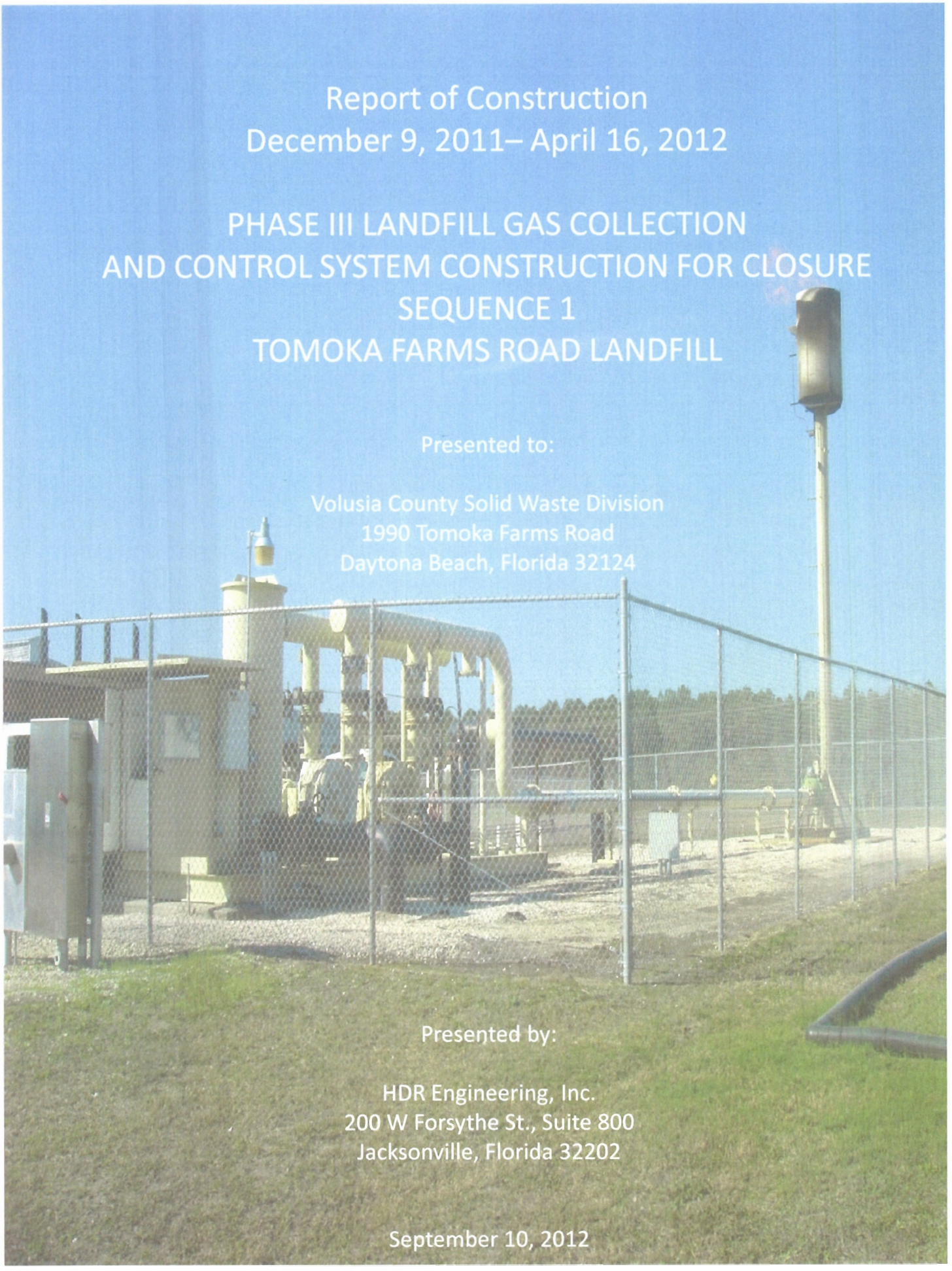
Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

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

Report of Construction
December 9, 2011– April 16, 2012

PHASE III LANDFILL GAS COLLECTION AND CONTROL SYSTEM CONSTRUCTION FOR CLOSURE SEQUENCE 1 TOMOKA FARMS ROAD LANDFILL



Presented to:

Volusia County Solid Waste Division
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Presented by:

HDR Engineering, Inc.
200 W Forsythe St., Suite 800
Jacksonville, Florida 32202

September 10, 2012

Report of Construction
December 2011 – April 2012
NORTH CELL LANDFILL GAS CONSTRUCTION FOR CLOSURE
SEQUENCE 1
TOMOKA FARMS ROAD LANDFILL

Presented to:

Volusia County Solid Waste Division
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Presented by:

HDR Engineering, Inc.
200 W Forsythe St., Suite 800
Jacksonville, Florida 32202

Florida Board of Professional Engineers
Certification No. 64078

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

CLIFFORD G. KOENIG
LICENSE
No. 64078
STATE OF FLORIDA
PROFESSIONAL ENGINEER

9-10-2012

September, 2012

Table of Contents

Appendices

Project Summary

This report provides certification of construction of the North Cell Landfill Gas Collection System Construction for Closure – Sequence 1. This sequence of closure included the installation of 22 vertical gas collection wells as well as additional upgrades to the existing landfill gas collection system. These upgrades consisted of adding a new 18" header line with four new condensate sumps on the South edge of the North cell of the facility, extending the North 16" gas collection header outside of waste and installing a new condensate sump, the installation of two new subheader lines connecting the North and South header lines of the North Cell together, adding air and force mains to the system, additional items outside the original scope of work were added during construction per County staff request. Construction at the Tomoka Farms Road Landfill was carried out starting December 8, 2011 with substantial completion on April 16, 2012.

Site Background

Tomoka Farms Road Landfill (Landfill) is an active municipal solid waste landfill that is owned and operated by Volusia County. It is located at 1990 Tomoka Farms Road, Volusia County, Florida. This sequence of closure was designed by HDR Engineering, Inc. with Shaw Environmental and Infrastructure, Inc. (Shaw) as the primary construction contractor. HDR Engineering, Inc. (HDR) was retained to provide construction quality assurance for the project as well. The landfill also has a gas to energy plant onsite operated by Fortistar Methane Group which is the primary user for the landfill gas.

Contract Documents

The original design for this sequence is dated December 2011. Some field modifications were made during the course of construction as information was uncovered about concerns present on site and repairs that were eminently needed. These modifications are discussed further in the "Summary of Construction" section of this report.

Contact List

The parties involved in this project are listed below:

Owner:

Volusia County Solid Waste Division
1990 Tomoka Farms Road
Daytona Beach, Florida 32124
(386) 947-2952

Closure Sequence 1 Design Engineer:

HDR Engineering, Inc.
200 W Forsyth St., Suite 800
Jacksonville, Florida 32202
(904) 598-8900

Construction Contractor:

Shaw Environmental and Infrastructure, Inc.
9143 Phillips Highway, Suite 400
Jacksonville, Florida 32256
(904) 367-6025

Construction Quality Assurance and Record Documentation:

HDR Engineering, Inc.
200 W Forsyth St., Suite 800
Jacksonville, Florida 32202
(904) 598-8900

Surveyor:

Sliger & Associates, Inc.
3921 Nova Road
Port Orange, Florida 32127
(386) 761-5385

Gas to Energy Developer

Fortistar Methane Group
1990 Tomoka Farms Road
Daytona Beach, Florida 32124

Summary of Construction

North Cell Closure – Sequence 1

The construction of the North Cell Class I Landfill Gas Collection System Construction for Closure – Sequence 1 commenced on December 8, 2011 and was deemed substantially completed on April 16, 2012. The original design consisted of the installation of nineteen 6" diameter vertical wells, an 18" diameter high density polyethylene (HDPE) header with four 36" diameter condensate sumps, and extension to an existing 16" with one new 36" condensate sump, two sub-headers connecting the North and South slopes. Additionally, during construction three 6" vertical gas extraction wells were added as replacements to existing vertical wells, as well as repairs to exiting air force main lines and installation of a new air force main lines. The County also requested retrofit of six horizontal wells to connect to the new 16-inch header on the north side slope. In total the North Cell Landfill Gas Collection System Construction for Closure – Sequence 1 (Sequence 1) included the installation of the following estimated quantities:

- 7,869 feet of 2" diameter HDPE SDR 9 compressed air main piping
- 6,704 feet of 4" diameter HDPE SDR 9 condensate force main piping
- 1,925 feet of 4" diameter HDPE SDR 11 lateral piping
- 655 feet of 6" diameter HDPE SDR 11 lateral piping
- 2,350 feet of 6" diameter HDPE SDR 11 sub-header piping
- 1,753 feet of 8" diameter HDPE SDR 11 sub-header piping
- 75 feet of 10" diameter HDPE SDR 11 sub-header piping
- 625 feet of 16" diameter HDPE SDR 17 header piping
- 1,595 feet of 18" diameter HDPE SDR 17 header piping
- Five 36" diameter condensate sumps
- Eighteen 2" diameter vertical Accu-Flow LandTec wellheads
- Eight 2" diameter air line isolation ball valves
- Six 4" diameter force main isolation ball valves
- Four 8" diameter sub-header isolation butterfly valves
- One 16" diameter header isolation butterfly valve
- One 18" diameter header isolation butterfly valve

Vertical Well Installation

The construction for Sequence 1 was begun with the installation of the vertical gas collection wells. The original design consisted of an additional nineteen wells:

EW-25	EW-49	EW-55	EW-56	EW-57
EW-58	EW-59	EW-60	EW-61	EW-62
EW-63	EW-64	EW-65	EW-66	EW-67
EW-68	EW-69	EW-70	EW-71	

These nineteen wells were added primarily to the side slopes. Five of the wells were to be located on the South slope of the North Cell, seven more wells were located on the West slope of the Cell. The

North slope had six wells installed on it, with one new well placed on the top deck. After discussion with Fortistar, the County, and onsite visits it was decided that three additional wells would be drilled to replace three existing wells (EW-21A, EW-22A and EW-23A) that were exhibiting poor performance primarily due to several well riser extensions and at least 40 feet of waste placement around the wells. All three of the new wells are located on the top deck of the landfill, bringing the total of wells to be installed to twenty-two.

All of the proposed twenty-two wells where installed at or near their proposed locations and depths. Some of the proposed well location sites posed difficulty for the drill rig and necessitated minor field adjustments to set the wells at viable depths. Above grade vacuum jumper lines were abandoned in place as vertical wells were completed or abandoned.

Lateral Tie-In Connections

The original design proposed by HDR used both the new and old header systems to connect to the vertical gas extraction wells, as well as several of the sub-header systems. After site visits and discussions with the County and the Contractor some minor revisions were made to the existing design. The original design had called for the new sub-header system to be installed so that it would bridge the North and South existing header lines utilizing two lines that would run over the top deck of the North cell. This design also called for the connection of some of the new vertical wells on the southern slope to be tied into the existing sub-header lines. The revisions lead to a design that now connected the North existing 16" header line to the newly installed 18" South header line. This route was chosen after excavation to locate the 10" sub-header line on the southern sloped proved to be at a greater depth than shown on surveys and would necessitate greater effort and cost to tie in to that sub header. The path of the new 8" and 6" sub-headers were rerouted around the toe drain that is present on the southern slope of the North cell. The revision also rerouted the tie ins for wells EW-55, EW-57, and EW-25 as the sub-header line would now be a more viable connection point when it was moved to avoid the toe drain.

All the wells on the western slope were tied into the existing 18" header line that reduces to 16" and the majority of the northern slope wells were tied into the existing 16" header, except wells EW-49 and EW-70 which were connected to the new 16" header line that was installed during construction. A few of the lateral tie-ins required field adjustment due to increased depth of the header. It was found that the force main line was not run with the existing header so the force main connections were deleted from the lateral tie-ins that would be connected to the existing system. Any of the lateral connections that tied into the new construction headers were installed with a force main line. Additionally, a new force main line was installed on the northern slope of the North cell from well EW-68 to the blind flange at the termination of the northern 16" header as part of the revision.

New Compressed Air Line

After discussions with Fortistar and the County it was decided that a new compressed air line outside of waste would be beneficial to the site. The existing system that is inside the waste limits had been beset

with leaks that could not be located in the past, and were difficult to repair if located due to depth of the airline. Thus a new compressed air line was added to this project and constructed outside of waste to allow for protection from daily activities and ease of maintenance after the cell had been closed. This new air line was started at the southwest corner of the North cell at connection point CP-1. The compressed air line runs north up the west side of the landfill cell outside of the liner limits and is placed between the existing electrical lines and force main lines that are also located on the west side of the landfill cell outside of waste limits. This run also placed three access points AP-16, AP-17, and AP-18 in line with the piping. At the request of the County additional compressed air lines were installed from the new air line to LCRS-1, LCRS-2, LCRS-3, and LCRS-4, these lines were terminated with an elbow and a stick up with a butt cap. These access points were placed to provide visible access for the newly placed line.

At the end of the run on the west side of the North Cell the compressed air line turned east and constructed under the haul road. The County had previously installed two runs of 6" HDPE SDR 17 piping underneath the haul road when installing an electrical line. One of these 6" piping lines was used to pass the 2" compressed air line under the road. The compressed air line continued east towards the location of the extension of the 16" north gas extraction header would emerge outside of the limits of the liner. Two more access points, AP-19 and AP-20, were installed in the northern run of the new compressed air line.

The western section of the new air line took more effort and time to install because of difficulties encountered with trenching for the new line. There were several different crossings of lines that were known and unknown that lead to slower trenching and repair. The ground was extremely difficult to trench through in certain areas due to large quantity of treated environmental waste that had been utilized in filling the western edges of the North cell. This environmental waste when dry and packed into the ground becomes challenging to excavate through.

North 16" Header Expansion and Sump Installation

The north 16" header line was installed as designed with minor deviations. During excavation the existing header line a belly was found from connection point (CP) CP-6 to CP-7. Shaw corrected this belly by excavating further west of CP-6 and lifting the header line and grading the trench between CP-6 and CP-7 to improve drainage. An approximated 2% slope was achieved in this area. Additional piping and tees were found in the area near CP-8. It was determined that one of these tees connected to the old 8" line that was the first cross over subheader from the north to the south. This tee was cut and capped to reduce the potential for air intrusion via this old sub-header line.

South 18" Header Expansion and Sump Installations

The South 18" header line and sumps were installed as designed. A tie in connection from the horizontal wells on the south slope was made via 18" by 10" tee.

Sub-Header Installation

The 8" and 6" sub-header lines which provide vacuum to the top deck vertical wells were installed as designed except for the connection to the existing 10" line on the south sideslope. After preliminary

excavation at CP-4 did not uncover the header line at 12 feet deep, additional investigation was performed to determine the as-built depth of this header line. Based on the WET as-builts (contractor for the first phase of the LFGCS) , the header was anticipated to be approximately 4-5 feet deep. However, after discussion with County staff, additional fill had been placed for the south slope haul road and the depth of the header could be closer to 20 feet deep. Based on this information, it was recommended that the 8" sub-header line be extended down slope to the new 18" south header line. Additionally, the 8" sub-header line connections points CP-3 and CP-4 were adjusted further west and east, respectively, to avoid the leachate toe drain. As part of the sub-header installation, the top deck 6" sub-header lines would be installed above grade to allow future filling and raising of the pipe. The top deck sub-header was protected at the final grade road crossing areas with CMP and steel casing and at least 3 feet of soil fill on top of each protective casing.

Leachate Cleanout Abandonment

The south slope leachate cleanout risers LCR-1 to LCR-7 were abandoned due to NSPS oxygen exceedances. The lateral piping connections to the leachate cleanouts were cut and capped as well as the lateral wellhead connection to the 10" header line. The wellheads were recovered and used for the north slope horizontal well retrofit.

Horizontal Well Retrofits

As part of the Phase IIIA GCCS construction, the horizontal wells were retrofitted and connected to the 18'"and 16" header lines. Prior to construction, the north horizontal wells HC-4A, HC-5A and HC-6A were not connected to the existing header and the piping had been extended down near the lower tier wells (HC-1A, HC-2A and HC-3A) to allow waste placement above the lower stormwater terrace. The horizontal wells were converted to vertical wellheads and drip traps were installed on each well to drain liquids. The drip traps consisted of 6" flanges with a 4" line fitted inside to drain back up the 6" outer wall via weepholes to the gravel pack. The 4" drain allows installation of a 2" pump which is planned in the future.

The south horizontal wells were also retrofitted with drip traps. The laterals from the horizontal wells connect to a 10" sub-header line which then connects to the 18" header line.

Repairs and Modifications

During the construction of Sequence 1, numerous repairs were discussed both with the County and the Developer. These repairs included the following list of components:

- Exploration for leak(s) in the existing 2" HDPE compressed air line on the west slope;
- Replacing a 10 foot section of the above grade 2" HDPE compressed air line in the Southwest corner of the North Cell;
- Extension of well EW-20;
- Top Deck road crossing repair and replacement with steel casing;
- Base grade liner repair in the area of HC-6A drip trap due to excavation for the gravel pack;

- Extended LCRS-5 out of waste for access; and
- EW-6 lateral line repaired due to County activity;

Additional information is provided in the daily logs.

Appendix A

Daily Field Reports

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/14/2011	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Cliff Koenig and Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Morning Overcast	Afternoon Sunny and Clear	Light sprinkle shower in morning
75 F	56 F	55 F @ 0634		0" Rain

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site 0645

Safety meeting held in back of Shaw construction trailer - Stay up hill from equipment, make sure to be wearing hearing and eye protection for fabrication of gussets on connections

Plan for day to start drilling well EW-25 and continue with wells EW-57, EW-55, and EW-56 and to work on fabrication of gussets for connections.

Field adjustment approved my Cliff Koenig (HDR) to allow 6" HDPE line from EW-57 to connection to header to allow for increased flow of EW-25 and EW-57 being connected to the same line.

Chris Ellis (Volusia County)– has informed Shaw that he will bring 10 loads of soil to the stock pile location every Wednesday

Cliff Koenig (HDR) on site to adjust location of wells EW-25, EW-57, EW-56, and EW-59 completed as of 0847

Air and Force main terminations at wells are discussed as not in design specs. Is agreed that air and force mains will be stubbed and capped above grade.

Sliger & Assoc on site to make benchmarks and survey in EW-22 for well replacement (Elevation 142.89 ft)

Chet (Volusia County) to grade stock pile and construction area near condensate sumps to final grade 1ft-2ft removal of elevation to all for proper installation of condensate sumps.

Drilling of well EW-25 began on 0800, hit sand at 1039 at 66 ft, and stopped drilling after approval from Cliff Koenig (HDR) and set well. Gravel to 8ft below surface (1ft above perforation zone of pipe) Double bentonite seal installed at 1144

HDR break for lunch 1206-1306, Shaw drilling remained on site began drilling EW-57 ~1220. Completed drilling ~1345

Drilling for EW-57 estimated to begin at 1220, reached full depth of 31 ft at 1350. Gravel to 7 ft below grade at 1426 –Geo comp ring and double bentonite seal installed. Well complete at 1435.

Drill rig computer would not boot up, finally booted at 1533

Drilling for EW-56 at 1536, encountered difficulty in drilling and slowed drilling process. Driller able to get to 27 feet – 2 feet short of proposed depth of 29 ft. Carlo Lebron (HDR) approved diversion from spec to 3 ft Bentonite plug due to limitations on depth to create spec seal. Seal is geo composite ring, 1 ft soil, 3 ft bentonite seal, 2 ft soil to grade. HDPE pipe placed at 1640 and left at original length with cap on end. Gravel filled to 6ft below grade from 1722 to 1726. Well complete at 1746

Work Performed Continued:

Off road dump truck (Shaw) broke jumper line at weld on Southwest corner of North cell at 1511. Shaw stated that weld was improperly completed and this is why it failed. Approximate location of brake was 35ft Southeast of well location EW-59. Bill Wight at Fortistar was contacted and he closed valve to isolate jumper line. Line rewelded at 1540. Line was reopened and no leaks were present.

Off road dump truck (Shaw) broke same jumper line as above at next weld in line at 1701. Bill Wight at Fortistar was contacted and valve was closed to isolate jumper. Repaired by cutting and rewelding, completed at 1718.

Silt fencing installed around wells EW-57, EW-25, EW-56. Soil was stockpiled and silt fences were installed around sites EW-58, EW-59, and EW-60. Sites near EW-57, EW-25, EW-56 were touched up with CAT 297C skid steer

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/15/2011	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather 56 F at 0630		Precipitation
Max.	Min.	Morning	Afternoon	0 "/ No Rain
76 F	55 F	Sunny/ Overcast	Sunny/ Overcast	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician arrival 1342	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site 0700

Short David, he had gone to hospital last night and has walking pneumonia, may show later in day.

Shaw performed safety meeting, cleaned up work trailer, fueled up equipment.

Benching for wells EW-58, EW-59, and EW-60 was completed by approximately 0750

Stock piles of soil were placed at wells EW-60 and EW-61 for benching.

Soilmec SR-30 computer was having difficulty booting up in morning, Johnny from Shaw was able to get computer up and running after doing a hard reboot on the computer system

Drilling of well EW-58 began at 0847, depth of 29 Ft (proposed depth) reached at 0939. Grate placed at1014, Pipe in hole at 1017, Gravel placed up to 7.5 ft below grade from 1028 to 1035. Double bentonite seal was installed by 1048 and well hole was completely covered up at 1050.

Drilling of well EW-59 began at 1026; depth of 28 ft (proposed depth) was reached at 1110. Granite to 8 ft below grade by 1114, pipe in hole at 1116. Gravel filled to 8 ft below grade by1152, double bentonite seal plug to spec at 1210.

Drilling of well EW-60 began at 1132; depth of 28 ft (proposed depth) was reached at 1217. Grate set at 1219, pipe set at 1222, gravel to 8 FT below grade at 1333. Double bentonite seal to spec at 1400, bore hole closed up 1404.

Shaw Evan and Rob break for lunch at 1230; Johnny and Travis (Shaw Drilling) stay on site to continue drilling. Evan and Rob returned to site at 1330. David on site at 1342.

EW-61 began drilling at 1335, reached 30 ft (proposed well depth) at1428. Grate set at 1427, pipe in hole at 1429. Gravel to 8 ft below grade by 1511. Geo composite ring installed at 1512, double bentonite seal completed to spec by 1524. Bentonite seal installed in different manner than previous wells. Previous wells had bentonite bags dumped directly into bore hole, EW-61 bentonite was placed in excavator bucket and place using excavator in two separate events, for each part of the double seal.

Chet Purves talked with Evan Lightner (Shaw) about cutting back bench between EW-60 to EW-63 to allow water not to pond on bench. Shaw performed work while repairing bench from heavy equipment usage.

EW-63 began drilling at 1446, reached projected depth of 29 Ft at 1528. Grate installed and pipe in hole by 1536. Gravel to 8 ft below grade at 1624, geo ring in at 1625, double bentonite seal installed to spec by 1636.

Plan for tomorrow to locate header near EW-55, then install EW-55, EW-62, and EW-64.

Shaw cleaned up and left job site at 01830

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/16/2011	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather 61 F at 0637		Precipitation
Max.	Min.	Morning	Afternoon	Slight Drizzle 1345-1445
75 F	59 F	Sunny/ Overcast	Overcast/Slight to Mild Precip	Mild Shower 1715-1730

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw was onsite when HDR arrived at 0630, Shaw drillers on site at 0700

Shaw started creating bench for well EW-62 to drillers satisfaction

Drill Rig computer still experiencing difficulties and will not boot. Drill Rig supervisor contacted Soilmec to treble shoo t the issue. Rig supervisor was unable to resolve computer problems, was able to override and use rig without computer. Measurements had to be manually taken while computer is down.

Excavation around site of well EW-55 to locate 10” header began at approximately 0820, header was located at elevation 62.1 (approximately 11ft below grade. County staff was able to record location of top of pipe after Shaw located. County name point “Main Header Point 1” and recorded in GPS locator computer. Coordinates for header are N: 174575.894 E: 624188.940 ELE: 62.1 ft. Shaw expressed concern with doing tie into header at such a depth and recommended alternate tie in suggestion run to the new header line to be installed as part of the project.

Location of EW-55 was relocated 15ft East of proposed location to allow for more clearance from existing header line.

Well EW-62 began drilling at 0824. Driller ran into water at approximately 5-6 ft. Cliff Koenig (HDR) was contacted at 0838 and proposed locating the well with an offset of 15 ft North or South of the proposed site. EW-62 was moved 15 ft South of the proposed location and re attempted. Driller encountered water at same level as in previous bore hole, but was able to push through to full depth of 30 ft by1047.Grate was installed at 1049, pipe in hole by 1051. Gravel filled to 8 ft below grade from 1148 to ll56. Shaw adjusted depth of pipe approximately 1 ft up with a textile strap and excavator. Geo ring installed by 1156, double bentonite seal installed using excavator bucket to load bentonite by 1210.

Sliger and Associates on site to verify elevation for EW-21 (elevation is 133.2232 ft) County equipment placed elevation at 133.8 ft location is N: 1746567.980494 E: 624328.053652

Well EW-55 drilling began at 1200; location has been moved 15 ft East of proposed location. Drill rig encountered mattress/box spring at approximately 5-6ft leading to larger bore hole to that depth. Depth of 40 ft was reached at 1329. Pipe in hole by 1336. Gravel in hole by 1403 to 8ft below grade. Geo ring installed by 1405, double bentonite sea in by 1412. Well site manicure began at 1419 and was completed at approximately 1545; approximately 2 extra loads of fill were required to bring slope back to grade

Shaw pipe crew (Evan, David, & Rob) broke for lunch at 1230 and returned at 1330. Shaw Drill crew (Johnny and Travis) stayed on site to continue drilling through lunch.

Slight sprinkling precipitation began at 1345 and ended at approximately 1445

Shaw placed approximately 5 loads of fill on West slope of North Cell to be used to stabilize moist bench between wells EW-60 and EW-62.

Work Performed Continued:

Shaw drillers, Johnny and Travis concentrated on fusing pipe for wells EW-65 through EW-70 by 1625

Shaw, Rob and David returned to fabricating gussets for pipe connections

Shaw, Evan manicured site around EW-55 and placed 5 loads of soil on the West slope 1st lift of North Cell to stabilize moist areas of bench and regrade bench between wells EW-60 and EW-63

Shaw Drillers concerned that they will not have enough rock/gravel to complete all the wells before holidays. They will not be receiving more rock/gravel till the 27th of December. Rock/Gravel is coming from Georgia.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/17/2011	Day: Saturday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F @ 0645		Precipitation
Max.	Min.	Morning	Afternoon	None / 0”
79 F	52 F	Sunny (Fog Early)	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived onsite at 0655

Plan for the day was to install EW-64, EW-65, and EW-66. Evan to aid drillers and David and Rob to tie in ne w South slope wells with temporary jumpers to maintain compliance.

Shaw began moving soil and benching at approximately 0725 for well location EW-64. The County provided two employees to operate as flag men as well EW-64 is off of the haul road.

Drill rig still having difficulties with drill computer, depth measurements continue to be taken by hand.

Drilling on EW-64 began at 0816, steaming waste present, drill rig was at depth of 36 ft by 0919 and had reached the proposed well bore hole depth of 45 ft by 0946. The grate was set by 0947, HDPE well pipe in hole by 1009, gravel to 8 ft below grade by 1029, geo ring in by 1029, and double bentonite seal to spec installed by 1041.Exivator bucket used to deliver bentonite seal into hole, instead of direct pore from bentonite bags.

Drilling of EW-65 began at 1038. Drilling rig reached the proposed bore hole depth of 48 ft at 1222. Pipe was installed, but adjusted up with loader and a tie strap approximately 1 ft after the first few bucket loads of gravel, the bore hole was then filled to 8 ft below grade with gravel. Geo ring was installed by 1316, and double bentonite seal was in place by 1324.

Drilling of EW-66 began at 1250; full proposed depth of 29 ft was reached by 1326. Grate was placed by 1333; HDPE pipe was placed in the hole by 1337. Excavator appeared to brake down and default to limp mode. Shaw attempted to diagnose problem but was unsuccessful. Ring Power repair department was called and Shaw broke for lunch at 1415. Shaw retuned at approximately 1515 and attempted to continue to well with excavator in limp mode. Ring Power arrived onsite at 1540, and resolved problem to be toggle switch behind armrest of excavator chair. Gravels to installed to 8 ft below grade by 1549, geo ring installed by 1551, double bentonite seal installed to spec by 1602.

Shaw proceeded to manicure the site of EW-65 and slope that was disturbed as a process of drilling EW-65. Shaw also manicured the site around EW-66 post installation of well pipe with CAT 297C.

Shaw placed well heads and flex line on the newly installed South slope wells and tied in the wells with temporary 2”jumper lines to maintain compliance for the County. Shaw coordinated with Fortistar to get the new wells connect to the gas collection system with out disturbance. The wells that were jumpered were EW-25, EW-55, EW-56, EW-57, and EW-58. Well EW-25 is connected with a HPDE T that is connect to the jumper line to EW-57 and terminates at LCR-2R. Well EW-56 is jumpered to LCR-4R.Well EW-58 is jumpered to LCR-7R. Approximately 600 ft of 2” 11DR HDPE pipe, 4 T’s, 1 elbow, 5 well heads, 5 Fernco 6” to 4” reducers, 6 4” to 2” reducers and approximately 50 ft of flex hose was used in making these connections. All HDPE came from the County’s bone yard and will be removed once final tie ins are made. Start time for this project was approximately 0830. Shaw members that were working on this project did break away at times to help Shaw drilling team, but the tie in was completed by approximately 1245.

Work Performed Continued:

Post drilling EW-66, drill rig was moved to site of EW-67 so that can begin drilling there on Monday, in the process the drill rig bent a wood and rebar marker for header line approximately 100 ft east of the location of EW-65.

Shaw installed a bench and silt fence at well location EW-67 by1630 so that drillers can be ready to drill in the morning on Monday the 19th.

Shaw manicured the site around well EW-66 and EW-65 back to grade and repaired side slope damage that was incurred by installing the wells and moving materials into and out of the side slope areas by 1648

Shaw and left site at 1745.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/19/2011	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (61 F @ 0650		Precipitation
Max.	Min.	Morning	Afternoon	
72 F	55 F	Sunny/Partly Cloudy	Sunny/ Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw was already on site when HDR arrived at 0650

Mike Parker arrived on site to talk with Evan Lightner at approximately 0715

Shaw drillers filled up drill rig and excavator with diesel by 0725, other Shaw members worked on supporting the drillers by preparing the next drill sites with soil for benching, water tanks, and placement of bentonite near well locations.

Drill rig computer continues to be down and necessitates hand measurement be taken.

Drilling began on EW-67 at 0733; driller reached proposed depth of 34 ft by 0844. Steaming waste was present during drilling of bore hole. Grate was placed by 0848 and pipe in hole by 0850.

Work has slowed because of apparent water in excavator fuel. Ring power is contacted to send repair man to site.

Gravel is placed in EW-67 to 8ft below grade by 1016 and double bentonite seal is installed to spec by 1024. Bore hole is covered by 1028. Site was manicured by 1040.

Drilling began on EW-68 at 0940; driller reached proposed depth of 35 ft by 1038. Grate placed and pipe in hole by 1040. Gravel in the bore hole and double bentonite seal to spec placed by 1133; bore hole was covered by1134. Driller's assistant made not of larger than normal amounts of sand in the gravel that went into EW-68.

Drilling began on EW-69 at 1050 – drill rig came in contact with the 16 inch header line that was in the vicinity of EW-69's location at 1058. Drilling was immediately halted; Fortistar was contacted to isolate the damaged part of the header as well as possible. Cliff Koenig and Chet Purves were informed of the situation and that Shaw would need to repair the damage.

Ring Power service technician on site at 1120 to service excavator. Shaw broke for lunch while loader was being repaired. Service Technician replaced fuel filters in excavator.

Shaw drillers returned from lunch approximately 1300 and moved to site of next well. Drilling of well EW-70 began at 1304. At 1330 drilling was discontinued do to County concerns of proximity to HC-4A. Cliff Koenig was contacted and instructed to move well EW-70 to the East of current location 10-20 ft. 20 feet was measured off and the stake placed in the new location, drilling was ceased for the day at 1400. Driller will begin drilling this well in the morning. Focus has shifted to repair of header line before dark.

Repair for 16” header line damage located near EW-69 was begun at approximately 1330. It was determined that the repair would be done as the vertical tie in that was required to connect EW-69 to the 16” header line. The header was exposed using the excavator and hand shovels when closer to the HDPE pipe itself. Upon inspection it was noticed that the air line had been damaged by the drill rig as well, this would also be repaired as part of a tie into the new well. It was also noted that no force main for condensate was present with the air and header lines. This information was relayed to Cliff Koenig and he approved tie into of air line. The 16” header line was repaired using a 16”x16”x4” T that will be utilized for the tie in of EW-69. The T was electro fused in place with 2 electrofusion couplings that were then extrusion welded around the seams of the couplings once the couplings had set. The 2” air line was also tied into a T and repaired leaving a stick up to be cut and attached once well EW-69 was installed. Repairs to the 16” header and air line were completed at approximately 1745. The hole dug to repair the 16” header line was backfilled and cut lines were marked on the connection pipe to allow for recording of top of pipe elevation in the morning with County GPS. Shaw backfilled and manicured the area around EW-69.

Shaw repaired some damage that occurred to side slope from driving heavy equipment to well locations and then proceeded to clean up. Shaw left site at 2045.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 12/20/2011	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59.2 at 0645)		Precipitation
Max.	Min.	Morning	Afternoon	
76 F	58 F	Sunny/Partly Cloudy	Sunny/ Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site at 0645 and had safety meeting by 0700

Drillers went on to drill more of the wells while pipe team went to extend well EW-20R up at Counties request.

Bore hole site for EW-70 was moved to the East by 20 ft due to County concern that HC-4A would become damaged in drilling. This is the second attempt to drill EW-70, it was also attempted on Monday the 19th of December but was aborted after approximately 10 ft due to the previously mention reason. Drilling began at 0715; drillers reached proposed depth of 32 ft by 0815. Steel grate was placed over the bore hole and pipe was inserted by 0818. Gravel was filled in the hole to 8 ft below grade. Double bentonite seal was installed. The first seal was the correct chipped medium bentonite; this was the last of the original shipment of bentonite. The new shipment of bentonite had come in as granular and the top seal was installed from this material, out of spec before Shaw could be stopped. Cliff Koenig was contacted to verify that this would be sufficient to seal the bore hole around the pipe. This was allowed for this well, since it had already been placed, but other wells would require the proper material.

Drillers were informed that spec disallowed the use of granular bentonite seal, and that they would need to procure more of the chipped bentonite seal to complete the rest of the wells.

Extension of EW-20R was requested by the County to allow for more fill on the working face of the North Cell. Shaw began excavating around EW-20R at 0745 to expose connection point in the PVC gas well. The area near the well was excavated approximately 8 to 10 feet down exposing the well below the connection. The PVC pipe was cut below the connection and approximately 12 ft PVC extension was added to the PVC gas well, this extension piece was both PVC glued and screwed. The PVC well pipe was from the county bone yard. The gas extraction line was pinched to allow extension of that line approximately 10 feet without shut down of Fortistar system. Pictures were taken before, during, and after the process to document the pinch. No visible white striations were visible on the HDPE pipe after the pinch was complete. The HDPE did have some slight deformation and markings from the pinch, but appeared structurally sound. The air line for this well was also extended approximately 20 feet; it did not need a pinch of the pipe to complete as no air was being run to it at the time. The extension was complete by 0940 and then the site around the well was manicured, mounding dirt up around it.

Driller began second attempt at drilling EW-69 at 0826. Location of well had been moved approximately 4 to 5 feet away from the connection point that was installed the previous day as a repair for drill rig damaging the 16” header line in the vicinity. Driller reached the proposed bore hole depth of 33 ft at 0934. Steel grate was placed over the hole and the HDPE well pipe was placed in the hole, gravel was then placed in the bore hole to 8 ft below grade by 1039. Geo ring and 1 ft of soil were placed in the bore hole over the gravel by 1041. The well was then put on hold as the drillers did not have the correct bentonite seal plug to complete the well to spec.

	Shaw contacted Mike Parker but was unable to locate any of the proper sized bentonite seal plug. HDR, Scott Karwan called near by drilling supply vendors and found one in Orlando that had the proper bentonite to finish the well. Scott Karwan informed Shaw of this; Shaw called their corporate to find the proper bentonite seal. The drillers broke for lunch at approximately 1200 and would inform HDR if they were given any information from corporate. Shaw piping team began to clean up work trailer and work area before braking for lunch at 1230. Drillers retuned from lunch at approximately 1300, with information from corporate about a location in Orlando that had the proper bentonite plug seal. County personnel called HDR representative Scott Karwan to inform that they had located 23 bags of the proper spec bentonite on location and that it could be utilized for the seal on well EW-69. Bill Wight from Fortistar was able to provide a final bag of bentonite plug seal, so that the well would have the proper 12 bags for each seal in the double bentonite seal.
	Approximately 1330 Shaw piping crew began manicuring and repairing North slope damage that was sustained during repair of EW-69 the day before. Shaw also manicured the location around EW-69 and straightened the gas extraction and air lines for connection to EW-69 by 1500. Shaw had completed all the manicuring of the North slope by approximately 1600
	Drillers stated that gravel has more than the normal amount of sand in it. Needs a good rain to rinse it out. Shaw pipe team suggested using county water truck to wash stone but was accepted by drill team.
	Shaw proceeded to continue to clean up their stock pile area and trailer, and making sure all their equipment is properly stored for holiday break. Shaw left site at 1645.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/05/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (34 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
66 F	34 F	Sunny/Clear	Sunny/Clear	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
Rob	Operator/Technician	CAT 320D LRR Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Johnny	Supervisor (Drilling)	CAT 297C Skid Steer Loader
Travis	Operator/Technician (Drilling)	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site at 0800

Drill rig was on site of EW-71 at beginning of day and bench for the drilling location had been created the previous day.

Rob was sent to pick up Kubuta RTV 900 from shop in Deland.

Evan, Rob, and Sam assisted the drillers by providing water and bentonite to locations of EW-49 and EW-71 and then spent the rest of the day fusing pipe together for the 8 inch header lines.

Drilling began at 0815 on well EW-71. The drill ring encountered very moist waste at about 90 ft below grade causing the last 15 ft of drilling to take longer than normal to drill. The proposed depth of 105 ft was reached at 1339. Protective grate was placed by 1341 and pipe was placed in the bore hole by 1344. Three loads of gravel where required to fill the borehole to 8 ft below grade by 1457. The geo ring was installed by 1459. Bentonite seal was placed with the chipped bentonite in the bottom plug and granular bentonite in the top plug but otherwise to spec by 1506. Bore hole was covered up by 1514. Waste temperatures as high as 139 F were present while drilling.

Drilling began on well EW-49 at 1404; proposed depth of 71 ft was reached at 1654. Protective grate was placed by 1658 and pipe was in bore hole by 1700. Gravel to 8ft below grade was placed by 1708 and the geo ring was installed by 1710. Double bentonite seal, bottom of chipped and top of granular was installed by 1732. Grate was left in place and final soil will be placed in the morning.

County staff assisted in verifying location of stake for EW-21A and placed stakes at the locations of EW-22A and EW-23A, fifteen feet due East from their respective wells that they are replacing . County has these locations recorded in there GPS locator. County also assisted in getting location coordinates and elevations for EW-70 and the 16” header line that was struck during the first attempt at drilling EW-69. Top of pipe elevation is 58.848 ft.

Shaw drilling left site at 1745 and rest of Shaw cleaned up and left site at 1830.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/06/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (47 F at 0645)		Precipitation
Max.	Min.	Morning	Afternoon	None
71 F	43 F	Early: Fog/Late: Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
David	Operator/Technician	CAT 320D LRR Excavator
Rob	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 297C Skid Steer Loader
Johnny	Supervisor (Drilling)	Kubuta RTV 900
Travis	Operator/Technician (Drilling)	Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site at 0645

Shaw drilling supervisor attempted to rectify intermittent computer related issues that have been troubling the drill rig since the second day of project by replacing a compact flash card in the drill rigs computer. This has no effect on the issue with the computer, the drill rig is being operated in a manual override mode and the depth measurements for the bore hole will once again be done by hand.

Evan, David, Rob, and Sam worked on fusing together more pipe for the header lines.

Drillers ran out of Geo Plugs as wells EW-21A, EW-22A, and EW-23A were added to the well schedule after well supplies were ordered. Suitable material was found in the County's bone yard and used to fabricate geo rings onsite for the remaining 3 wells.

Drill rig was on site of EW-21A as it had been moved there previously. Drilling for EW-21A began at 0815, drilling on the proposed location was abandoned at 1058 after not being able to drill any further than 48 feet after an hour of trying. Shaw Driller, Johnny waters believed that a void was opening up or that the bore hole was collapsing back on itself as he was able to remove material from the bore hole but was unable to gain any depth. HDR project manger Cliff Koenig and informed of the situation. The well location was moved to the East 30 ft and was attempted again. EW-21A's first attempt was back filled with soil from the stock pile area. Drilling on the second attempt of EW-21A began at 1118. Drill rig reached 59 ft by 1323. At 1354 the drill rig encountered some carpet or textile that rapped itself around the shaft of the drill rig, binding up the internal shafts. Shaw removed the textile strands by 1424 and continued drilling. The waste at approximately 70 feet was extremely moist and appeared to have the consistency of bio solids/sludge. At approximately 80 ft waste removed from the bore hole reached the temperature of 132 F. The proposed depth of 99 ft was reached at 1626. The protective grate was placed by 1627 and the HDPE pipe was placed in the hole by1631, the pipe was adjusted up approximately 1 ft from the bottom of the bore hole with a strap and the excavator bucket while gravel was placed in the bore hole. Gravel was filled to 8 ft below grade by1701; on site fabricated geo ring was installed by1704. Double bentonite seal was installed to speck by1721 and soil was pushed back and mounded around well by 1745.

Drilling on EW-22A began at 1640. Driller was able to reach a depth of approximately 30 ft before having to shut down the rig due to failing sunlight at 1738. A cover of Ply wood was placed over the open bore hole with the protective grate on top of that. The drill rig bucket was placed on top of the protective grate to keep the covering from moving. The well would be continued in the morning of the next day

Drillers went to the bone yard to scrounge the pipe needed for EW-23A at 1745, returning approximately 1800 with pipe for that well.

A John Deere bull dozer was delivered during the day.

Shaw cleaned up and left the site at 1815.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/07/12	Day: Saturday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (46 F at 7000)		Precipitation
Max.	Min.	Morning	Afternoon	None
74F	46F	Fog/Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
David	Operator/Technician	CAT 320D LRR Excavator
Rob	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 297C Skid Steer Loader
Johnny	Supervisor (Drilling)	Kubuta RTV 900
Travis	Operator/Technician (Drilling)	Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700

Shaw drilling went directly to top deck of landfill and fueled equipment to get an early start on the day to finish wells EW-22A and EW-23A. Evan was working on paper work and would be on site later and the rest of Shaw would continue to fuse pipe for the header lines.

Drilling on EW-22A restarted at 0715, as approximately 30 ft of the bore hole had been drilled on the previous day and put on hold due to failing sun light. The driller encountered extremely wet waste at approximately 0845 and 70 ft. He attempted to drill for a half hour but was unable to drill any further. It was decided to move the well 30 ft East if driller could not make progress in another half hour. First bore hole attempt was abandoned at 0940, as drilling would not advance. Driller noted 20 ft of liquid present in 70 ft borehole. Location of the well was then shifted East 30 ft and begun again. Second attempt at drilling EW-22A began at 0957. Driller reached 71 ft at 1259 and 89 ft at 1420. At 1523 driller informed onsite staff that drill rig could not drill any further due to amount of liquid in bore hole. At this time and measurements of 97 ft for depth of bore hole and 76 ft to liquid were recorded. Driller believed the actual bore hole to be deeper than measurements due to knowledge or his rig and the length of cable that had been extended into the bore hole. Cliff Koenig could not be reached, adjustments and placement of pipe short was confirmed with Carlo Lebron. The perf section of the well pipe was reduced by 9 ft and a PVC cap was used to cap the end of the perf and was screwed into place. New HDPE pipe length to grade is 99 ft. Protective grate was set by 1558; pipe was placed in the bore hole by 1605. Gravel was filled to 8 ft below grade by 1658. Onsite fabricated geo ring was in place by1659 and double bentonite seal was installed to spec by1702. Bore hole covered up completely by 1708.

Drill rig has sustained damage to the cable that hoists the bucket and can not drill till it is replaced. Driller has contacted Shaw to see if a new cable can be sent or if a repair can occur. At time of leaving site driller had not received a response to his call.

County staff assisted in getting coordinates/locations of 8 electrical pull boxes on the West side of landfill.

Shaw was requested to check the air line run with the 18” header on the West slope of the North Cell due to loss of pressure in that line. Shaw excavated down the slope and west of EW-63 approximately 20 ft to find the 18” header line and the air line. Once found Shaw cut and pressure tested each section of the airline. The North portion of the line held pressure and the South side would not. Shaw then moved slope near EW-60 and excavated to find the 18” header and 2” air line once again. Shaw then cut and pressure tested the sections of the airline pipe. The North section held pressure and the South side again did not maintain pressure. This places the leak in the air line between the location near EW-60 and the valve at the Southwest corner of the landfill. Both holes that were dug to investigate were tarped and silt fenced and will be used for tie ins to the 18” header line. Shaw can further narrow down the leak when doing the header tie in for EW-59.

Shaw cleaned up and fueled up vehicles and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/09/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (56 F at 7000)		Precipitation
Max.	Min.	Morning	Afternoon	None
75F	54F	Fog/Sunny		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
David	Operator/Technician	CAT 320D LRR Excavator
Rob	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 297C Skid Steer Loader
Johnny	Supervisor (Drilling)	Kubuta RTV 900
Travis	Operator/Technician (Drilling)	Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700

Shaw drilling is unable to drill as cable hoisting of drilling bucket is frayed and dangerous to continue to use, drillers are continuing to try and source a new cable or a way to repair to drill final well EW-23A.

Shaw piping crew began exploring for the 18" header line on the West slope of the North Cell near EW-59 at approximately 0805, header line was found by 0840. Shaw then cleared the header line to allow access for air testing of 2" air line and the tie in of EW-59 that will occur tomorrow. Shaw cut the 2" air line and pressure tested the North and South sections between approximately 1120 to 1140. The North section was pressurized to 40 psi and maintained pressure, the South section was also pressurized to 40 psi, but quickly lost pressure. It was determined that the leak is between the exposed section of air line near EW-59 and the valves that are approximately 50-60 feet south of the excavated area. Shaw recommended replacement of the shorter line of pipe to regain utilization of existing air line. County would like to proceed with repair, since length o f distance of a shorter nature and would allow for less boot penetrations during closure.

Shaw moved back to excavation site West and down the slope from EW-60 and removed more soil and waste to facilitate a safe tie in of EW-60 to the 18 inch header tomorrow.

Shawn the moved to the location of the excavation site next to EW-63. Shaw removed more soil and waste so that the tie in to EW-63 and the air line at EW-63 could occur tomorrow.

Shaw broke for lunch at approximately 1230 and returned at 1330. Upon returning from lunch Shaw measured the distances needed for the 4" tie-ins to the 18" header lines. Then at approximately 1400 Shaw began fabricating and fusing together the 4" tie in lines, 2" air lines and "T"'s for the installed wells, and pressure testing the 4" lines. The 4" lines for wells EW-59, EW-60, EW-61, EW-64, and EW-66 pas t pressure test and meet speck. Shaw finished prepping these parts at 1815

Shaw has recommended that all the electro fusion couplings also be extrusion welded to seal for any possible leaks due to moisture in the pipe when using the electro fusion couplings. County has approved this method of construction even as it will be at additional cost to the bid spec.

County staff assisted HDR in replacing the stake for CP-1, utilizing the County's GPS location device. The county also recorded this point into its GPS locator as Connection Point 069. County also recorded top of pipe elevation and location of the 18" header line at the tie in point for EW-63.

Shaw, County and HDR discussed waiting till after Shaw installs the valve near CP-1 to decide how much of the area to the South of the North Cell slope will be graded to remove 2 ft of soil to a 30ft elevation.

	Two members of Shaw headed to the bone yard with the CAT 297C on the trailer to get 8” pipe at approximately 1730, returning at 1800 and unloading the trailer. Two other members of Shaw placed tarps over the open tie-in locations and repaired any damage to the silt fences that were located around the open sites, also finishing at approximately 1830.
	Shaw cleaned up and left site at 1845

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/10/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (56 F at 7000)		Precipitation
Max.	Min.	Morning	Afternoon	None
76F	58F	Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
David	Operator/Technician	CAT 320D L Excavator
Rob	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 297C Skid Steer Loader
Johnny	Supervisor (Drilling)	Kubuta RTV 900
Travis	Operator/Technician (Drilling)	Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0645

Shaw began by pressure testing the 2” piping that would be used in the tie-ins on the West slope of the landfill. The 4” gas extraction tie in lines were pressure tested to spec for wells EW-59, EW-60, EW-61, EW-64, and EW-66 the previous day. The 2” lines were pressurized to 100 psi and left to see if they would leak.

The tie in for EW-59 began at 0815. Shaw ground the edges of 18” header line to prep where the electro fusion couplings would mount, then placed the “T” that was going to be installed on top to double check measurements. The header was cut, the electro fuse couplings were placed on the header pipe and pushed back to allow for installation of the “T”. The “T” was placed in line with the header, and then electro fused and extrusion welded in place by 1015. Shaw began trenching from the EW-59 tie in point back toward well EW-59, but stopped and broke for lunch after a generator equipment failure. After lunch Shaw completed trenching for placement of air and vacuum line. 100 ft of 2” HDPE air line and 4” HDPE vacuum line was placed in the trench and fusion welded to the tie in point by 1515. The trench and excavated area for the header tie in was backfilled with solid by approximately 1830.

Shaw had narrowed the location of the air line leak on the West side of North Cell to an area between EW-59’s tie in location and valving at the Southwest corner of the North Cell. Shaw replaced this pipe with a new section of 2” HPDE pipe that is approximately 102 ft long.

The tie in for EW-60 began at approximately 1030, by prepping the 18” HDPE header with grinders. The header was cut by 1100 and electro fuse collars where installed by 1117. Electro fusion of the collars began at 1118 but was stopped at approximately 1150 after the generator powering the electro fusion machine encountered problems. The generator would no longer generate power and on closer inspection had melted some wiring and pulled a cable. Extrusion welding to the collars was started at 1129 and was able to be complete as it was utilizing a different generator.

Shaw began prepping the 18” header near EW-63 for tie in at approximately 1130 but could not go any further than grinding due to a generator breakdown that powers the electro fusion machine.

Drillers arrived on site at approximately 1130, and replaced section of perf pipe that was in question of being out of spec due to being dragged on asphalt from county bone yard to job site. Drillers stated that a replacement cable was being crimped for the drill rig and would be delivered today. Cable arrived and drillers installed by 1440. Drillers left site at 1445.

Shaw pipe crew broke for lunch at approximately 1245 and returned at approximately 1415 after purchasing a replacement generator.

Shaw returned to the EW-60 tie in after lunch. The second elector fusion collar was started at 1420 on the new generator and completed shortly after. Approximately 85 ft of trench was dug for the air line and vacuum line to tie into well EW-60. The length of pipe placed in the trench, measured from the center of the 18" header to the 90 on the riser pipe, for both the 2" HDPE air line and the 4" HDPE vacuum line was 89 ft. The 2" air line and the 4" vacuum line were fused to their respective lines by 1557. The 4" vacuum line is on the North side of the trench and the 2" air line is on the South side of the trench. Shaw began backfilling the hole made for the header tie in and the trench an approximately 1830. Tie in point for EW-60 was completely back filled by 2015.

Shaw began the tie in for EW-63 by prepping the 18" HDPE header line with grinders to clean the area that would be electro fused and extrusion welded. The 18" header line was cut at 1625; the edges of the header pipe were then beveled with an angle grinder. The North electro fusion collar was installed on the header by 1630 and the South by 1631. The 18"x18"x4" HDPE "T" was installed and the collars were pushed into proper place for fusion by 1643. Electro fusion began at 1644 and extrusion welding around the collars followed shortly after. The elector fusion of the "T" in place was completed by 1720 and the extrusion welding completed by 1800. Shaw had trenched approximately 30 ft from the 18" header line to well EW-63, 30 ft of HDPE 2" and 30ft of 4" HDPE pipe were placed in the trench and fusion welded to their respective connection points. The 2" air line is on the North side of the trench and the 4" vacuum line is on the South side. Shaw back filled the excavation site and the and the trench by 2140

Shaw made a few more passes at EW-59, EW-60, and EW-63 with the dozer to manicure the sites, then cleaned up and left the site at 2230.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/11/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (66 F at 0645)		Precipitation
Max.	Min.	Morning	Afternoon	0.05”
74F	52F	Cloudy/Overcast	Cloudy/ Slight Rain then Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	Soilmec SR-30 Drill Rig
David	Operator/Technician	CAT 320D L Excavator
Rob	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 297C Skid Steer Loader
Johnny	Supervisor (Drilling)	Kubuta RTV 900
Travis	Operator/Technician (Drilling)	Chevy Silverado 2500 HD (x2)
		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck
		John Deere 650J LPG Dozer

Work Performed:

Shaw drilling crew was on site when HDR arrived at 0645

Drilling of EW-23A began at 0701. By 0830 the drill rig had reached a depth of 45 ft and had come into contact with very moist material. The driller attempted to drill through the moist layer at 0905 another measurement of the bore hole depth was taken showing that the depth had not increased. Drillers were asked o drill another 15 minutes to see if they would get any deeper. At 0920 the measured depth was 45 ft. Drilling at this location was abandoned at 0920 and moved East 30ft for a second attempt at reaching depth. The second attempt began at 0923. Drillers reached 56ft by 1111. Steaming waste was present at 1134. Drill rig managed to drill to 85 feet by 1230 was only able to reach 87 ft in the next 45 minutes due to extreme moisture in the waste. After conformation from Cliff Koenig the drillers attempted to drill further for 15 minutes but were unable to advance and the well was set short at 87 ft. 19 ft of perforation was cut from the well and it was slip capped with a PVC cap that was screwed into place. The protective grate by 1315, pipe was placed in the hole by 1330. The drillers then started breaking down the drill rig for the truck that picked it up at 1500. After loading the drill rig on the tractor trailer the drillers returned and place gravel in the bore hole to 8 ft below grade, this was completed by 1525. The on site fabricated geo ring was installed by 1530, and the double bentonite seal was installed to spec by 1550. The well area was backfilled and manicured with the excavator by 1605.

Shaw pipe crew worked on prepping and fusing connections and mechanicals that will be used in the tie ins and left some time between 1200 while the drillers were working on EW-23A. The returned at approximately 1800 to drop off a bucket for the skid steer.

Shaw drillers cleaned up, gathered their gear and left the site at 1830.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/12/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (58 F at 0645)		Precipitation
Max.	Min.	Morning	Afternoon	
76 F	43 F	Sunny		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0645 and had completed safety meeting by 0705

Two of Shaw's crew are tasked with welding up the pipe fittings and the 4 remaining crew will work on

Shaw began excavation for the tie in point for the 18" header line (CP-1) that will support the South side of the North Cell at 0753. Existing 18" header line was exposed by 0849. It two 2" HDPE lines accompanied the 18" header one is an air line and the other is a force main from Fortistar into LSCR-1 to dispose of condensate. The 4" header line that was thought to be with the 18" header and to be tied into by the new system was not present. After discussions with the County, Shaw, and HDR it was decided to run the 4" force main to LSCR-1 to discharge and be pumped into existing force main. Prep with angle grinders on the 18" header line began at 1000 and was finished by 1016.The 18" "T" was prepped and ready for install by 1140. The 18" header pipe was cut by 1153; the areas that would be fused were wiped with alcohol and rags. The two electro fusion collars were place on the header and pushed back to allow installation of the "T" with a blind flange on it. The blind flange was being used because the correct butterfly valve had not arrived on site. The collars were slid back and the "T" was dry fit in place to a 2.0% grade by1208. Electro fusion of the collars was started on the South collar at 1210. Extrusion welding around the collars began at1215. A second electro fusion machine was placed on the second part of the South collar at 1219. The first electro fusion machine had an error and had to be restarted, both machines finished the South collar by 1233. Electro fusion of the North collar was completed by 1322 utilizing both electro fusion machines, as previous the on machine had an error and had to finish the fusion with the other machine. Shaw tied in the 2" air line to the existing in two places allowing for a run with the new 18" header line (East) and another run that would follow around the West side of the North Cell and the North edge of the cell as a secondary back up to the existing system. The 4" force main was also placed in the trench started to the East of the CP-1 and is ready to receive the valve for CP-1. The 4" force main was also run to the east of CP-1 as it will tie into LCRS-1 to be sent to the leachate ponds and treatment.

Shaw began excavation for the tie in for EW-61 at 0920 and completely exposed the 18" header line to their satisfaction to work on by 1037. Prep on the 18" header line began at 1540. The 18" header was cut into by 1616. The elector fusion collars were in place holding the 18" x 18" x 4" "T" in place and electro fusion was begun by 1645. Extrusion welding around the electro fusion pipes also began at the same time. The recently purchased refurbish generator went down at 1700. Another generator was brought from the second crew truck and electro fusion began at 1724. Shaw utilized HDR generator to finish the extrusion welding as the one Shaw generator would not run both the electro fusion machine and extrusion welding gun. The electro fusion machine shut down at 1730 and had to be replaced with another electro fusion machine at 1735, the electro fusion was completed with this machine. All the fusion for the 65 ft of 2" air line, the 2" "T" and the 4" vacuum line were completed by 1836. The 2" air line is on the South side of the tie in trench and the 4" vacuum line is on the North side of the trench.

At approximately 1245 FedEx arrived on site with the 18" butterfly valve that was needed for CP-1 to allow the systems to be isolated. The blind flange was removed and the butterfly valve was installed by 1515.

In discussion with the County about the secondary air line that will be run on the West and North sides of the North cell, the county requested that air line be run to each of the LCRS on the west side a with a stub up for possible future utilization.

Air test of the 2" line for EW-61was started at 1515 with 100 psi present , at 1624 the line had 98 psi in it, but the temperature had dropped approximately 10 degrees as the sun began to set, putting this with in spec.

	Fortistar had agreed to an 8 hour shut down window today (8am -4pm) as they did some maintenance and an oiled change on their generators. Upon realizing that they did not have the oil ordered for their oil change the employee Jose started contacting Fortistar management saying that they did not need to have the engines down and that the work that Shaw was doing is holding them up. Fortistar management called the County and complained. Fortistar staff explained what other staff member was doing, and it was to blame Shaw for a mistake on his part. This was straightened out with the County and they were told of the correct events.
	Shaw cleaned up and left the site at 2030.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/13/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (51 F at 0645)		Precipitation
Max.	Min.	Morning	Afternoon	None
59 F	34 F	Overcast	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0653 and had completed safety meeting by 0705

Shaw started the day by tuning up some of there equipment, and checking the generator that shut down yesterday.

Three members of Shaw's crew began fusing up the 8" HPDE pipe for the 8" header line, while 3 other members of the crew would work on the tie in for EW-62.

Shaw began exploratory excavation of for the tie in to EW-26 at 0820.The 18" header was located by 0840 and completely excavated by 0921. The header was prepped with angle grinders from 0937 to 0947. The header was then cut into and electro fuse couplings were installed on the header line, the "T" was put in place and the electro fuse couplings were slid back over sections of the "T" by 1028. Electro fusion of the North collar started at 1032, extrusion welding of the collars followed shortly after at 1038. North part of North collar began fusing at 1043. South part of North collar started at 1044. North collar electro fused by 1054. South collar north side began electro fusion at 1055. South collar South side began electro fusion at 1105. The 18" header was electro fused and extrusion welded in place by 1120. A trench was dug to place the 2" and 4" connector lines. The 4" vacuum line was placed to the North of the trench and fused to the header by 1140. The 2" air line was placed in the trench on the South side and fused to the existing air line with a "T" by 1245, this process was slowed do to reoccurring generator malfunctions. 47 ft of both the 2" and 4" HDPE was used in this tie in, plus a 2" T.

One of Shaw's electro fuse machines died, while trying to fuse one of the collars on EW-62 and had to be restarted with another electro fusion machine. Shaw is mailing the damaged machine back to there home office for repair.

Air test on 2" air line for EW-65 began at 1015 with 100psi at 49 F, the test was completed an hour later with 100psi at 49 F, placing the pipe and it's welds in spec.

There were three sections in the 8" HDPE pipe that Shaw had fused that were of question to comply with spec due to damage on the pipe. Shaw cut out and replaced all of these sections at the request of onsite HDR staff.

Shaw broke for lunch at broke in shifts between 1300 and 1500.

While on lunch Shaw had replaced there new generator that was malfunctioning with a new unit of the same kind.

Upon returning from lunch Shaw continued to fuse 8" pipe for headers and 2" pipe for addition tie ins.

Air test on the 2" air line for EW-66 began at 1608 at 100 psi and 56 F, by 1712 the pressure had dropped to 97.5 psi and the temperature had dropped to 55 F, making for a 2.5% decrease over an hour, put it within the 5% required for spec. The pipe also been pressurized when the sun hitting it and by the second reading the pipe was completely shaded.

Shaw began back filling the tie in on EW-62 at 1715 and completely covered the hole and trench that was made in the tie in process by 1845. The site was left to be completely manicured on the next day when more light was available.

Shaw cleaned up and left the site at approximately 1900 hours.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/14/12	Day: Saturday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (40 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
59 F	38 F	Overcast	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0651 and had completed safety meeting by 0705

Shaw started the by attempting to repair the generator that powers the trailer electronics. This generator could not be restored and was scrapped at approximately 0815. While this occurred other members of Shaw worked on fusing up various HDPE connections and fueling the various equipment that would be used during the day.

Exploratory excavation for the tie in point for EW-64 began at 0827. The 18" header line was found at 0858 and was completely exposed by 0930. At 0933 Shaw began trenching up slope (West) towards the haul road to where the road crossing necessary to tie in EW-64 would occur.

The tie in to the 18" header for EW-64 began by prepping the HPDE pipe with angle grinders and the pipe was cut to allow installation of the 18" to 4" "T" by 1024. The two electro fusion collars were place on the existing 18" header line and slid back to allow installation of the new "T" by 1032. The "T" was placed and dry fit with the elector fusion collars by 1048. Electro fusion of the South side of the South collar as begun at 1050, Shaw used two electro fusion machines and finished the elector fusion of both collars by 1130. The extrusion welding around the seams of the electro fusion collars began approximately 5 minutes after the start of electro fusion and was completed at approximately 1130. In the mean while Shaw had trenched through the West half of the haul road to allow for the installation of corrugated steel pipe to run the HDPE 2" and 4" lines through as protective measures for the road crossing by 1100.

Shaw broke for lunch at 1145, returning at 1230.

Upon returning for lunch Shaw set on placing 40 ft of corrugated pipe in the West half of the road trench. Once the two 20 ft sections were secured together Shaw backfilled that section of the road starting at 1300 and completed filling the West side by approximately 1400. Shaw then moved to the Eastern side of the haul road and trenched through it to place another 20 ft section of corrugated steel pipe, the pipe was placed by 1428 and secured to the other corrugated steel pipe. The 2" and 4" HPDE lines required for the well tie in were threaded through the corrugated steel pipe by 1440 and fused into place by 1450. The 2" compressed air line was placed on the South side of the trench and the 4" vacuum line was placed on the North side of the trench. The haul road was then repaired utilizing more excess stone/gravel from well installations, and onsite sand/soil by 1629. The area around the hole and trench dug for EW-64's tie in was backfilled by 1828 and would be manicured in the morning on Monday.

Upon inspection of the extrusion welds, one of the welds on the South side of the South collar did not seem to have completely filled the void between the collar and HDPE pipe. Shaw rewelded this section upon request to onsite HDR staff's satisfaction.

EW-64's tie in utilized 97 ft of 2" HDPE pipe and 4" HDPE from the "T"s to the elbows for the stick ups where the well would be tied in at a future point in the construction.

Shaw cleaned up and left the site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/16/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (46 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
70 F	46 F	Cloudy/Smokey	Early: Cloudy/ After 1600:Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0705

Shaw began the day by distributing fire extinguishers to each of the vehicles and pieces of equipment on site while fueling them.

Shaw manicured the site of yesterdays EW-64 tie in with approximately 3 more loads of onsite backfill and spread it using the dozer. Shaw also put a think layer of the County's road base material on top of the area that was replaced during the previous day's road crossing. This process began at 0800 and was completed by approximately 0930.

Shaw then split into two teams, one team would work on the tie in for EW-65 and the other would work on the connection of the force main from CP-1 to LCRS-1 and the running of the new perimeter air line.

The tie in for EW-65 began at 0935 with the exploratory excavation to find the 16" header line. The header was found by 0953, and further excavation was commenced to uncover the header to facilitate the tie in. At 0956 Shaw struck and ripped a 6" HDPE line that was running out of the 16" header. Bill from Fortistar was contacted immediately to shut down the gas collection system. The damaged section of the 6" HDPE pipe was removed and capped. Upon further excavation a 2" compressed air line was hit with the excavator at 1008. This did not puncture or tear the pipe but severely kinked it, necessitating it be cut out and replaced as well. The 2" air compression line was also exposed up to a nearby valve to check for any damaged fusion joints. All fusions to the valve appeared to be undamaged. The 6" line was not on provide drawing or maps, but was able to be discerned off of older drawings dating April 2010, to be the connection point for EW-7 to the 16" header line. It was decided to replace the 16" "T" and utilize 6" HDPE pipe and connect to the 6" pipe with a reducer and 4" pipe from the well head. Grinding and prepping of the 16" header line for cutting began at approximately 1215, utilizing grinders. The cut was completed by approximately 1305. The edges of the 16" header were also beveled to allow for easy of placement of the 16" electrofusion collars and then wiped with alcohol by 1315. The electrofusion collars were placed on the cut 16" header line by 1321, and the "T" was dry fit in place with collars slid into their final location by 1330. Electrofusion of the tie-in began at 1331 and was completed by 1345. Extrusion welding around the electrofusion collars began at 1419 but was stopped after issues with extrusion welding gun at 1450. The extrusion welding was then completed using the County's extrusion welding gun and by approximately 1505. 22ft of 2" and 22ft of 4" HDPE pipe were used to connect the 6" line connecting EW-7 to the 16" header to the location of EW-65, utilizing a 6" "T" and a 6"to 4" reducer. The 2" air line is in the trench was run to the South side of the trench till it T's and continues on to the site of well EW-65 on the East side of the trench. The 6" HPDE line connection to the 16" header line was placed on the North side of the trench and runs east and up the hill with a slight curve to the South until it eventually ties in at EW-7. A 4" line was reduced from the 6" and runs on the west side of the trench that ties the 6" vacuum line to the new well EW-65. All the joints and connections were fused together by approximately 1600 and backfilling of EW-65 began at 1615. Magnetic caution tape was placed along the routing of the tie in line and the site was completely backfilled and manicured by 1811. Survey risers, measuring 8 ft in length, were installed during backfilling on the location of the top of pipe for the tie in of the 16" header with the 6" HDPE pipe, the T where the 6" reduces to the 4" line that runs to EW-65 and at the location of the elbow for the stick up for connection to EW-65.

Shaw broke for lunch in groups to allow faster repair of the damaged sections of pipe near the tie in for EW-65. The first group broke for lunch between 1300 and 1345. The second group broke for lunch from approximately 1400 to 1500.

Shaw began trenching for the installation of the repaired airline between EW-59 and the valves North CP-1. The 2" airline had already been repaired and fused to the existing line an a previous day and was placed in the trench and backfilled with a stick up by approximately 1120. The site of the replacement of the compressed air line was manicured using the John Deere dozer between 1818 and 1828.

Shaw began trenching for the new 2" compressed air line run from CP-1 up the West side of the North cell that will eventually be tied back into the existing air line system on the North side of the North cell at approximately 1130. Shaw trenched approximately 200 ft before running into hard pan that it could not break through with the mini excavator that it was utilizing. They then turned to adding the air line stub up next to LCRS-1 per County request, but encountered an electrical conduit at approximately 1200. County staff was informed and an electrician would be called to repair.

Shaw moved on to excavating for the 4" force main line that would run from CP-1 to LCRS-1 where it would terminate and discharge into LCRS-1 and be pumped into the leachate system. At approximately 1250 Shaw damaged the existing 2" force main from Fortistar that tied into LCRS-1. Approximately 50 ft of trench was dug Northeast to place the 4" force main from where it had been stubbed out on a previous day to where it stubs up next to the concrete pad for LCRS-1. Approximately 100 ft of trench was dug North as the beginnings of the new air line systems path. Another approximately 20 ft was trenched from the air line trench to where the stub up is next to LCRS-1. Pipe was laid in both of these trenches and fused to there by 1915.

Shaw cleaned up, had difficulties with the skid steer and had to work on it and left the site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/17/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (48 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
76 F	48 F	Sunny/Partly Cloudy	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0705

Shaw began the day by fusing together the 16” remote tie in for EW-66; other members of Shaw also worked on attempting to repair on the welding irons that would not work and fixing the tool carrier wagon that was damaged on the previous day.

The tie in for EW-66 began at approximately 0915 with exploratory excavation for the 16” header near EW-66. The header was located by approximately 0940 and was fully exposed by 1045. Trenching for the remote well head began at 1115 and was completed by 1140. Prep of the 16” header pipe with grinders was done between 1134 and 1139.

Shaw broke for lunch at 1200 and returned at 1300. Upon returning from lunch Shaw broke into two groups again. One group worked on finish the tie in to EW-66 and the other worked on trenching for the air line that is run around the perimeter of the West and North edges of the North Cell.

The County began creating a berm on the top deck of the landfill to place the Eastern most 8” header on to avoid having to deal with settlement putting the header out of grade.

The cut in for EW-66 began at 1311 and was completed by 1313. The edges of the header were then beveled with grinders from 1313 to 1319. Both of the electrofusion collars were slid onto the 16” header and ready to recive the tee by 1329. The tee was placed and the electrofusion collars were slid back into place, dry fitting the tee in place by 1342. Shaw encountered some difficultiy while placing the tee and sliding back the collars due to the bend in the 16” header line that was present. Electrofusion began at approximately 1345, utilizing 2 electrofusion machines and was complete by 1410. Extrusion welding around the electrofusion collars began at approximately 1350 and was completed at approximately 1430. Shaw ditch fused a 6” tee in line with the well head of EW-66 with a 6” to 4” reducer to 4” HDPE vaccum line to the tie in to the 16” header. A 6” blind flange was also fused to the top of the well riser as per spec. The additions to the well head were completed by 1551. Shaw placed the 2” air line and the 4” vaccum line in the trench by 1613. Shaw then connecte the 2” air line in a tee to the existing 2” air line that was run on the Southeast of the 16” header line and run underneath the 16” header line. Some of the fusion welds on the 2” air line were slightly offset but met spec. The 2” air line si on the Southwest side of the trench and the 4” vacuum line is run on the Northeast side of the trench. The length of both the 2” air line and the 4” vacuum line up to the elbows was 53 ft. Backfilling of the trench and hole for the tie in to EW-66 was begun at 1620, the top bentonite seal was replaced at by 1815 as it was removed in the installation of the 6” tee in the well head. The backfilling of the site was completed at approximately 1850. The existing air line that was run with the 16” header was on the South side of the header. When the new 2” air line was tied in with a tee it was run underneath the 16” header.

One team of Shaw was digging the 2” air line trench with a mini excavator but was unable to dig through enviro waste that had been hard packed into the trenching area. Shaw had to switch to the 320 excavator, which still struggled with the enviro waste, but was able to continue trenching. Approximately 315 ft of trench was dug with the larger excavator. County was asked where to dispose of the excavated enviro waste as the trench would be backfilled with clean back fill. The County stated that Shaw was to leave it where it had been excavated and that it would be picked up by the county once the trench was closed up and disposed of in the Class III landfill on site. Approximately 550 ft of 2” airline has been run from CP-1 to date. Shaw began backfilling the portion of the trench that had pipe in it at approximately 1730, placing survey risers every 100 ft.

	Due to the installation of the 4” force main from CP-1 to LCRS-1 the location of AP-16 was moved approximately 50 ft North of its proposed location.
	Shaw began the tie in of the 4” force main from CP-1 to LSCRS-1 at 1445. The majority of the pipe had been trenched up to the concrete pad which the LCRS-1 rests on, the previous day. This was only to make the connection from the stub up next to the concrete pad to a penetration into LCRS-1 and a tee with a flange to allow the County possible retrofit of another pumping method at another time. The tie in and penetration were left to be completed on the next day.
	Shaw cleaned up and left the site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/18/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (54 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	0.03”
74 F	47 F	Overcast		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 297C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710

Shaw began filling in sections of the trench that were dug the previous day, that were unable to be covered before dark. This was done between 0755 to 0815.

Shaw began trenching with the 320 Excavator at 0809 to continue the run North on the West side of the landfill for the new 2” air line.

Shaw used line locating devices and excavated with shovels around LCRS-2 to help to locate some of the wires and pipes that are located near LCRS-2.

Shaw uncoiled 4 rolls of 2” HDPE each measuring 500 ft for the new air line that is being run around the West and North edges of the North cell by 0945.

Shaw continued to trench with the 320 excavator and had reached a length of approximately 165 ft before needing to switch back to the mini excavator at 1010 as the trench was now close to utility and force main lines for LCRS-2.

Shaw fused on section of the 500 ft role of 2” HDPE pipe to the 2” line that was placed previously by 1019 and began placing the 2” line in the trench.

CAT representatives from the rental agency stopped by to talk with Shaw employees at 1025.

AP-17 was installed approximately 500 ft North of AP-16 by 1045, utilizing a 2” tee and a blind flange at the end of a 6 ft stick of 2” HDPE.

Shaw would back fill sections of the trench as soon as it had the pipe laid in it as they moved North so that the whole run of the trench would not be open at one time. The section of the trench approximately 50 ft South of AP-17 was backfilled with clean sand from onsite between 1030 and 1130.

While excavating near LCRS-2 Shaw came in contact with ABS corrugated pipe that is used as a protective shell for HDPE lines run with in it. The ABS appeared to have been crushed at another point in time, possibly grading of soil around area. But when Shaw exposed it, liquid ran out of forming a small pool in the bottom of the trench, water flowed at a steady pace but did not appear to be anything from the line that is under pressure. Shaw speculated that the water had come from storm water that had infiltrated the protective ABS corrugated pipe.

Shaw placed approximately 4 ft of HDPE 6” pipe underneath the corrugated ABS protective piping to allow for ease of placement of the 2” air line through it and under the corrugated lines. This was completed by 1210.

	Shaw also came in contact with an electrical wire of some sort that was not in conduit at 1245. County staff was contacted to discern what and where the line went to. County staff checked their panels near by but were unable to discern the path or termination of the electrical line. County staff requested that both sides of the electrical wire be located and dug back to see what the path would be and to allow an electrician to later repair or abandon the line depending on what it is found to be.
	Shaw broke for lunch at approximately 1300 and returned at approximately 1410.
	Section of trench up to and including AP-17 was backfilled from 1415 to 1455.
	Rain began at 1430 with light to medium rain fall, till approximately 1530. Trenching was abandoned shortly afterwards but backfilling and manicuring with the Deere dozer was continued till 1455.
	Shaw spent rain time working out parts that were either incorrectly ordered or that had been changed/added and need to be ordered. Discussions between HDR staff and Shaw staff were had to verify compressed air line tie in near CP-6 and valving. It was decided to leave the design as it had been drawn. Also Shaw posed question about placing force main from CP-6 to EW-68, this was also decided not to be done and to stay with the existing design. Agreement between Shaw and HDR was made about access points AP-3 and AP-1, these would be branch saddled and fittied with gussets instead of installing tees as per discussions during the pre construction meeting.
	After the rain subsided Shaw installed well heads on EW-59 through EW-66 and were complete with the installations by 1739.
	Shaw cleaned up and left the site at 1745.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/19/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (46 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
65 F	45 F	Sunny/Smokey	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900
Robin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720

Shaw broke into two teams, team A would work on trenching and installing the new 2” compressed air line on the West side of the North cell of the landfill and team B would work on tying EW-67 into the existing gas system.

Team A began trenching for the day at approximately 0800 and had trenched approximately 150 ft by 0904. Mini excavator developed an issue where the pin holding part of the bucket in place was sliding out. Shaw stopped and rectified this and was able to continue to trench.

Team B began the tie in for EW-67 with exploratory excavation at 0804. The 16” HDPE header was located at 0811, and completely excavated and ready to be worked on by 0916. The 16” header line was prepped with grinders between 0916 and 0930. The tee that was being installed in the header was also prepped with grinders and wiped with alcohol by 0944. The 16” header cut in lasted from 1034 to 1036, the edges of the header where ground/beveled with the grinders. The shape of the existing header line had become very oval in shape, Shaw had difficulty installing the electrofusion collars. They attempted to temporarily force the header into a more round shape using a ratchet strap, but this was unsuccessful. Shaw ground the edges of the header further between 1048 and 1049 and tried to reinstall the electrofusion collars but was unsuccessful in that attempt as well. Shaw then used one of the dye clamps from the fusion machines to hold the pipe in a round form till the electrofusion collars could be slid onto the header. The tee was dry fit in place with the electrofusion collars ready to be fused by 1115.The East most electrofusion collar sustained damage while installing, this turned out to only be superficial damage upon closer inspection. Electro fusion of the collars was started with the East side of the East collar as this was the area that had sustained damage. All the collars completed there heat cycles and electrofusion was complete by 1140. Extrusion welding around the electrofusion collars began at 1402, Shaw employees with less experience were performing extrusion, this lead to grinding our and rewelding of several spots around the electrofusion collars. Extrusion welding was competed by 1637. Extrusion welding gun had melted part of the 2” air line and was cut out and replaced by Shaw. Shaw installed 20 ft of 2” air line and 20 ft of 4” vacuum line to the well head at EW-67. A 6” tee and a 6” to 4” reducer was used to install the well head to the vacuum line. A 6” blind flange was installed on the top of the well head of EW-67. The tie in was fused together and ready to be backfilled by 1700. The top bentonite plug around EW-67 was damaged during trenching for the installation of the tie in, it was replaced from 1735 to 1740.The trench for the connections and the hole for the tie in were backfilled beginning at 1740. Shaw shut down to lack of light at 1900, site would be fully manicured on the next day.

Mike Parker on site to see how crews are working out. Parker discussed with Evan Lightner then talked to HDR representative. HDR rep stated that he was seeing two different levels of work between the two crews. Also mention items that ended up needing to be fixed. Shaw staff had discussions about the site and safety while Parker was onsite.

It was brought to the attention of HDR by Fortistar that the remote well head for EW-66 was installed backwards, this will be fixed on the next shut down period for the tie in to EW-68.

The well heads for EW-65, EW-63, EW-60, and EW-59 were all installed above 4 ft in height creating difficulty for measurements to be taken. Shaw corrected the height of the well heads but will have to wait till Fortistar isolation or shut down to adjust the flex hosing.

	Shaw was able to trench 525 ft, place the 2” compressed air line in the trench and backfill it by 1830. A stub up per County request was placed at LCRS-2 as well as AP-17 was installed South of LCRS-2 by approximately 50 ft.
	Shaw cleaned up and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/20/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (41 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
74 F	41 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715

Shaw started the day by fueling their equipment and then worked on repairing ruts in the North slope of the North cell that had been created the evening before.

Shaw again broke into to two teams, team A was to continue with laying the 2” compressed air line and team B to tie in EW-68.

Continuation of trenching and laying of the 2” compressed air line began at 0810.

Shaw manicured the site of EW-66 and EW-67 tie in with the Deere Dozer from 0845 to approximately 1000.

Approximately 4ft of 4” HDPE pipe was fused to the stick up from the riser near the well for EW-67 to raise the pipe for the installation of the well head and to create the proper fall in the flex hosing. This was completed by 1015.

The tie in for EW-68 began with exploratory excavation at 1027. The16” header was located at 1200 after having difficulty finding as the header was approximately 8-9 feet below grade, deeper than expected.

Concerns had been raised about how to cross the Haul Road with the new 2” compressed air. Options were to use CMP in different sizing’s and gage thickness or schedule 40 steel casings. The County informed that they had run 2 6” HDPE lines under the haul road when they installed electrical line. County stated that the SDR was 11 and this is what the HDR engineering had approved when informed, this was utilized to run the 2” compressed air line under the haul road. Shaw later check what the SDR of the HDPE pipe and found it to be SDR 17.

Approximately 330 ft of trenching had been completed by 1135, placing the trench near the Northern part of the access road around the North Cell and North of LCRS-4.

Shaw broke for lunch at 1200 and returned at approximately 1300.

County is requesting that Shaw keep the 2” compressed air line deep enough to avoid damaging it in any future work or during closure. Shaw has requested the toe slope depths and final grade from HDR to estimate depth need to trench.

Shaw had the 16” HDPE header for the tie in with EW-68 fully exposed and ready to be worked on by 1440. Prepping the header with grinders was done from 1441 to 1450. The cut into the header was started at 1455 and completed by 1457. The edges of the header were beveled with girders and wiped with alcohol and rags before installing electrofusion collars. The East collar was installed by 1506 and the West was in place and ready to receive the tee by 1513. The tee was dry fit in place by 1540 with the electrofusion collars slid into the proper orientation to begin fusing. The West most collar sustained some damage when during installation, but upon closer inspection now wires were visible and it appeared to be only y superficial damage. Electrofusion began at 1538 and was completed after 1630. A few errors and difficulties were present while trying to utilize to electrofusion machines off of one generator but all of the collars fused even the one with apparent damage. The West most side of the West collar did have a small leak in the bottom due to condensate but this was sealed with the extrusion welding. Extrusion welding was completed by 1655, Shaw had returned to the employee with more experience with extrusion welding, leading to quicker extrusion time and higher quality of product. Back filling of the sit for EW-68 began at 1752, but both of the bentonite seals for EW-68 were damaged as well as some of the gravel pack during excavation for the tie in. Gravel was readily available on site and was replaced during backfill by 1838, but the proper specification bentonite was not available. The hole could only be partially backfilled to the level of the first bentonite seal. The final backfill would have to wait till the proper bentonite could be procured. A pallet was placed over the well with a tarp on top and soil place on top of the tarp till the proper bentonite could be procured. This was done by 1925.

Shaw installed 520 ft of 2” HDPE pipe for the compressed air line including the road crossing by end of day. The areas that were trenched up to the West side of the Haul road crossing were filled in and manicured with the Deere Dozer.

Shaw cleaned up and left the job site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/21/12	Day: Saturday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (54 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
76 F	54 F	Sunny/Partly Cloudy	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720

Shaw began the day by fueling their equipment and setting up the new generator that they had received the day before to power the job trailer.

Shaw attempted to find the specification chipped bentonite to replace the two plugs that were damaged during installation of the EW-68 tie in. Shaw could not find any locally and with in the surrounding regions. Shaw even tried a recent jobsite that was in Melbourne, FL to see if they had any left to replace the plugs. The well remains covered, and Shaw hopes to have bentonite for Monday to complete the backfill.

Trenching on the North side of the North Cell resumed at 0805, by 1117 Shaw had trenched approximately 360 ft for the 2" compressed air line. By 1205 they had trenched 505 ft. Other members of Shaw followed behind the trench laying the pipe and installing AP-17. Shaw stopped trenching for the day when they reached 605 ft at 1300.

Shaw cleaned up and left the job site at 1400.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/23/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (58 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
77 F	58 F	Fog/Overcast	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer
		CAT 303.5C Mini Excavator

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0705

Shaw began the day by fueling their equipment and performing maintenance on their trailer. The second team's new trailer arrived on site at 0724.

Trenching for the 2" compressed air line that will run around the perimeter of the North Cell was resumed at 0801.

Other members of Shaw uncoiled a 500ft section of 2" HPDE line to be used in the air line installation today.

By 0930 approximately 200 ft of trench had been dug, 400 ft of trench was reached by 1150.

AP-2 was installed between 0945 and 1000 approximately 150 ft East of the start of trenching for the day.

Shaw supervisor Kenny went and picked up the speced chipped bentonite plug and returned to the site at 1145.

Shaw broke for lunch at 1225 and returned at1325.

The backfill of EW-68 was continued with the installation of the first of two bentonite seals that were damaged in the excavation for the tie in to EW-68. The first plug was placed around the well head and hydrated by 1408. A soil layer was placed on top of the first bentonite plug by1410. The second bentonite plug was installed and hydrated by 1433. The surrounding area was backfilled by approximately 1600

The trenching for the 2" compressed air line continued at 1330, by 1519 approximately 500 ft of trench had been dug, this is where the approximate location of where the new air line would tie into the old air line system. Approximately 2850 ft of 2" HDPE pipe was used for the 2" air line that was run from CP-1 to near the location of LCRS-5, including any stub ups near the LCRS stations that were requested by the County. Shaw placed an elbow at the termination of the line and a left a stub up for the later tie in with the new header line. The remains of the trench were backfilled and manicured with the Deere dozer by1630.

Shaw cleaned up an left the job site at 1650

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/24/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
77 F	58 F	Sunny/Partly Cloudy	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Rob	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubuta RTV 900
Kenny	Supervisor	Chevy Silverado 2500 HD (x3)
Robin	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730

Shaw provided HDR with hand drawings of possible manifold and tie in to the gas header line of the existing horizontal wells.

Tie in for at CP-6 began at 0811 with exploratory excavation for the 16” header line. The 16” header was located at 0913. The 6” lateral run from the 16” header North to well EW-10 was struck and punctured at 0915, Shaw also struck and ripped the 2” air line that fed EW-10 and the rest of the air line system. The section of the 6” HDPE pipe that was damaged was cut out and slip capped at both of the open ends. The 2” air line to the west that was still attached to the tee was cut and slip capped as well by 1016.The 16” was completely exposed by 1058. A trench for the 8” lateral pipe was begun at 1105 to allow room for the 8” stub and butterfly valve. The 16” header was prepped with grinders from 1118 to 1124 before the header was cut into. The pups on the 16” tee were also prepped using grinders. The cut in to the 16” header began at 1155 and was completed by 1158. Both electro fusion collars were installed on the header pipe and ready to receive the tee by1209. The tee was prepped again with the grinders due to being set in the soil by 1212 and wiped down with alcohol and rags by 1215. The tee was installed in place and dry fit with the electrofusion collars slid back into place by 1223. Electrofusion of the collars began at 1224 with the East side of the East collar. A second electrofusion machine was used on the west side of the East collar. The East side of the East collar was stopped at 1228 due to problems with running to electrofusion machines off of one generator, and restarted at 1244. West side of the East collar was finished by 1237 and the East side of the West collar was finished by 1244. All of the collars had been run through their prescribed burn times by 1248.

Shaw broke for lunch at 1300 and returned at 1345.

Shaw began the abandonment process for the lateral that ran from the 16” header line to well EW-10 by affixing a slip cap to the end of the cut HDPE pipe and screwing it into place by1410. The lateral is to be abandoned in place; Shaw will finish the abandonment when doing the tie in for EW-10 to the new 8” lateral line.

Trenching for the new 2” compressed air line from CP-6 to well EW-58 was begun at 1412 and finished by approximately 1438.

Shaw retuned to the tie in at CP-6 at 1420 and tried to begin extrusion welding around the electrofusion collars with the new extrusion welding gun they had received the day previous. Shaw stopped the extrusion welding at 1425 due to excessive sparking emanating from the extrusion gun. Shaw attempted to diagnose the problem, but was unable to rectify. Shaw placed a call to the technical support for the gun and waited for a response. Shaw installed the 8” butterfly valve at the end of the flanged section of the tie in connection by 1445.

Shaw added 3 ft of 4” HDPE pipe and 3 ft of 2” HDPE pipe to the risers on EW-68 to bring them above grade by 1520.

Shaw connected the new 2” compressed air line to the existing 2” compressed air line by 1600 at the site of EW-68. Both the old and the new compressed air lines were tied together below grade utilizing tees to allow for stub ups to be present at EW-68. The North 2” HDPE stub up is connected to the new air line, and the South 2” stub up is connected to the existing air line. Shaw also installed a 2” flanged ball valve 27ft from the connection point at CP-6. The total run of 2” air line from the center of the tie in at the 16” header to the 90 where the new air line began its stub up was 57 ft.

Extrusion welding began again with the County's extrusion welder at 1603 and was completed 1713.

The 8" butterfly valve at CP-6 was completely installed with all the bolts and the both flanges by 1710. The up hill flange had been welded to 75 ft of 8" HDPE pipe that is the lateral that will connect the North and South sides of the headers. The valves all thread and nuts were spray painted with truck bed coating material by 1716. The valve was wrapped in plastic and taped up by 1718. The new 2" air line and 4" force main were run in the same trench as the 8" HDPE line.

The existing air line that ran to EW-10 was abandoned in place and the section of the existing 2" air line that was damaged earlier in the day during excavation was replaced with a straight piece of 2" HDPE pipe. This fixed the damage line and abandoned the old air line at the same time, this was completed by 1727.

Shaw also placed 57 ft of 4" HDPE pipe in the trench from CP-6 to EW-68 even though this is not called out on the provided drawings. This was done at no extra expense to the client to as a balance for repairs to electrical lines that were damaged that the County is paying to repair. This was done to allow for ease of tie to the new force main line if it is needed in the future.

Backfilling on CP-6 began again at 1748. Shaw placed the valve box for the 8" valve in the 8" lateral line by 1931. As Shaw backfilled they fused together the tees that connected the new air and force mains to the sections of HDPE pipe that went up hill (South) with the 8" lateral line. The 4" force main that went with the new 8" lateral line was 17ft, at 17ft the pipe stubbed up where a flange will be place for the connection to the force main valve. The connections to the air and force main were completed by 1927. Shaw retuned to backfilling at 1935 and backfilled around the site of CP-6 and EW-68 till approximately 2040. They covered what trenches that were open that would be continued to worked on tomorrow with tarps.

Shaw then moved to the job trailer and staging area to load up one of their vehicles with extra and incorrectly ordered parts as one of the Shaw crew was leaving the site and returning the parts on his way. This was finished by 2115.

Shaw cleaned up and left the site at 2130.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/25/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (56 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
76 F	56 F	Foggy	Partly Cloudy/Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Shaw began the day by fueling their vehicles and sorting through the parts that were on site.

Shaw returned to work on CP-6 at 0820 install the flanged valve for the 4" force main valve running up the hill/South. The ball valve in the 4" line was installed by 1040. This is only a temporary installation as the bolts in the flanges will have to be replaced with the specified stainless steal nuts and bolts.

Shaw began trenching from CP-6 Northeast to the location of CP-7 for the new air and force main that will tie into the new system at 0828. Shaw reached trenched past EW-69 and reached the location of CP-7 by 1101.

Sliger arrived onsite at approximately 0915 to aid in reestablishing markers for the Access Points on the top deck of the landfill and the permanent road crossings. Sliger also recorded points for the new 2" air line run around the perimeter of the North cell and the completed wells EW-59 through EW-68 tie in locations. Shaw employee David helped Sliger locate all the points that needed to be surveyed. Sliger finished survey by 1200.

Once Shaw arrived at the location for CP-7 with the trench for the air and force mains, Shaw began exploratory excavation for the 16" header at 1105. The 16" header was located by 1158. At 1212 Shaw struck a 6" lateral line that was connected to the 16" header line that appears to run to EW-19. This was later confirmed with maps provided from Fortistar. A temporary plug was placed over the hole in the 16" header line and duct taped in place and the lateral was cut and slip capped to allow Fortistar to resume running their engines. At 1244 Shaw struck and broke the 2" HDPE air line that was run with the 16" header and the 6" lateral. The 2" air line was later slipped capped to avoid any contamination to the line.

Shaw broke for lunch at approximately 1300, retuning at 1400.

Upon returning from lunch Shaw measured the 4" ball and check valve assembly that was 17 ft South of CP-6 and realized that it would not fit inside of the valve box. Shaw cut a section of pipe out between the flange and the 90 on the assembly to make it shorter and refused the pipe by 1450. The 2" compressed air line ball valve that is 27 ft West of CP-6 was also rebuilt to create more of a level valve assembly by 1505.

Shaw placed 300 ft of 4" force main in the trench between CP-6 and CP-7 by 1550, 300ft of 2" by 1604. Both HDPE pipe lines were run from CP-6 where they were fused to their respective lines that were installed on the previous day. A stub up of 2" HDPE compressed air line and 4" HDPE force main were installed 114 ft East of CP-6 from tees in the newly run lines. Shaw began backfilling on the trench between CP-6 and CP-7 at 1650, placing survey markers every 50 ft.

Shaw had completely excavated the site of CP-7 by 1640, Shaw then covered the exposed area with tarps as this will be returned to tomorrow and tied in. The tarping and placement of the silt fence was completed by 1855

Shaw cleaned up, fueled their equipment, and left the site at 1925.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/26/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (57 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
79 F	57 F	Foggy		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710.

Shaw started the day by taking measurements for the tie in that would be completed at CP-7 and the access riser AP-1 that will be installed near CP-7. Shaw also fused a flange to a line of 8" HDPE pipe that had been fused together on a previous day.

The tie in for CP-7 and AP-1 was done in one large piece since they are so close together. Two 16" x 16" x 8" tees were fused together with a piece of 16" HDPE pipe between them and with the risers for the flanged 8" butterfly valve and the 8" access riser were assembled near the job trailer by 1016 and transported to the tie in location. The 16" header was prepped with grinders to clean the areas where fusing would take place starting at 1004 and finishing at 1013. The cut in to the 16" header was begun at 1039 and was completed by 1044. By 1052 the electrofusion collars where installed on the 16" header line and ready to receive the tie in piece. Preparatory grinding was performed on the tie in piece between 1102 and 1110. The tie in piece was dry fit in with the header and the electrofusion collars where slid back into the proper fusing location. Electrofusion of the collars began with the East side of the East collar at 1124 and completed by 1132. The East side of the West collar was started at 1129 with a second electrofusion machine running off a second generator. The West side of the East collar was fused between 1144 and 1151. The West side of the West collar was fused between 1136 and 1143. Extrusion welding was begun at 1154 and both collars were welded on both sides by of the collar by 1243.

Shaw broke for lunch at 1300 and returned at approximately1405. Upon returning Shaw had a delivery of washers and nuts waiting for their signature.

Work returned to CP-7/AP-1. The 2" compressed air line that had been struck on the previous day during excavation for the 16" header tie in was repaired running East and West. The section of the air line that ran up the hill, South, to EW-19 was butt capped and abandoned in place by 1502. The air line at EW-19 will be abandoned completely when the tie in to the new 8" sub-header occurs.

Trenching for the placement of the new 8" sub-header, 2" compressed air line, and 4" force main began at 1455. This trench headed South, up the landfill grade, towards EW-19. Approximately 60 ft of trench was dug before approximately 150 ft of 8" HDPE pipe was brought down from over the top of the hill and placed partially in the trench to CP-7/AP-1. The 8" butterfly valve was bolted to both flanges beginning the 8" sub-header by 1626. The hardware connecting the 8" butterfly valve and flanges was subsequently sprayed with truck undercoating paint by 1627 and wrapped and duct taped up with plastic film by 1692. Back filling of CP-7/AP-1 began at 1631. Grade was check during the beginning of backfilling and found to be below spec. Shaw attempted to fix the grading of the section of CP-7/AP-1 utilizing the excavator and a strap to lift and place more fill under the 16" header pipe. Shaw was unable to fix the header grade, at this point HDR staff was contacted to find if hole should be filled or if further investigation/moving the 16" header pipe would be necessary. Cliff Koenig requested elevations of locations EW-67 Northeast through CP-8 and asked if Shaw would be willing to explore more in the direction East of CP-7/AP-1. County staff was contacted to verify tarping tie in hole if necessary even if while expecting rain event the next day was acceptable, County staff approved this course of action.

Shaw excavated approximately 50 ft East of CP-7/AP-1 finding a high point in the 16" header pipe line at approximately 30 ft from the tee at CP-7. Shaw stated that they could fix the grade issue since there was enough fall to the point that they have excavated. HDR staff was informed of this and approve the corrective action to the 16" header line.

	Shaw began adjusting the 16” header line at 1755. Shaw excavated to the North of the 16” header and underneath of the header, then moved the header with excavator bucket. After several attempts Shaw was able to achieve a slope of 2.8% approximately 15 ft East of the tee at CP-7. This allowed for partial backfilling of the CP-7/AP-1 area, but to properly fix the slope of the 16” header the header would need to be excavated up to the next tie in at CP-8 and adjusted to meet grade.
	Shaw began backfilling the area around CP-7/AP-1 at 1948. The valve pit for the 8” butterfly valve at CP-7 was installed between 2012 and 2031.
	Shaw cleaned up and left the site at 2130

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/27/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Morning	Afternoon	0.07
70 F	51 F	Medium to Light Rain	Sunny after 1400	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Received a phone call at 0530 from Shaw stating that it was raining and about to get worse. Shaw stated that they would not be in to the job site till after the rain stopped and it would be to take care of odds and ends.

Shaw arrived on site at 1300 and picked up some equipment that needed to be shipped out to manufacturers for repair. Then they headed to Deland to pick up some parts needed for the job site.

County, HDR, Shaw, and Fortistar staff discussed issues related to section of 16” header near the location of CP-8. The previous day it was discovered that the 16” header had a poor grade in the area of CP-7. This was attempted to be fixed but was only shifted the poor grade further to the East. The resolution was that the County would like Shaw to correct the grade of 16” header CP-8 where the connection of the new 16” header line would pick up from. The idea of videoing the 16” header was brought up, and the County would like this done before the end of the project, but does not want to hold up current construction. Discussions about how the Horizontal well heads will be tied into the 16” header are also of concern due to FDEP having concerns with the slopes where the Horizontal wells currently are located.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/28/12	Day: Saturday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (48 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
70 F	47 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0650 and had completed safety meeting by 0720.

Shaw began the morning by removing the tarps that were placed near the sites of CP-7/AP-1 and CP-8.

Shaw returned to excavation East of CP-7 towards CP-8 to adjust the 16” header at 0735, per the Counties approval. Shaw as able to adjust the 16” header so that it had between a 2 to 3 percent grade until just outside of the location of CP-8. At 1118 Shaw uncovered the 12” access riser near CS-5, and noted that the 10” sub header that currently connects the North and South slopes of the North Cell is connected to the 12” access riser, this is different than suspected. At 1128 Shaw located a 16” socket tee installed in the 16” header line that is not on the existing drawings. This tee runs South into the landfill and also has a 2” air line tee and line that matches the 16” header in heading South into the landfill. This stopped the adjustment of the grade of the 16” header as it could not be further graded with the tee still attached, this will have to wait till Fortistar’s 48 hour shut down period on the 6th and 7th of February. Shaw began backfilling the trench exposed in the 16” header adjustment at 1205, leaving an open area near CP-8 to return to when Fortistar was shut down and CP-8 could be completed.

Shaw installed the 4” force main ball and check valve that will run in conjunction with the new 8” sub-header South to the opposite side of the landfill.

Shaw damaged a section of the 2” air line that was run with the existing 16” header while adjusting the grading on the 16” header. This damage was cut out and replaced with a new section of 2” HPDE pipe and fused together by 1202.

Shaw continued to extend new 2” air line and 4” force main line that runs in parallel with the current 16” header. Risers for both the 2” air line and the 4” force main were installed by 0855 at AP-1 with their respective flanges awaiting the blinds. The new lines are not at the same elevation of the existing 16” header line, but are approximately 3 to 4 ft below the grade of the North slope of the North cell. These lines were installed during the backfilling of the trench for the 16” header adjustment and were completely covered by 1251 and the site was manicured around CP-7/AP-1 by 1520 leaving space open to install the 2” air line ball valve and install valve boxes for the 2” air line and the 4” force main valves. Any areas where waste was present were tarped.

Shaw cleaned up and left the site at 1530.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/30/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (40 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
70 F	40 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Shaw started the day by unloading A tractor trailer was already on site and was delivering sumps, valve boxes, tees and other parts.

Shaw then loaded up their job trailer to have it weighed with the 299 skid steer in it.

At 0758 Shaw began to fabricate the parts and add flanges to previously fused 18” HDPE pipe.

Before Shaw could begin the installation of the 18” HDPE header line on the South side of the North Cell, they had to get references from the benchmark set by the surveyor. Shaw also added another survey benchmark closer to the West end of the jobsite staging area. This new survey marker was used to calculate the elevations and slope of the 18” HPDE header line that was run today.

While members of Shaw were working on the calculation of needed depths for the 18” header line other members of Shaw went to place well heads on EW-67, EW-68, and EW-69 at the request of Fortistar. The well head installation was begun at approximately 1017. The well head for EW-67 was installed by 1028. EW-68 followed and was installed by 1045 and the final was EW-69 which was completed by 1058. This completed the well head installations for the day.

At approximately 1000 Shaw began backfilling approximately 50 ft of the trench at CP-6 for the 8” sub-header line. This was completed by 1035 and the members of Shaw working on this task proceeded to backfill and manicure the area between CP-6 and CP-8 that had been partially backfilled and manicured on Saturday. This task was complete just before lunch.

Shaw began excavation for the trench that would hold the 18” HDPE header from CP-1 to CS-18 at 1036, heading East.

Shaw broke for lunch at approximately 1230 and returned at approximately 1330.

Shaw returned to excavation of the trench for the new 18” HDPE header on the South side of the North Cell at 1333, and completed the trench to the site of CS-18 by 1450. Due to the angle of the existing 18” header line that was tied into with a tee to run the new South 18” header line there was a slight bow to the header that placed the location of CS-18 approximately 3ft to the South of its proposed location. This was confirmed with Cliff Koenig and was not of concern. The 18” HDPE pipe was placed in the trench by 1511 and it was bolted to the flange on the 18” butterfly valve at CP-1 by 1619. The nuts and all thread were covered with truck undercoat protective paint by 1626 and the valve was wrapped in plastic by 1631. After measurement in the trench, Shaw cut approximately 5 ft of HDPE pipe off of the 18” line in the trench. Shaw then proceeded to perform a ditch fuse to ad a flange back to the now shortened section of 18” HPDE header pipe. The ditch fuse was completed by 1652. The length of pipe attached to the 18” valve the flange is 189 ft. Grade was check every 25 ft, and exceeded the specification of 2.0% in each 25 ft section. The overall grade thus far from 0+00 at the 18” tee to the flange at 1+95 just before CS-18 is 2.45%. Shaw placed 2” and 4” HDPE pipe in the trench with the 18” HDPE header line and began backfilling of the trench at 1942. The trench was backfilled to keep the 18” header from shifting grade by 2025.

	Shaw began construction of forms for the sump at CS-18 at 1656. After several attempts Shaw as able to partially place the form/trench box in the hole that had been dug for CS-18 by 1906. Further attempts where abandoned for the evening as more important tasks still needed to be completed.
	Shaw began assembly of the 2” ball valve and installation of 2” air and 4” force main that will parallel the new 18” gas extraction header line at 1654. This was put on hold as all members of Shaw were required to assist with the placement of the forms for the concrete at CS-18.
	Shaw cleaned up and left the site at 2030.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 01/31/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (46 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
77 F	46 F	Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x2)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Shaw returned to the installation of the condensate sump CS-18 at 0745 by excavation to make the hole more suitable for installation of the sump. A large amount of liquid had filled approximately 4 ft of the lower section of the hole dug for the sump. A submersible pump was placed at 0802 and pumped till 0830. At 0822 the excavator blew a hydraulic line, Shaw shut the excavator down quickly and attempted to plug the line till a bucket could be reached to catch the hydraulic fluid. A Shaw member was dispatched to get a new hydraulic line.

While the excavator was down and awaiting a new hydraulic line, Shaw returned to the 2” and 4” valves at CP-1 at 0843. The 4” ball valve and check valve were installed by 0950 and the 2” ball valve was assembled as much as possible. The 2” compressed air line valve will be completed at a time when the air line can be discharged.

The new hydraulic line was installed on the excavator by 0942 and trenching resumed at CS-18’s location at 0950. By 1056 Shaw had the elevation of the whole at what they believed to be the proper depth and had placed gravel in the bottom of the hole. Shaw attempted to place the condensate sump in the hole at 1101 but the sump was 10” to high in the hole. Shaw removed the sump from the hole and dug down further. Shaw replaced the gravel pack layer in the bottom of the hole by 1111. The sump was replaced in the whole by 1113 and was at the proper elevation to allow for attachment to the 18” HPDE header that was placed the previous day. The sump and the header where bolted together at flanges starting at 1114. All the nuts around the flange were completely tightened by 1136 and the flanges were bolted together. The nuts and all thread were then sealed with truck undercoat spray on sealer by 1141 and wrapped in plastic by 1143. Shaw filled the sump with liquid that was present on site from approximately 1145 to 1210 to hold the sump in place once concrete could be poured around it as ballast.

Shaw broke for lunch at approximately1220 and returned at approximately 1320.

Excavation east of CS-18 towards AP-4 began at 1414. At 1530 Shaw turned the trench north for the lateral line that will connect to EW-58. The edge of liner was also located within minutes of beginning the trenching to the north.

Concrete truck arrived at 1457 for ballast. The concrete was discharged from the truck into the 320 Excavator’s bucket and then placed around the condensate sump with the loader. The first bucket was placed by 1501; eight bucket loads in total were placed in the hole around the base of CS-18 for a total of 7 yards used. The concrete was in place by 1520 and a layer of soil was placed over it by 1527. Shaw began installing 2” compressed air line and 4” force main stub ups for use at CS-18 beginning at 1542 and completed at 1601. Shaw placed 200 ft of 2” HDPE compressed air line and 4” HDPE force main in the trench from CA-18 towards AP-4 by 1724. The trench did not measure 200 ft so some of the pipe still sits at ground level and will be placed tomorrow. Shaw began installing the tees for the 2” and 4” HDPE pipe that will be run to EW-58 at 1724 and had completed that task by 1754. The 2” compressed air line is on the extreme west of the trench, followed by the 4” force main in the center of the trench. The 6” vacuum line is the east most pipe in the trench. Elevations every 25 ft were shot on the top of the 18” header line from 2+00 at the flange on the east side of CS-18 to 3+25, the furthest section of pipe that’s elevation would not be compromised by the unfinished trench. The distance of 125 ft had an average grade of 3.32%, while each 25ft section had no less than 2.2% grade at any point and had as great as 4% in some locations. Backfilling on the 18” header line, 2” compressed air line, 4” force main, and condensate sump CS-18 began at 1736 and was completed at 1900.

Members of Shaw prefabricated the tie in to EW-58 in the new 18” header line before it would be placed in the trench. The 18” header line with the connection for EW-58 was placed in the trench running east from CS-18 at 1653. Shaw then proceeded to bolt together the flange on CS-18 and the flange that had already been fused to the new section of pipe at 1654. All of the nuts were torque down by 1708 physically completing the connection to CS-18. The nuts and all thread were then coated with spray on truck undercoating by 1710. The whole flange assembly was then wrapped in plastic and taped in place by 1712.

Shaw cleaned up and left the site at 1925.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/01/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (57 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
77 F	55 F	Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710.

Shaw began the day by setting up survey instrumentation and calculating pipe elevations.

Shaw returned to trenching East towards AP-4 at 0802, AP-4 was reached and passed at 0832. Shaw reached the location of CS-17 with the trench by 1035. Shaw measured for grade and made some adjustments in the grade. Excavation for CS-17 began the placement of the first of two recently procured trench boxes at 1202.

Shaw extended the 2” compressed air line and 4” force main tie in lines to the match the elevation of the flange on CS-18 by 0937.

Shaw broke for lunch at 1220 and returned at 1325.

Shaw began the installation of the 2” air line ball valve just west of CP-1 at 1358. This valve isolates the new air line from the existing air line system and was completed at 1500.

Shaw place two 12x8 ft trench boxes in the hole that had been excavated for CS-17 by 1407. Gavel was the placed at the bottom of the excavated hole between 1448 and 1502. The sump for CS-17 was placed in the hole by 1523. After taking measurements of the sump in its location, it was established that the sump would be too high for the 18” header pipe to intersect at the flange. The sump was subsequently removed from the hole by 1555. The gravel bed was then adjusted and the sump was returned to the hole for CS-17 by 1630. Approximately 500 gallons of water was pumped into the sump to act as ballast for when the concrete ballast was installed. Concrete was placed in the hole directly from the back of the mixing truck from 1635-1645 and totaled a volume of 7 cubic yards. The top trench box was removed and the lower box moved up to allow for protection of the workers while bolting the flanges on the pipe and the sump together.

The 2” and 4” access risers at AP-5 were installed from 1655 to 1729. Shaw then connected 83 ft of 2” and 4” HDPE pipe to the tees that were at the access riser to additional tees at the start of the 8” sub-header tie in that runs North up the slope of the North cell. By 1949 Shaw had place pipe in the trench that reached to CS-17 at 6+00 from CP-1 and welded it together by 2024.

The 18” header was placed in the trench at approximately 1815 for measurement of the flange that was needed to be attached and to check the grade of the pipe. The 18” header pipe was surveyed and all of the points from 3+25 to 6+00 were within the required 2% grade with exception to the section from 3+75 to 4+00 that was a grade of 1.44%. Shaw stated that this is the best that could be done as this was the high point between the two sumps, at AP-4. The overall slope of the section from 3+25 to 4+00 had a grade of 2.21%. The 18” header needed to be cut to be fit into the trench boxes that were being utilized. The header was then subsequently partly removed from the trench so that the flange could be welded on. The flange was fused on and the 18” header was again placed in the trench up to the flange on the condensate sump CS-17. The pipe was found to be too short and had to be removed once more at 2052. Shaw cut of the flange and added additional length of HDPE pipe and rewelded the flanged by 2128. The 18” header line was then reinstalled into the trench by 2136. The first bolt was placed in the flanges between CS-17 and the 18” header at 2146 and all the nuts were torque down tight by 2200. The bolts and all thread were then coated with truck under coat paint by 2204 and wrapped in plastic and duct taped by 2206.

A section of the 18” header pipe was nicked when a pry bar was tossed into the trench near the 6+00 mark of the 18” header. Shaw ground down the nicked area and extrusion welded the section to repair the damage that had been done. This was completed by 2234.

While the majority of Shaw worked on connecting the sump CS-17 one member of Shaw backfilled the sections of trench for the 18” header line placing markers and magnetic caution tape as he went. After the sump CS-17 was connected to the 18” header pipe and the 2” compressed air line and the 4” force main line were run, Shaw backfilled to approximately 10 ft of CS-17 by 2237. The 2” HDPE compressed air line is placed to the North of the 18” header in the trench and the 4” force main is placed to the South of the 18” header in the trench.

Shaw placed all their equipment around the hole that was still present around CS-17, cleaned up, and left the site by 2255.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/02/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (63 F at 0900)		Precipitation
Max.	Min.	Morning	Afternoon	None
74 F	58 F	Cloudy/Overcast	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Kenny	Supervisor	Kubuta RTV 900 (x2)
Robin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0850 and had completed safety meeting by 0905.

A tractor trailer with steel for the bollards arrived at 0855 and was unloaded by0951.

Kenny and Robin worked on transferring their equipment from their old work trailer to their new work trailer, finishing at 1210.

Shaw cleaned up unused parts and trash, sorted through on site parts, fused together parts that would be utilized with the 18" header line and organized them from 0956 to 1255.

Shaw manicured the site between CS-18 and CS-17 that had been backfilled the previous night from 1152 to 1220.

Shaw broke for lunch at 1300, HDR site representative met with Leonard Marion to discuss what has occurred to site thus far between 1400 and 1500.

Shaw added the 2" compressed air line and 4" force main stub ups to CS-17 that will later be finished with valves and connections to the sump by 1600. The west side of CS-17 was backfilled from 1810 to 1830, leaving the east side open to continue trenching and connection of the header after being placed in the trench.

At 1610 Shaw began excavation of enough area to be able to install the 8" butterfly valve on the 8" flange that had been stubbed out from the 18" header line the previous day. This is the connection point that will tie in the 8" sub-header line that is connected to the 16" North header at CP-6. The excavation was complete by 1625 and the 8" valve was partially installed by 1643.

Trenching for the tie in connection to EW-58 was started at 1630 and ran north up the south slope, trenching was complete by 1743 and 153 ft of 2" HDPE compressed air pipe and 4" HDPE force main pipe was placed in the trench. The vacuum line was attached to a flange that had been stubbed out the day earlier as the tee was prewelded into the 18" header before it was placed in the trench. The distance from the flange to the 18" header was 8 ft and Shaw placed 145 ft of 6" vacuum line with a flange on the end an bolted it up. The total run of 6" HDPE pipe used to the stub up at EW-58 was 153 ft. The 2" compressed air line is the west most pipe in the trench, the 4" force main is in the center of the trench and the 6" vacuum line is on the east side of the trench. The install of the pipes was completed by 1850 and backfilling of the trench began at 1854. Survery risers were placed as Shaw backfilled on the trench and pipes, the backfilling was complete by 1924.

Shaw cleaned up and left the job site at 1950.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/03/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (62 F at 0900)		Precipitation
Max.	Min.	Morning	Afternoon	None
74 F	58 F	Overcast	Sunny Early/Overcast Late	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0850 and had completed safety meeting by 0930.

Shaw began the day by gathering their gear and equipment for the day, and assembling as second set of stairs for the job trailer.

Trenching from CS-17 east towards AP-5 began at 0844. By approximately1130 Shaw had reached the location of where AP-5 would be installed.

Manicuring of the site of the EW-58 tie in was started at 0846.

Butt caps were welded on to the 2” HDPE compressed air line and 4” HDPE force main stub ups at EW-58 as the pipe was placed with slip caps to avoid any debris getting into the pipe. The fusion began at 0849 and was completed by 0903.

Shaw broke for lunch at 1215 and returned at approximately 1300.

Shaw returned to trenching east towards CS-16 at 1305. The location of CS-16 was reached by 1420. Measurements for depth of pipe where flange would connect to the condensate sump were taken. Depth of trench at that location as to shallow and necessitated removal of soil and a regrade of the trench. Trench was regarded to the location of CS-16 by 1457.

Shaw replaced a bad sample port in well head of EW-62 by 1340.

The 18” HDPE header pipe with a preattached, flange, tee and stub up with a flange for AP-5 was lowered into the graded trench beginning at 1500. The 18” header pipe flange and the flange on the condensate sump CS-17 met at 1517. Bolts and all thread were placed through the flange starting at 1518, by 1550 all of the bolts holding the two flanges together had been torque down. The flange bolts and all tread were then covered with truck under coat paint by 1551 and wrapped in plastic and duct taped by 1552. AP-5 is 8+02 from the connection point CP-1. Shaw placed the 2” HDPE compressed air line and the 4” HDPE force main east of CS-17 starting at 1558 and these lines were installed up to AP-5 by 1624. The access risers for both the 2” compressed air line and the 4” force main where installed at AP-5 by 1702. The 2” compressed air line, 4” force main, and the 18” header line were finished out to 9+95 where the flange to connect to CS-16 was. Shaw placed 2” compressed air and 4” force main stub ups at the site of the 8” sub-header tie in, this was completed by approximately 1800. The grade was checked over increments of 25 ft and all sections exceeded the spec of 2%.

Shaw completed excavation for the start of the connection to the 8” sub-header that had been welded to the 18” HDPE header line before being placed in the trench. This was done from 1658 to 1720.

Shaw began backfilling sections of the trench between CS-17 and the location that CS-16 would be installed starting at 1730. The last of the two trench boxes used during the installation of CS-17 was removed by 1818 to allow for backfilling around the condensate sump. The trench boxes were placed in the beginnings of an excavation that would be for the installation of CS-16. Shaw placed magnetic warning tape and survey risers as they backfilled. Backfilling on the trench near the site of CS-16 was completed by 1945

Shaw cleaned up and left the site by 2000.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/06/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (62 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	0.03”
76 F	61 F	Fog Early/Sunny Late	Partly Cloudy Early/ Overcast Later	Light to Medium rain 1511 on

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0656 and had completed safety meeting by 0725.

The original plan for today, to start working on the 16” North header tie in, was changed due to the looming threat of rain from a tropical wave that was moving Northerly from the South Florida region. Shaw did not want to expose a large hole in the North side of the landfill only to have it rain and compromise the landfill. Shaw decided to set CS-16 instead.

Manicuring of the sites between CS-18 and CS-17with the Deere Dozer and the Excavator was started at 0810. This was complete by 0940.

The partial installation of the 8” ball valve at the eastern most 8” sub-header tie in to the 18” South header was completed from 0805 to 0824.

Shaw returned to the site of CS-16 to continue on with digging for the sup placement. Shaw also place trench boxes in the excavated hole to help combat the sloughing of the sidewalls during placement of the condensate sump. This began at 0915. The excavated hole was completed, with trench box placed inside of it allowing the condensate sump CS-16 to be placed by 1113. The hole excavated for the sump was shallow by 6” and necessitate the removal of the sump and a regrade of its base. The base regrade was performed and the condensate sump CS-16 was placed in the hole again at approximately 1130. Gravel was not placed on the bottom of this sump. When Shaw was asked about the lack of gravel in hole it was stated that, the gravel was only there to help grade and was not needed if the soil could be graded properly. The nuts and all thread began being placed between the flanges on CS-16 and the 18” header pipe at 1142, the nuts were torqued down completely by 1216. The nuts and all thread were then sprayed with truck undercoat paint by1219 and the whole flanged connection was wrapped in plastic and duct taped shut by 1221. Three hundred gallons of water was pumped into condensate sump CS-16 by 1302 to help ballast it while concrete was filled on the base. The concrete truck arrived at 1350, was one hour and fifty minutes late. Concrete was placed in the hole around the condensate sump with the concrete truck chute by 1400 and a layer of soil was place on top of the concrete.

Shaw cleaned up some around the site as it looked like rain was looming and then broke for lunch at approximately 1430 and returned at 1525.

Shaw worked on cutting and grinding all thread to needed sizes for flanges and assembling piping sections that will be used later in the project from 1535 to 1730. On member of Shaw also greased the equipment from 1530 to 1555.

A light rain started at 1511. Medium rain at 1715.

Shaw cleaned up and left the site at 1745.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/07/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (63 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
72 F	58 F	Fog Early	Overcast	Misting @ 0700

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0705.

Light rain/Mist already present on arrival to job site.

Shaw returned to cutting and grinding all thread for flanges at 0705 and assembling parts for the tie in to LCRS-1 with the force main discharge.

The air test of the 4” force main from the location at LCRS-1 to the 4” ball valve at CP-1 was air tested from 0838 to 0938. The run of pipe was pressurized to 25 psi and left for an hour. The outside air temp was 64 F when the test was started and 63 F when it was finished. The pressure gauge read 25 psi at 0938, the selected section of line passed the air test.

HDR met with the County, Shaw, and Fortistar about how the project is doing and how to go about items in the future. While HDR was in meeting Shaw installed the tees and risers for the 4” and 2” lines at CS-16, replaced the hardware on the South header line with stainless all thread and zinc plate nuts.

The air test of the 2” compressed air line from the valve on the west side of CP-1 to the stub up on the Northern side of the landfill where the tie in to the new design will occur near LCSR-5 began at 1154 at 100 psi and 64 F. The pressure gage was again checked at 1427 at a temperature of 71 F the pressure had dropped to 99.8, well within the spec of the line.

Shaw began repairs on LCSR-1 at approximately 1430. Shaw extrusion welded a new flange ring on the existing HPDE pipe for LCSR-1 and placed a new blind flange on the leachate clean out sump riser. A penetration in the HDPE pipe on the side was made to tie in the 4” HDPE force main line. The force main was installed and extrusion welded in place. All of the work on LCSR-1 was completed at 1640. The flange was fitted and the nuts and bolts were tightened to hand tight as they would be removed to install a gasket that was not available at the time of this fix. All of the work on LCSR-1 was completed by 1640.

Shaw replaced the hardware in AP-16, AP-17, and AP-18 to the stainless all thread and zinc plated nuts by 1716. The hardware at CP-7 was also replaced by 1712. AP-19 and AP-20 were also swapped by 1718.

Replacement of the blind flange at LCSR-4 began at 1714 with the prepping of the HDPE clean out riser with grinders to remove dirt and expose virgin material. Extrusion welding of the flange ring began at 1732 and was completed at 1800.

Shaw cleaned up and left the site at 1830.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/08/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (55 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
74 F	52 F	Overcast/Cloudy	Sunny/Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Excavation East from the site of CS-16 towards AP-6 began at 0801. At 1043 the excavation came in contact with waste outside the limits of the liner. The waste appeared to be mostly C & D in nature, but did have some Class I waste present. County staff was contacted to ascertain origins and to inform them of what had been found. County staff stated that the waste was used as fill for depressed areas of the original haul road. Seven loads of the waste were removed and transported to the working face in the CAT 725. Excavation of the trench reached150 ft of trench from the start location by 1111.

Shaw replaced the last of the temporary hardware on all the installed items by 0915 with stainless steel all thread and zinc coated nuts.

Shaw broke for lunch at approximately 1230, returning at 1315.

The excavation for trenching began again at 1345.

Shaw began placing the 18” header pipe in the trench at approximately 1500 from CS-16 to the beginning of the forty five degree angle in the line. The pipe was in the trench by 1515 and the flanges met at 1517. The nuts on the all thread holding the flanges together were torqued down, coated with truck under coating paint and wrapped in plastic and duct taped by 1550. The 2” compressed air line was placed in the trench by 1533 and the 4” line was placed in the trench by 1541. Both the 2” and the 4” were fused to their respective tees at CS-16 by 1613. Grade was met or exceeded at all locations on the run of the 18” header between CS-16 and AP-6. The forty-five for the 4” force main was installed by 11+63 by 1638. The trench box was removed from around CS-16 by 1806 and the trench was backfilled from 1819 to 1917.

Shaw cleaned up and left the job site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/09/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (52 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
78 F	52 F	Overcast/Cloudy	Overcast/Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Shaw began the day by greasing their equipment.

Excavation for stub out for tie in to 10” existing sub-header between AP-6 and AP-7 was performed from 0810 to 0823.

Excavation for the 18” header was continued at 0823, trenching east from AP-6 towards CS-15. Shaw encountered environmental waste that had been used to fill in trenches surrounding the North cell at 0856. This was approximately 85ft from the location of AP-6. The excavation slowed due to the amount of effort that must be used to trench through the environmental waste.

Blind flanges were added to CS-16 on the 2” compressed air line and the 4” force main by 0910.

The site from CS-16 west was manicured with the Deere Dozer and the CAT skid loader starting at 0925.

County staff requested that C & D materials located outside of waste the previous day be reflected on the As-builts so that C&D debris can be managed as part of the next construction in the Southeastern area of the North Cell. The approximate location of this C&D material is to the west of AP-6 to 50ft west of AP-6.

Shaw cut the locks off of their second trailer as it needed to be rigged for transport, and they only keys were several hundred miles away.

Shaw broke for lunch at 1245, returning at 1345.

Excavation on the 18” South header line resumed at 1413. Manicuring of the sections that were already completed to the west of the forty-five in the 18” header line was returned to at 1419 and was completed by 1431.

Shaw began fusing as section of 18” HDPE piping together for the area around AP-7 at 1432. By 1602 Shaw had fused together a section of 18” HDPE pipe that included tees and risers for AP-7 and the connection to the existing 10” sub-header line. Shaw then moved the prefabricated section to the trench and fused it to the 18” HDPE pipe already in the trench via ditch fuse by 1655. The 4” force main and 2” compressed air line stub ups for the 10” sub-header connection were fused in line with their respective pipes in the trench already by 1710. The 4” force main and 2” compressed air line stub ups for AP-7 were completed shortly after at 1724. The tee for the 10” sub-header connection is located at 12+42 from CP-1 and AP-7 is located at 12+59 from CP-1. Approximately 160ft of 18” pipe with a flange welded to it was placed in the trench after being fused to the section including AP-7. This places the flange that will attach to CS-15 at a length of 14+10 from CP-1. The 18” header line was in the trench by 1749, and the 4” HDPE force main and 2” HDPE compressed air lines were placed in the trench and backfilling of the site from the western most forty-five in the 18” header to the area near CS-15 were backfilled starting 1829. The backfilling was completed for the day at

A trench box was first placed in an excavated area that would be CS-15 at 1452 and was located in the desired position for safe working in the trench by 1514.

Shaw cleaned up and left the job site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/10/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation (0.12")
Max.	Min.	Morning	Afternoon	Minimal drops around 1300
74 F	54 F	Overcast/Cloudy	Overcast Early/ Partly Cloudy Late	Light to Medium rain from 1700

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubuta RTV 900 (x2)
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Shaw began to fuse together sections of 18" HDPE pipe to be used on the rest of the header line at 0802.

Work at the site of CS-15 began at 0752 by pumping liquid that had collected in the excavated area for CS-15 over night. The pumping was completed by approximately 0835. Shaw attempted to correct the damage done by the liquid intrusion and placed gravel in the hole at 0903. Shaw had a few bags of left over concrete from another job; these were placed in the hole at 0918. The sump was placed in the hole at 1011 but removed shortly after measurements where taken placing the sump to high. The sump was placed in and out of the hole several times to get the final correct elevation after subsequent excavation. The sump was placed for the final time at 1146 and flanges began connection at 1148. By 1216 the nuts on the all thread had been torque down completely, coated in protective coating paint and covered with plastic and duct taped. Concrete truck was onsite at 1225 and concrete was installed from 1234 to 1251. Seven yards of concrete was used as ballast for CS-15. During the placement of the concrete the condensate sump shifted to the South. Shaw realigned the condensate sump by1305 by throwing dirt on either side of the sump on top of the concrete. Sump ended up being set 0.35 ft below the attempted 1.5 ft above 30ft elevation

During one of the adjustments of the condensate sume one of Shaw's employees got his had caught between the flange back up ring on the sump and the trench box cross member. Work was stopped and he was attended to and was taken to a medical clinic to get the hand taken care of and x-rayed at 1040.

Shaw broke for lunch at 1345 and returned at 1454.

The trench box at CS-15 was adjusted upward approximately 5 ft to allow for the placement and installation of the 2" compressed air line and the 4" force main line and their respective stub ups to connect to the condensate sump when completed by 1508. The 2" HDPE stub up was completed by 1534 and the 4" stub up was completed by 1538.

Additional backfilling and manicuring of the site between the western most forty-five in the 18" header and CS-15 began at 1527; this was completed at 1739 after several loads of backfill material being spread.

The blind flanges for the 2" compressed air line and the 4" force main were installed on both AP-6 and AP-7. AP-6 was installed by 1605 and AP-7 was completed by 1623.

The valve for the 10" existing sub-header line was placed on the flange with bolts to hold it in place and then covered with a garbage back to protect it from the elements until the tie in had been completed by 1746.

Shaw worked on organizing the second job site from 1756 to 1825 as it would be leaving in the beginning of the coming week.

Shaw cleaned up and left the job site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/13/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (32 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
61 F	32 F	Sunny	Sunny to Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Osman	Operator/Technician	CAT 299C Skid Steer Loader
Marvin	Operator/Technician	Kubuta RTV 900 (x2)
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Shaw began excavation East of CS-15 at 0733 heading east towards AP-8. Shaw continued to have difficulties with large amounts of enviro waste that was present in areas that were being trenched through. This added to the time required to trench, by 1029 Shaw had excavated approximately 170ft east of CS-15. By 1044 excavation had reached 186 ft from CS-15's eastern flange, and excavation was terminated.

Shaw began fusing together the section of 18" header that would run from CS-15 to the termination of the header line at a blind flange, including AP-8 and AP-9 at approximately 1000. Shaw installed the blind flange on a section of the 18" HDPE header pipe from 1221 to 1229 with the whole flange being bolted and torque into place.

Shaw broke for lunch at approximately 1235 and returning at 1335.

The fusing/construction of the 18" header section from CS-15's eastern flange to the blind flange termination was returned to at 1358. The blind flange that had been installed before lunch was wrapped in plastic and duct taped by 1418.The 186 ft section from flange to flange including AP-8 and AP-9 was completely assembled by 1456. The 186ft section was then placed in the trench by 1508. The eastern flange of CS-15 met the flange on the assembled section of the header at 1517 and nuts and all thread were begun to be placed. Fitment of the flanges and the header was adjusted by 1523 and the nuts on the all thread began being torque with the pneumatic gun at 1526. All of the nuts were torque down tight on the all thread completing the connection of the 18" header to the condensate sump CS-15 by 1541. The nuts and all thread were coated with truck under coating paint and wrapped in plastic that was duct taped in place by 1545. Shaw began placing the 2" HDPE pipe for the compressed air line and the 4" HDPE pipe for the force main in the trench alongside of the 18" header at 1552. The connections for the 2" compressed air line and the 4" force main were made to the previously placed lines at CS-15 by 1618. The 4" stub up at AP-8 was installed by 1634 with the 2" stub up following close behind at 1640. Both the 2" and 4" sub ups for the AP-9 as well as the blind flanges for the terminations of the respective lines at the termination of the 18" header line were completed by 1704. The grade of the 18" header was check every 25ft to see if it is in compliance with the required grade. All sections except the area of AP-9, 15+81 to 15+95, met or exceeded the required grade. Backfilling on the section from CS-15 to the termination of the 18" header began at 1714. The trench box surrounding CS-15 was removed by 1757 facilitating the continued backfilling of the area round the condensate sump. Before backfilling the section of 18" header that included AP-9 and the blind flange termination, Shaw corrected the grade of this section to 2.2 % by 1819. The section near the blind flange at the termination of the 18" header only has 13" of cover over it at existing grade. This should put it at least 2ft below the final closure elevation of 30 ft. Backfilling was completed by 1841.

Shaw cleaned up and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/14/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (45 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
74 F	45 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Osman	Operator/Technician	CAT 299C Skid Steer Loader
Marvin	Operator/Technician	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0725.

Shaw broke into two teams to start in the morning. Evan and Osman would work on prepping for the 8" sub-header line installation and David and Marvin would work on getting soil to the area between CS-15 and the termination of the 18" header. Evan and Osman placed stakes to aid in the trenching of the western 8" sub-header from 0746 to 0755.

David and Marvin ran fill material from the counties stockpile area to the area between CS-15 to the termination of the 18" header from approximately 0800 to 1147. These fill piles where spread over the previously mention area with the Deere dozer as a manicuring and continued backfilling of that area, this was completed by 1147.

Shaw installed the blind flanges for the 4" force main and 2" compressed air line from 1007 to 1017. Working east the blind flanges for AP-8 were installed on the 2" compressed air line sub up and the 4"' force main stub up from 1018 to 1026. AP-7 had its 2" compressed air line and 4" force main line blind flanges installed from 1028 to 1039.

Shaw broke for lunch at approximately 1200 and returned at 1300.

Excavation for the trench to place the 8" sub-header line began at 1313 on the southern side of the North Cell at the connection point to the 18" header, heading in the direction of EW-56. EW-56 was reached by 1347 and then continued on up the slope of the North cell. Excavation of the trench reached the bench and area near EW-14R by 1551 and Shaw stopped the trenching for the day at that location.

Stringers of 2" HDPE, 4" HDPE, and 8" HDPE pipe were fused together beginning 1309 to be used in the trench with the 8" sub-header line.

The fused together section of 8" HDPE pipe was placed in the partial completed trench for the 8" line starting at 1503. The rest of the line was placed next to the area where the trench would be excavated. The flanges for the 8" line and the 8" stub out for the met at 1545. The all thread and nuts were placed beginning 1547 and the nuts were torque down by 1631. This process took longer than normal due to all thread holding the 8" butterfly valve in place were too short to bolt both flanges together with the valve in-between. New all thread was cut and the connection was completed. The bolts and all thread were coated in truck undercoating paint by 1633 and wrapped in plastic and duct taped by 1646.

The remainder of the trench was filled with the 8" HDPE pipe leaving off at 350 feet from the connection point to the 18" header by 1703. The 4" force main line was placed in the trench with a preinstalled tee and stub up for EW-56 by 1721 and the 2" HDPE pipe for the compressed air line was installed in the trench by 1741.

Backfilling of the trench began at 1752. The 2" and 4" HDPE tees and stub ups for EW-56 were installed from 1758 to 1820. Once the stub ups where complete the trench was backfilled to near the location of EW-14R by approximately 1920.

Shaw cleaned up and left the job site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/16/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (62 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
81 F	62 F	Overcast	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Osman	Operator/Technician	CAT 299C Skid Steer Loader
Marvin	Operator/Technician	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0650 and had completed safety meeting by 0730.

No work was performed on 2/15/12 (Wednesday) as Shaw was in Jacksonville for training all day. Ken's new and old job trailers were removed from the site on Wednesday.

Shaw began fusing together fittings and piping that would be used in today's installation at 0740.

Loads of fill material were loaded and then placed at strategic locations near the backfilled area of the trench for the western 8" sub-header starting at 0745 completing at approximately 0830.

Trenching for the 8" sub-header line began again near the location of EW-14R at 0847. Excavation for the trench was place on hold at 0952, as Evan had to take a conference call. Trenching restarted at 1108 after Evan had completed the conference call.

The 2" compressed air line valve and the 4" force main ball vale and check valve for the connection point for the western 8" sub-header to the 18" southern header line were installed starting 1007. The 4" force main ball valve and check valve were installed by 1048 and the 2" compressed air line ball valve was installed by 1109.

The 4" force main stub up for EW-56 was raised up approximately 2 ft and the 2" compressed air line stub up for EW-56 was butt capped between 1124 and 1147.

Shaw broke for lunch at 1215 and returned at approximately 1300.

The tee for the vacuum riser for EW-14R and the riser itself, located 3+28 from the start of the 8" sub-header on the south side of the north cell, was installed by 1331. Shaw pinched a jumper above ground compressed air line in order to lay the HDPE pipes for the 8" sub-header line. The line was repaired where it was cut and unpinched, returning it to its previous working state. The 2" compressed air line and the 4" force main line risers for EW-14R where installed by 1431.

The CMP for the permanent road crossing was bolted together, two 20 ft sections, at 1424. This CMP was then set in place of the location of the permanent road crossing and the 2", 4" and 8" HDPE pipes were run through it by 1524. The section of the 8" HDPE pipe that runs thought the CMP is from 4+68 to 5+08.

The risers with flanges on them for the 2" compressed air line, the 4" force main line, and the 8" vacuum line for AP-14 were installed by 1553. AP-14 is located at 5+65 from the point where the 8" sub-header ties into the 18" southern header line. At 5+71 an 8" flange was installed and at 5+73 an 8" to 6" reducer was installed. The flange bolts for the 8" flange were coated with truck under coating paint, wrapped in plastic and duct taped by 1647.

The County hauled approximately 20-25 loads of fill material to the top deck of the landfill for Shaw to be able to make a windrow to place the 8"/6" sub-header on as a way to protect it from direct contact with sharp the garbage and to aid in gaining grade on the top deck of the landfill. Shaw then spread these loads into a windrow approximately the width of the Deere Dozer's blade to place the header on this was all performed before 1600.

The second CMP for the temporary road crossing was assembled by 1606. Dan McCormick was contacted to establish a placement for the CMP that would be the most beneficial for the County. As Shaw attempted to slide the lines for the sub-header through the CMP, it came unbolted and separated. The HDPE pipes were still passed through the CMP and completely through the CMP by 1625. The CMP was reassembled and placed in the location that would best suit the county by 1718. The temporary CMP protects the sections of HDPE pipe at 6+34 to 6+74. The three HDPE lines were further extended to the 7+30 where the tie in location for EW-71 will connect; the tees for this tie in were completed by 1756. The tees that were completed by this time were for the 2" compressed air line, the 4" force main line, and the 6" vacuum line. The 6" vacuum line was reduced to 4" approximately a foot after the 6" tee. The flanges for the center of the 6"/8" sub-header where installed beginning 1800. The southern grouping of flanges, one for each of the three respective lines of 2", 4" and 6" HDPE were completed by 1816. And the northern flange grouping was completed by 1842. The grading of the top deck 6"/8" sub-header was checked with a sight glass and a story pole. Areas closer to the toe of the top deck slope measured as much as 5.5% while areas near the crown of the top deck have slope as low at 0.76% at the high point. The average overall slope from 5+25 to 8+31 is approximately 3%.

Manicuring of the site that was backfilled on the previous day and the backfilling of the trenching done today to the toe of the top deck slope began at 1702. The backfilling of the side slopes reached the toe of the top deck by 1758.

Shaw cleaned up and left the job site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/17/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	Light rain on and of
70 F	61 F	Overcast/Foggy	Overcast	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Osman	Operator/Technician	CAT 299C Skid Steer Loader
Marvin	Operator/Technician	Kubuta RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0650 and had completed safety meeting by 0725.

Shaw began the day by fueling their equipment and cutting all thread that had been purchased earlier.

Began bolting together the flanges of the 6" sub-header line, 4" force main line, and the 2" compressed air lines near the crown of the top deck at 0804. The flanges were bolted together with all thread and nuts, coated with truck under coating paint, wrapped in plastic and duct taped by 0834. Shaw moved north next and began assembling the risers for EW-16R at 0839. The risers for the 2" compressed air line, the 4" force main, and a 4" vacuum riser that had been reduced after the tee from 6" where installed by 0934. The risers for EW-17R were completed by 1034 again the 2" compressed air line, the 4" force main and a 4" vacuum riser reduced down from the 6" sub-header pipe. An 8" to 6" reducer and the 8" flange that will connect the 8" line already connected to the 16" header line on the north side were also installed by this time as well. EW-16R risers are located at 08+75 from the start of the connection to the 18" header, EW-17R's risers are at 10+91 and the 6" by 8" reducer is at 10+97 with the 8" flange blinded a foot a way 10+98. The grade was check over the span of 08+31 to 10+98, and it ranged from as low as 1.8% near the crown of the top deck to as much as 5.22% towards the toe of the slope. Averaging the grade over that distance provides a 2.4%.

Evan began loading and transporting loads of soil with the excavator and dump truck to allow the other members of Shaw to work on the 6"/8" sub-header on the top deck of the North Cell. He did this, hauling numerous loads between approximately 0830 and 1230. The county also provided several loads of soil from the adjusting of the new expansion cell to the east of the current cell.

The stub up for the remote that will be installed for EW-71 was installed by 1120. Again reduced down to 4" from 6".

Manicuring of the site of the previous day's backfilling, from EW-14R to the toe of the top deck was performed from 1118 to 1221.

Shaw loaded some of there tools and equipment into the job trailer and covered a few pieces of equipment with tarps incase it happened to rain during the lunch break. They then broke for lunch at 1245 and returned at 1345.

The gaskets for the 24" flanges that were installed on LCRS-1 and LCRS-4 arrived and were installed by 1352.

Shaw began pushing soil on the 6"/8" sub-header at 1422 with the Dozer. Evan returned to shuttling loads of soil from the stock pile area to the top deck to cover the sub-header at 1405. Shaw stopped dozing the soil on top of the sub-header at 1729.

Marvin and Osman began greasing the equipment at 1508.

Shaw separated with one group leaving at 1815 and another group leaving 30 minutes later after cleaning up and completing the greasing of the equipment.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/20/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (52 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
64 F	52 F	Overcast/Partly Cloudy	Partly cloudy/ sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Osman	Operator/Technician	CAT 299C Skid Steer Loader
Marvin	Operator/Technician	Kubuta RTV 900
Kenny Wilson	Foreman	Chevy Silverado 2500 HD (x2)
Ashley	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0655 and had completed safety meeting by 0733.

Excavation of the northern side of the western 8" sub-header line was returned to at 0758 near CP-6 and heading south up the slope of the North cell.

Shaw began fabricating risers for AP-15 and EW-10R at 0814. By 0948 Osman and Mike Parker had begun assembling the section of 8" HPDE pipe that was installed today. Beginning at 1024, with trenching partially completed, the 2" compressed air line, the 4" force main line, and the 8" vacuum lines were placed in the trench. The risers to allow connection for EW-10R were installed beginning 1044. The 2" compressed air line riser was completed by 1058. The 4" force main and a reduced 4" vacuum line were also installed by 1117.

Trenching for the 8" sub-header line was returned to at 1120 after the install of the risers at EW-10R was completed. Trenching reached the toe of the top deck by 1148.

Shaw broke for lunch at 1152 and returned at 1246.

Trenching was returned to at 1301 and was completed shortly after at 1334.

The 8" HPDE vacuum line pipe was placed in the trench by 1336. The 4" HPDE pipe for the force main line was placed in the trench by 1353. The 8" tee and stub up for the access riser AP-15 was installed by 1436. The 2" and 4" tees and stub ups for the compressed air line and the force main line at AP-15 were installed with flanges by 1557 and 1534. The 8" flange was installed in the new section of 8" HPDE pipe that was fused together by 1452. The flanges on the two sections of the 8" sub-header met at 1514 at the approximate location of EW-17R and they were then begun being bolted together. The all thread and nuts were torque down completely by 1522, the thread and nuts were then coated in truck undercoat protective spray paint by 1523. By 1526 the flanges were wrapped in plastic and duct taped to finalize the connection of the flanges. This connected the 16" northern header and the 18" southern header for vacuum. The 2" compressed air lines and the 4" force main lines were fused together by 1613 completing the span of those respective lines from the north to the south header lines.

The 8" vacuum line and the 2" compressed air line were pulled through a 31ft piece of 16" HDPE SDR 17 pipe to act as a protective casing to provide an additional road crossing for the county on the Northern area of the top deck. The 4" force main line would not fit inside the 16" HPDE with the other lines, thus it was run in its own 8" HDPE SDR 11 piece of pipe to protect it. Both of the pieces of pipe that were used to protect the newly installed lines came from the County's existing supply of materials, or the bone yard. This was done at no additional cost to the County as the materials were already onsite and owned by the County. This road crossing is between 11+05 to 11+36 from the start of the 8" sub-header tie in to the 18" header on the southern side of the North Cell of the landfill.

Section of the 8" sub-header was check for grade between 11+00 and 11+50 and proved to greatly exceed the requested grade percentage.

	Kenny and Ashley began loading and hauling soil/backfill to the top deck and northern slope of the North cell at approximately 1545 to aid in the backfilling of the trench for the 8” header line, add to the soil placed on the sub-header to maintain its location. David utilized the Deere Dozer to use these soils to backfill and protect the top deck section of the 6”/8” sub-header line starting 1620. The backfilling and manicuring was completed for the day at 1758.
	Shaw cleaned up and left the job site at 1815.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/21/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (47 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
73 F	47 F	Partly Cloudy	Partly cloudy/ sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0650 and had completed safety meeting by 0730.

The tie in for EW-71 began at 0804 by removing soil that was stockpiled between the 6"/8" sub-header and EW-17. This well was originally proposed to be a lateral connection but due to the time constraints when the County believed they would have waste fill in the area of EW-71 I was decided to be changed to a remote connection allowing the well connection to be made now instead of several weeks later. The excavation for the trench that would hold the pipe was begun at 0826. Trenching reached the area of EW-71 by 0944, the area near the well was excavated to allow to get the fusion machine in the hole to fuse to the well head. The excavation was complete by approximately 0955. The top bentonite seal was completely removed during excavation. The bottom remained in place but came in contact with the excavator's bucket. The 2" air line, the 4" forcemain line, and the 4" vacuum line were placed in the trench by 1023.The risers for the well head, forcemain and vacuum line were fused together and ready to be installed by 1043. These risers were installed by 1208 in their respective lines. Air testing was performed on the vacuum line for EW-71.

The vacuum line for EW-71 was air tested at 10.1 psi at 70F from 1116 to 1217 at 72F and 10.3 psi, passing the requirements for the air test

Shaw loaded up backfill and transported to the top deck for use on the road crossing, 8"/6" header and the backfilling the trench for EW-71's tie in. The loading and transport of the soil was from 1125 to 1220.

Shaw broke for lunch at 1220 and returned at 1310.

Measurements for the tie in to EW-71 were taken at 1327. The well casing was cut and the 6" tee, riser and flange and the 4" SDR 11 vacuum line was installed by 1416. Shaw remarked that the temperature of the gas coming out of the well was extremely hot. The gas from the well was steaming when the ambient temperature is in the 70's, Fahrenheit. The length of pipe placed in the trench from EW-71 up to where the stub up for the remote well head near the 6" section of the western sub-header was 147 ft. This is the length of 2" compressed air line, 4" SDR 9 force main line, and 4" SDR 11 vacuum line that was run. A 6" blind flange, 6" tee and a 6" by 4" reducer was also utilized in the connection to EW-71.

Back filling of the trench for EW-71 was started at 1425 with the excavator. Backfilling was placed on hold till the upper bentonite seal that was removed during excavation was replaced. The bentonite was brought up and placed in around well head of EW-71 at approximately 1530. The bentonite was then hydrated partially, but could not be completely hydrated till the surrounding area was backfilled to force the water into the bentonite. The bentonite seal was completed after being properly hydrated at 1834.

Shaw returned to dozing the northern road crossing at 1430 until 1455 and then again starting at 1535 working on the northern road crossing and the northern slope of the North cell where the 8" sub-header had been installed the previous day. This turned to backfilling and soil mounding for the tie in to EW-71 at 1727 and was completed for the evening at 1850.

Began fusing together sections for the eastern 8" sub-header line at 1720.

Shaw cleaned up and left the job site at 1915.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/22/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (57 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	0.25”
81F	57 F	Partly Cloudy	Partly cloudy/sunny/overcast and rain later	

Contractor’s Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0655 and had completed safety meeting by 0730.

Easter 8” header began trenching at 0752 where the header had previously left off at the flange on the 8” butterfly valve in the stub out from the connection to the 18” header line. Shaw separated the jumpers between EW-57 and LCR-1R at 0827 to allow trenching to pass through the area where the jumper crossed. LCR-2R well head was removed and the well was capped at 0857 to allow for passage through the area while trenching. Trenching reached the first terrace/bench by 0939. Trenching was stopped at approximately 1130.

Shaw installed the Y’s for the laterals that would run from the 8” sub-header to wells EW-55, EW-57, and EW-25 from 0749 to 0859 in a section of 8” HDPE pipe before it would be installed in the trench. The 8” flange was installed on the previously mentioned section by 0942. The section of fused together pipe with the wyes and the flange was placed in the trench from 1019 to 1029 when the flange on the 8” sub-header section met the flange on the 8“ butterfly valve. The flanges for the 8” butterfly valve were torque down by 1110. The wye that will lead to EW-55 is located 0+82 from the 8” butterfly valve, the wye that will feed EW-57 and EW-25 is located 0+97 from the 8” butterfly valve in the 8” sub-header line. The 2” HPDE pipe for the compressed air line and the 4” SDR 9 HDPE pipe for the force main was placed in the partially excavated trench for the 8” sub-header line by 1116. The stub ups that will eventually become the 2” and 4” ball valve locations were installed from 1117 to approximately 1130. The orientation of the HDPE pipes is that the 4” forcemain line is on the west of the trench, the 8” vacuum sub-header is in the center of the trench and the 2” compressed air line is on the east side of the trench. The length of 8” HDPE pipe laid in the trench for the vacuum sub-header line was 295.5 ft.

Shaw broke for lunch at 1145 and returned at approximately 1250.

Trenching for the 8” sub-header line was returned to at 1305. Trenching reached second terrace/bench by approximately 1400 and was stopped there for the day.

The all thread and nuts for the 8” butterfly valve in the 8” sub-header line was coated with truck under coating paint, wrapped in plastic and duct taped by 1312.

David and Ashley began loading and transporting dirt form the stock pile area to the site of the trench for the 8” eastern sub-header starting at 1407. Shaw began backfilling at 1414 on the 8” sub-header trench with the 2”, 4” and 8” HDPE lines in the trench.

The tees for the 2” compressed air line and the 4” force main line were installed at the lower of the wyes in the 8” sub-header line that will connect to EW-55 from 1409 to approximately 1445. The second set of stub outs and tees, 2” compressed air line and 4” force main line, for the wye that will connect both EW-57 and EW-25 were installed from approximately 1450 to 1546. Both the 2” compressed air line and the 4” force main line pass under the 8” sub-header line due to the way that the piping is in the trench and the construction of the wyes.

Very light rain was present at 1641. Light rain started at 1702, this transitioned into medium rain at 1720 and finally turned to heavy rain at 1728 with lightning present. Shaw placed berms around the trench that had been excavated for the 8” sub-header line and then covered their equipment and left the job site at approximately 1745 due to the rain event.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/23/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (70 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
82 F	66 F	Overcast	Partly Cloudy/Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710.

Shaw began the day by fueling their equipment.

David and Ashley were sent to load and transport dirt from the County's stock pile area and bring it to the site of the trench for the 8" sub-header line at 0722. David retuned with Ashley on the first load at 1745, as the County is loading the Shaw off-road dump truck.

Backfilling of the 8" sub-header trench was returned to at 0726. Dozing and manicuring of the site started up shortly after at 0749 after David returned from the stockpile area. Backfilling was stopped at approximately 0845.

Marvin and Mike began cutting and grinding all thread at 0749

Shaw fabricated two 4" SDR 11 forty-fives for use with the laterals that are connected via wyes to the 8" sub-header line. These forty-fives were fabricated from 0839 to 0926.

Trenching for the 8" sub-header line was returned to where it had been left off on the previous day at approximately 300 ft North up the slope of the North cell from the location of the southern 18" header line at 0945. Trenching reached the toe of the top deck by 1154.

Shaw fused additional HDPE pipe on to the respective 2", 4" and 8" that was already in the trench for the sub-header from 1029 to 1102. The additional HDPE pipe was place in the partially excavated trench by 1107.

Shaw broke for lunch at 1200 and returned at 1255.

Shaw returned to excavation for the 8" sub-header line at 1301. Trenching was stopped just North of the location of where AP-13 would be placed at 1317.

The stub up and flanged for the 8" vacuum line at AP-13 was installed by 1403. An 8" flange and an 8" by 6" reducer where installed in the 8" sub-header line by 1436.

Shaw began bolting together CMP for the permanent road crossing at 1443. The 2" compressed air line, 4" force main line and the 6" vacuum line were threaded through the CMP for the permanent road crossing at 1456. The flanges on the 8"/6" sub-header line were completely attached and the all thread and nuts were torqued down. Then the all thread and bolts were coated with truck under coating protective paint, wrapped in plastic and duck taped by 1511. The CMP was located 45 ft East of the proposed area because the new wells that were installed during this project had been adjusted in the field due to difficulties drilling. The placement of the CMP was completed by 1520. The CMP for the temporary road crossing was bolted together by 1358. The CMP for the temporary road crossing was set in place by 1616.

	The 6” tee and 6” by 4” reducer was installed at the location of EW-23A’s tie in point to the eastern 6”/8” sub-header line by 1641. The 2” compressed air line and the 4” force main line had their respective tees and sub-us installed by 1641. The location of the tie in for EW-23A is 6+03 from the 8” butterfly valve that is stubbed off of the southern 18” header line.
	The access point AP-13 is located 4+67 from the 8” butterfly valve that stubs out from the southern 18” header line. The 8” by 8” flange connection is at location 4+73 and the 8”/6” reducer is located at 4+74. The permanent road crossing CMP starts at 4+87 and ends 5+27. The temporary road crossings CMP starts at 6+44 and ends at 6+84.
	Shaw began loading and transporting loads of soil to the side slope for backfill and slight grade for the sub-header on the top deck from 1706.
	Backfilling returned to the southern slope of the North cell at 1523 with the Dozer. This was completed by approximately 1800.
	A 2” air line was damaged while tracking the excavator across the top deck of the landfill. This was repaired by 1934 and the line was repressurized.
	Shaw cleaned up, placed a silt fence around a pile of soil near laterals on the southern slope of the North cell and tarped the excavated areas for the stub outs for the laterals that will connect EW-55, EW-57, and EW-25.
	Shaw left the site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/24/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (65 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
84 F	57 F	Partly Cloudy	Partly cloudy/windy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

The grade for the section of the top deck sub-header on the southern side was measured and averages out to 3.24% grade.

Kenny began loading and hauling dirt to the top deck of the North cell for use in sub-header bedding grading and to be used in backfilling and holding the HDPE pipes in place on the top deck from 0811 to approximately 1100.

Shaw graded out additional fill materials for the 6"/8" sub-header line to lie on and have a greater grade than what had been established previously. This was done from approximately 0815 to 0914.

County staff raised up wells EW-22A and EW-23A to allow the wells to be connected to the new sub-header line as the grading that had been done to the site placed the wells lower than optimal for optimal condensate control. EW-22A was worked on from 0914 to 0956, and EW-23A was raised from 1013 to 1107.

Shaw placed soil and dozed it out to create the permanent road crossing in the eastern 6"/8" sub-header line from 0914 to 1026.

Shaw worked on creating the fittings and fusing sections of pipe from 0816 to 1105.

The grading for the 6"/8" sub-header was competed and the 6" HDPE pipe for the vacuum line was placed on the windrow by 1136. The 2" compressed air line and the 4" force main followed shortly afterwards.

The CMP for the temporary road crossing was adjusted as the piping inside of it became entangled when moving the CMP for additional grading. The CMP was placed back in the location of the temporary road crossing by 1150 between the locations of EW-22A and EW-23A. The new adjusted location of the CMP for the temporary road crossing is at 6+65 to 7+05.

Shaw broke for lunch at 1200 and returned at 1255.

Shaw began installing the stub ups for EW-22A and the flanges that are approximately 20 ft North of EW-22A in the 6" section of the eastern sub-header at 1319. The 6" flange was bolted together with all thread and bolts and torque down by 1402. The all thread and nuts were covered with protective pain then wrapped in plastic and duct taped by 1405. The 2" flange was bolted together with all thread and nuts, painted with protective paint and wrapped in plastic and taped by 1412. The 4" flange was connected with all thread and bolts and torque down by 1418. The flange all thread was coated in protective paint by 1420 and then wrapped in plastic and duct taped by 1421, completing the flange installations in the 6" section of the sub-header line. These flanges are located at 7+71 from the 8" butterfly valve that connects to the 18" southern header. The stub ups were installed by approximately 1345 and are located at 7+93 from 8" butterfly valve that connects to the 18" header

The stub ups for the connection to EW-21A were begun at 1435 and were installed in their respective lines by 1703. Additional 2", 4" and 6" HDPE pipes were installed after the tees for the stub ups. The vacuum line also had a 6"/8" reducer as well as an 8" flange with a blind installed. This was the location that Shaw would continue on the next working day. This location is 10+72 from the 8" butterfly valve that connects to the 18" southern header line.

	Shaw placed excavator bucket loads of soil on top of the HDPE pipes that had been laid across the top deck of the landfill for the 6”/8” sub-header line as well as the 2” compressed air line and the 4” force main line to hold the pipes in place. This is done as the top deck of the North cell will receive more waste a future date and will allow for easy of adjustment of the sub-header. This was done from 1554 to approximately 1620.
	Shaw began constructing the temporary road crossing that is between EW-22A and EW-23A at approximately 1630 by transporting fill material to the site of the road crossing and dozing the fill. Shaw stopped work on the road crossing as day light was running out at 1847.
	Shaw cleaned up and left the site at 1930

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/28/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (63 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
79 F	63 F	Overcast/Foggy	Partly cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0740.

Previous day, Monday the 27th, was a rain day receiving 0.28" of rain. The day before that, Sunday the 26th, received 0.81" of rain. This led to a very wet site.

Shaw began hauling loads of fill material to the top deck and the northern slope at 0805 that would be later used for backfill on the sub-header line after it was placed. The transporting of the backfill continued till 0920, with six loads transported in the off-road dump truck.

Shaw began fusing sections of 8" pipe together for the continuation of the 8" sub-header line on the northern slope as well as fusing and installing fittings beginning at 0756.

Trenching returned to the North slope of the North cell at 0938 for the continuation of the eastern 8" sub header line. The line had previously been finished up to a flange on the top deck just before the location of AP-12 as well as 75 ft of pipe had been run from CP-7. Trenching reached the location of EW-20 by 1117. The trench crossed the toe of the top deck at 1218 and the trench for the 8" sub-header line was stopped at 1226.

Shaw broke for lunch at approximately 1230 and returned at 1321.

Pipe for the 4" force main line was placed in the trench by 1341. The tees and risers for EW-19 were begun at 1353. By 1455 the tees and risers for the 2" compressed air line, the 4" force main, and the 4" vacuum line were installed. The tee, reducers, and riser for the vacuum line at EW-20 were installed in the 8" HDPE pipe from 1509 to 1552. The 2" compressed air line and 4" forcemain tees and risers were installed from 1547 to 1625 for EW-20. A section of 8" HDPE pipe including the riser for EW-20 and AP-12 was fused to the 8" HDPE pipe already in the trench by 1635 and placed in the trench by 1650. The 8" flanges in the 8" sub-header line near AP-12 met at 1315 and were started being bolted together. The bolts were torqued down by 1735. The all thread and nuts holding the two 8" flanges in the 8" sub-header line near AP-12 were coated in protective paint, wrapped in plastic and duct taped by 1736. The 2" compressed air line and 4" force main risers for AP-12 were installed by 1756. The eastern sub-header line connected the 16" and 18" headers by 1817. The risers for EW-19 are located 0+88 from the 16" northern header line. EW-20's risers are located at 2+57. AP-12 is located at 3+70 from the 16" northern header and the 8" flange is located two feet away at 3+72. This is where the run from the 18" southern header reaches its flange at 10+72.

Shaw again returned to loading and transporting fill material to the site of the 8" sub-header line trench, starting at 1506 and ending at 1838.

Backfilling on the trench for the 8" sub-header began at 1805 with the excavator. The dozer was added to the backfilling process at 1848. Backfilling was stopped for the evening at 1931.

Shaw cleaned up and left the site at 2000.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 02/29/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
82 F	64 F	Overcast/Foggy		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Shaw removed the tarp that had been placed on the area near CP-8 and CS-5 by 0812 to begin the connection of the new 16" header line by abandonment of the 16" tee that stubs out to 10" and removal of the 16" access riser and abandonment of the 12" sub-header line near valve V-5. The dozer was used to cut a path for the traversing the slope and partial excavation of CS-5 and the 16" access riser near by it starting at 0825. The excavator began exploratory excavation around the site of CS-5 at 0843.

A section of 2" force main that was stubbed up near CS-5 was struck with the excavator at approximately 0915 while excavating around the sump CS-5. The stub up was pinched with the HDPE crimping tool until time which the force main could be repaired.

Received a call from County staff at approximately 1100 to stop work on 16" header cut in as Fortistar could not shut down landfill gas collection system at that time.

Began excavation to place HC-4A out of way of the excavator while excavating on the side of the North slope. During this excavation Shaw came in contact with a 6" line, that ties HC-1A, HC-2A, HC-3A and HC-7A together to the gas collection system, kinking it. This section was removed as further excavation occurred to uncover the horizontal well heads that will be connected to the new 16" header at a later date. HC-4A was placed in the trench dug for it by 1129 and was partially backfilled.

Shaw broke for lunch at 1215 and returned at approximately 1320.

Returned to uncovering the horizontal wells and the area near CS-5 at 1331. Horizontal wells HC-1A through HC-3A were uncovered and checked for gas presence by 1723. Manicuring of site with dozer and excavator was complete by 1854.

Shaw members went to install butt caps on risers that had only been installed on the 8" sub-header line the previous day at approximately 1335. This was completed by approximately 1730.

Shaw cleaned up and left the site at 1915.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/01/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
86 F	65 F	Overcast/Foggy	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Shaw broke into two teams to start in the morning. One team went to excavate the trench for the lateral from the eastern 8" sub-header line to EW-55. The second team worked on making sure all the flanges, butt caps, and bolts were correctly installed in the western sub-header before it could be air tested later in the day.

Began checking, adjusting, and completion of flanges and butt caps on the 8"western sub-header line at 0739.

The trench boxes were moved to the North side of the North cell utilizing the excavator and the off road dump truck.

Trenching for later from eastern 8" sub-header to EW-55 began at 0836 by first removing silt fence that was in the path of the trench. A section of the rock berm for the toe drain on the southern slope was also moved from 0836 to 0855. Actual trenching began at 0857. Trenching reached EW-55 by 1111.

County staff raised the well casing on EW-15 from 1034.

Shaw began loading and transporting of backfill material at approximately 1130 for areas that needed on the northern slope from the previous work done with the 8" sub-headers.

The 4" forcemain line that runs parallel with the western 8" sub-header line was air tested at 100 psi from 1225 to 1330 and passed the air test.

Shaw broke for lunch at 1335 and returned at 1445.

Returned to loading and hauling the backfill material from the County's stock pile at 1450 and continued till 1630, transporting 8 loads. Evan began dozing the northern slope to manicure the sites of the previous day's installation with the soil that had been transporter earlier in the day till approximately 1725.

Began fusing together sections of pipe for the lateral to EW-55 at approximately 1500, the 2", 4" vacuum and 4" force main lines were placed in the trench by 1558. The lines were completely installed by 1703 and backfilling began at 1713. From the wye in the 8" eastern sub-header line to the stub ups for the connections at the well head of EW-55 there was 193ft of 2", 4" SDR11 and 4" SDR9 HPDE pipe that was installed.

Shaw cleaned up and left the job site at 2015.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/02/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
86 F	63 F	Overcast/Foggy Early Sunny Late		

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wislon	Foreman	Kubuta RTV 900
Ashely	Operator/Technician	Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0735.

Uncovered 8" butterfly valve in the western 8" sub-header line near the 18" header at 0806. The nuts and all thread were removed by 0819 to check valve seals. The valve was removed from line and cleaned, inspected, and reinstalled in the 8" sub-header line by 0948. The protective paint coating and plastic wrapping will be applied after pressure test assures that valve is performing correctly.

The 2" compressed air line for the western 8" sub-header line from 2" ball valve flange that connects to the 18" southern header line to location of the 2" ball valve at CP-6 and CP-8 was performed from 0903 to 1014 at 100psi. No loss in pressure was apparent at the end of the test. This section passes pressure test.

Shaw worked on the 8" western sub-header in an attempt to air test but could not be performed due to valving issues.

Shaw returned to loading and hauling backfill for sections of the 8" eastern sub-header that had been installed previously and will be installed in the future starting at 1059. Stopping at approximately 1300.

Shaw installed 6" flanges on each of the four southern condenstates sumps as they were not installed from the factory. The 6" flange for CS-18 was installed by 1201. The 6" flange for CS-17 was installed by 1227.

Shaw broke for lunch at 1325 and returned at approximately 1430.

The 6" flange for CS-16 was installed by 1457. The 6" flange for CS-15 was installed from 1515 to 1536.

Shaw again returned to transporting backfill to the site of the 8" easter sub-header line at approximately 1545 for additional backfill for the install done for the lateral to EW-55 and to stockpile backfill at silt fenced areas near the lateral for EW-25 and EW-57. This task was ended at 1830.

An air test for the section of 4" force main that runs from CP-1 to the termination of the line run with the 18" header line was run for an hour starting at 1637. This test was run at 25 psi and was completed at 1738 with 25psi still present in the line, providing that the line passed the air test.

An air test for the 2" compressed air line section from CP-1 to the termination of the line at the end of the 18" header line run was completed from 1646 to 1747 with the line maintaining the pressure of 100 psi over the duration. No leaks were present and this secition passed the air test.

The flange bolts around the top flanges of CS-15 through CS-18 were tightened before air testing would commence from 1730 to 1810.

The 2" and 4" ball valves for the lines that run with the 8" western sub-header line that were disassembled to allow air testing of the western 8" sub-header line were reassembled by 1849.

	Manicuring of the site of the lateral install from the 8” eastern sub-header line to EW-55 began at approximately 1845 utlizing the Deere dozer.
	Shaw cleaned up and left the site at 2015.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/05/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (38 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
75 F	38 F	Foggy/Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
Sam	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Trenching for the lateral to EW-57 and EW-25 began at 0735 from the eastern 8" sub-header at the northern most wye. Trenching reached the area of EW-57 by 0804. Trenching reached the location of E-25 by 1024 and trenching was completed by 1028.

Shaw began draining the condensate sumps of any liquid that may reside in them after installation at approximately 0740.

Additional supplies arrived at the site at approximately 0745.

The southern 8" butterfly valve from the western 8" sub-header was removed starting 0852, being completely separated from the 8" sub-header line at approximately 0900.

The western 8" sub-header line from flange of the 8" butterfly valve at the connection to the 18" southern header to the 8" butterfly valve at the connection to the 16" northern header line was air tested from 1039 to 1140 at 10 psi. This section of the landfill gas section passed within the required spec.

Shaw began assembling the lines that would run from the 8" eastern sub-header line to wells EW-57 and EW-25 at 1030. These sections were being fabricated with the risers for both wells already installed.

Shaw broke for lunch at 1250 and returned at approximately 1400.

Shaw checked all the flanges on the 18" southern header line to make sure they were completely bolted down and sealed as the air test run before lunch on the 18" southern header line did not me spec. The adjustments to the flanges were started at 1420 and were completed by approximately 1530.

Shaw uncoiled three coils of 2" SDR 9 HDPE pipe from 1415 to approximately 1500 for a total of 1500 ft of pipe.

The 18" southern header was run through an air test for an hour, the second attempt on the day, from 1531 to 1633. This time the 18" header passed the air test.

The 2" compressed air, 4" force main, and 6" vacuum lines were completed/assembled by approximately 1600. These sections were then placed in the trench leading to EW-57 and EW-25 by 1613. The 6"/8" reducer was installed at 0+05; the stub ups for EW-57 and EW-25 are at 0+72 and 2+37, respectively. The way that these lines are laid in the trench is as follows. The 4" force main is placed on the top or Northwest side of the trench, the 6" vacuum line is in the middle of the trench, and the 2" compressed air line is installed on the bottom or southeast side of the trench. Backfilling of the trench for the lateral to EW-57 and EW-25 began at 1704, using the excavator, at 1758 the excavator was swapped for the dozer.

Began fusing together sections of 4" pipe that had arrived today in shipment for later use in the install with the 16" header extension.

	Shaw worked on repairing the silt fence on the northern slope of the North cell from 1721 to 1730.
	Shaw cleaned up and left the job site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/06/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
72 F	64 F	Sunny/Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Returned to manicuring/backfilling the site of tie-ins to EW-25, EW-55, and EW-57 at approximately 0730 utilizing the Deere dozer. The jumper lines that were running through this area were temporarily disconnected to facilitate this manicuring of the site. Manicuring was complete by 0855.

Returned to the 16" connection point at CP-8 at 0846. The excavation and abandonment at this site had begun the previous week but was stopped after Fortistar stated that they could not shut down as previously scheduled do to contractual obligations. Excavation around the 16" riser coming out of the 16" header line and the condensate sump CS-5 uncovered failure of extrusion welds in the flange attachment point in condensate sump CS-5. Condensate had been leaking from this failure as well as allowing in sand to create a slurry that Fortistar employees have been battling for some time. Further excavation uncovered a 6" vacuum line that extracted gas from the seven horizontal gas wells was tied into the 16" riser near CS-5 underneath the tie in for the 12" sub-header line that ran South over the North Cell. This 12" line was abandoned in place with a blind flange installed at the location of valve V-5. The 12" valve and the section of 12" HDPE pipe that was connected to the 16" access riser was removed by 1035. The 6" line that tied to the horizontal collectors was removed completely with along with the 16" access riser that was attached to the 16" northern header line. This 6" line also had a tee that fed a 6" line into the landfill, the line was cut, slipped capped and the cap was screwed in place to abandon it by 1357. Previous plans for expansion had left a tee and a stub out in the 16" header line that was approximately 15ft west of CP-8. This tee reduced to an 8" sub and terminated approximately 6 ft into the waste. This tee and stub out were removed to facilitate regarding of the 16" header line that had been started on a previous day. The 16" header was cut into first at 1110 and condensate was allowed to drain into the waste till approximately 1125. Another cut into the 16" header was performed at 1126 approximately 1ft west of CS-5 to allow for further drainage of condensate. The section including the 16" access riser that was the tie in point for the 12" sub-header line and the 6" vacuum line for the horizontals, and the stub out that reduced to 8" was removed by 1056. The 2" air line that was run with the stub out for future expansion was abandoned as well as the, 2" force main that connected sump CS-5 to the near by leachate clean out.

The 16" flange was installed on the existing 16" header line starting at 1219 when the 18" fusing machine was placed into the trench. The 16" flange back and backup ring were installed on the 16" header line by 1237. The stainless steel temporary flange was installed by 1246 with all the nuts and all-thread torqued down.

Upon further excavation for the removal of the condensate sump CS-5 it was discovered the 8" sub-header line that had been abandoned in place during another construction even was attached to CS-5 below the flange for the 16" header line. The 8" sub-header line was cut North of an 8" ball valve that was in the line and allowing the rest of the liquid in CS-5 to drain. Once CS-5 was drained it was removed it two sections as it broke in the first attempt to extract if from the ground. The condensate sump was removed by approximately 1300.

The 8" butterfly valve on the old abandoned line began removal at 1325 to be replaced with a blind flange. After loosing the nuts on the 8" flange liquid began to squirting from the flange seals. It was decided to let the liquid bleed off.

Shaw broke for lunch at 1410 and returned at approximately 1520.

	Returned to dealing with 8” butterfly valve at 1530. Several attempts were made to undo the nuts on the all thread of the flange loosing the flange more and allowing more liquid to pass by. The county was contacted to utilize the road and bridge vacuum truck to more quickly manage the liquid that was coming out the 8” line at approximately 1600. The 8” butterfly valve was removed by 1650 and the blind flange was installed by 1703.
	The county’s vacuum truck arrived onsite at approximately 1700. Liquid problem had been controlled by this time. The vacuum truck was used to evacuate some of the liquid in horizontal wells HC-1A, HC-2A, HC-4A and HC-5A from 1745 to 1950.
	Shaw cut out salvageable parts from the extracted sections of 16” header and CS-5 starting at 1740. The reusable parts were taking to the bone yard and the parts that were damaged were discarded. This was completed by 1850.
	Backfilling on the former area of CS-5 began at 1810 to bring the soil level back to the proper height to place the 16” header line on. The backfilling was completed by 1828.
	The area that had been excavated and would remain open for the installation of the 16” header on the following day was tarped by 1915.
	Shaw cleaned up and left the site at 1945. One Shaw employee stayed behind with county vacuum truck operators to finish extracting from horizontal collectors. Final Shaw employee left at 2015.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/07/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (67 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
72 F	64 F	Sunny/Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710.

Sod contractor on site.

Tarps were removed from work area from the previous day that included the former location of CS-5 and the location of CP-8 by 0752.

Trenching for the northern 16" header addition/extension began at 0758 at the location of CP-8.

The southern slope of the North cell was manicured from 0755 to 0854 utilizing the Deere dozer.

Three loads of gravel for the horizontal drip traps were delivered by 0820.

Prepping of the eastern 8" sub-header line for air test by welding but caps and adjusting flanges began at 0815.

The flange for the 16" northern header line was installed beginning at 0914. Shaw then continued to install tees in the 16" header line to have premade sections of header line to place in the trench.

Air tests for the 2" compressed air line and the 4" force main line that run in parallel with the 8" eastern sub-header line were performed from 1140 t0 1241 and 1150 to 1300 respectively. The 2" line was pressurized to 100 psi and the force main was pressurized to 25 psi. Both lines passed the air tests.

Trenching for the 16" northern header line extension reached the location of LCR-5 at approximately 1200. Shaw broke a way from the 16" line trench to further expose the 6" line that was feeding LCR-5. This exploratory excavation unearthed a hole in the 6" line that had been covered with soil and a 2" line that appeared to run parallel with the 6" line.

Shaw broke for lunch at 1240 and returned at 1350.

The investigation of the 6" line presumed to be LCRS-5 was returned to at 1400. Both the 6" and 2" lines were cut and slip capped and will be repaired after the 16" header is laid in place, this was completed by 1420. The 6" line that was tied into the riser that is assumed to be LCRS-5 was removed and the 6" line that heads to the west was abandoned in place using a 6" slip cap and three screws by 1425.

Returned to excavating for the trench for the 16" northern header line at 1428. Trenching reached the location of where the 16" line will begin its forty-five degree angel to head outside of waste/liner limits at 1504 and trenching stopped for the day.

The section of 16” HDPE pipe with six tees and a forty-five was completed by 1735. The prefabricated section of pipe was placed in the trench starting at 1746 and was completely in the trench by 1752. The flanges were placed closed to each other at 1758 and every other nut was loosened in the stainless steel blind flange that had been installed in the existing 16” header the previous day. The flanges met at 1807 and were begun being bolted together at 1810. All the nuts had been swapped so that the two flanges were bolted together by approximately 1825. The flanges were wrapped in plastic and duct taped by 1844. The header starts at 0+00 at the flange, goes to 0+61 for the first 16x4 tee that will be the connection point for HC-1A. The tee for the lateral to EW-70 was installed at 0+83. The tee for HC-4A was installed at 0+99. The tee for HC-2A and HC-5A was installed at 1+44. The tee for the lateral to EW-49 was installed at 1+61 and the tee for HC-3A and HC-6A was installed at 1+82. The forty-five fitting was installed at 1+87. The pipe was left off for the day at 1+90. The 16” header line was checked for grade at every 25 ft from the start point till the leave off point. All of these points met or exceeded the grade of 3%. The 2” and 4” lines were placed in the trench by 1840. Both the 2” compressed air line and the 4” force main line were installed on the South side of the 16” header line to keep these lines from having to cross the 16” header line. Backfilling started of the trench started at 1908. The tees and stubs for the 2” compressed air line and the 4” force main for the lateral that will tie in EW-70 were installed by 1920. The tees and stubs for the 2’” compressed air line and the 4” force main that would connect to EW-49 were installed by 1951. Backfilling of the trench was ended for the day at approximately 2030.

Shaw cleaned up and left the site at 2045.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/08/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (60 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
79 F	60 F	Sunny/Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x4)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Jean	Drilling Supervisor	
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Sod contractor on site for second day in a row. Placing sod on the southern slope of the North cell.

Tarps removed from the area of LCRS-5 by 0808. The 6" fusing machine was placed in the trench by 0821 to extend LCRS-5 out of waste and repair the damaged section of 6" HDPE that was found during exploratory excavation. A 40 ft section of 6" HPDE SDR 17 pipe was fused to the existing pipe for LCRS-5 starting at 0827 and being completed by 0841. The 6" pipe was slipped capped and will be butt capped later on. Backfilling of the LCRS-5 area was begun at 0857 and was completed by approximately 0915.

Excavation for the drip trap for HC-1A began at 0825. The excavation reached 13 ft below grade by 0855 and was stopped. T Shaw began fabricating the drip trap for HC-1A at 0905; the drip trap was fabricated by approximately 1045 for HC-1A. The drip trap was fused to HC-1A from 1058 to 1120. Gravel was placed from 1128 to 1205. Geo mat material placed over gravel by 1207 and soil place on top of that by 1211. Bentonite seal in place by 1215 and hydrated by 1451. Area was partially backfilled from 1457 to 1504.

Excavation at HC-4A to adjust the pipe to allow for install of the drip trap was performed from 0930 to 0940. The actual excavation for the drip trap was performed from 0948 to 1010 to an elevation of 13 ft below grade.

Surveyor onsite to record for as-builts at approximately 1100.

Drip trap for HC-4A was fabricated from 1123 to 1225. Drip trap for HC-4A was placed in the excavation for It by 1509 and fused to HC-4A by 1524. Gravel was placed in the excavation around the drip trap from 1539 to 1559. Geo mat material was placed by 1600 with soil on top of the geo material by 1602. Bentonite seal placed by 1605 and hydrated by 1705. Trench and excavation for the drip trap were backfilled.

Shaw broke for lunch at 1230 and returning at approximately 1400.

Trenching for the lateral that would connect EW-70 began at the 16" northern header at approximately 1630. Piping for HC-4A was struck during trenching at approximately 1700; HC-4A was repaired by 1813. The 2" compressed air line, 4" SDR 9 force main, 4" SDR 11 vacuum lines were placed in the trench by 1831. All three lines were fused to the tees at or near the 16" northern header line by 1843. The force main is on the west side of the trench and the air line is on the east side, with the vacuum line in the center. Backfilling began at 1851 on the trench for EW-10 and was stopped for the evening at 1905.

Shaw cleaned up and left the site at 1930.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/09/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (66 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	0.67”
82 F	64 F	Partly Cloudy/Overcast	Partly Cloudy/Overcast	Intermittent rain throughout the day. Sprinkle to heavy rain.

Contractor’s Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubuta RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x5)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Jean	Drilling Supervisor	
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0745.

Returned to building drip traps at 0802.

Returned to excavation for EW-70 at 0819 where had left off on the previous day. Trenching reached the location of EW-70 at 0845, the well stick up was struck while excavating near it. The excavation of the trench for EW-70 was completed at 0905. EW-70’s well casing was repaired by 0950. The stub ups and elbows for the 2” compressed air line, the 4” SDR 11 vacuum line, and the 4” SDR 9” force main were installed by 1032. The length of pipe run from the 16” northern header was 105ft to the elbows for the stub ups

Began adjustment and trenching for the placement of HC-5A and its drip trap at 0906.

Horizontal well pipe for HC-2A was extended from 1005 to 1045.

Shaw disposed of bad sections of pipe from what had been salvaged from the removal of CS-5 and abandonment of LCR-8 from approximately 1030 to 1045.

Backfilling of EW-17 began at 1040 and was paused at 1150, returned to again at 1103 and completed at 1122.

Began excavating section of HC-2A to allow to weld on more pipe to extend to the location of the drip trap near the new 16 header line. Began excavating the drip trap for HC-2A at 1054 paused at 1103 and returned to at 1110 completing the hole for the drip trap at 13.5 ft at 1128. The drip trap was placed in the hole by 1130. Gravel was installed from 1133 to 1145. Geo mats were placed on top of the gravel by 1400 and soil was placed on top of the geo mat by 1404. Eighteen bags of granular bentonite were used as a seal and were placed by 1404 and hydrated by 1421. The area was backfilled from 1520 to 1535.

Shaw broke for lunch at 1150 and returned at approximately 1300.

Fused together 6” HDPE pipe for the connection of HC-2A to the drip trap from 1327 to 1354.

Well HC-7A was videoed at approximately 1400 hours. Foam and liquid obscured the view of the camera after approximately 15 ft. No obstructions were found within 125 ft of the well head.

The excavation for HC-5A’s drip trap was complete by 1434. The drip trap was placed in the excavation by 1439; the drip trap was then fused to HC-5A from 1443 to 1456. Gravel was placed in the excavation around the drip trap from 1500 to 1508. Geo mat material was placed by 1510 and soil on top of the geo mat by 1512. Bentonite seal was placed by 1528 and hydrated by 1536. The trench excavated to place HC-5A was backfilled from 1541 to approximately 1600.

Shaw installed silt fence, cleaned up and left the site at 1800.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/12/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (65 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
79 F	66 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0745.

Sod contractor on site.

Surveyor onsite at approximately 0815 to continue with as-built survey.

Began uncovering 8" blind flanges at location of tie in of the western 8" sub-header line to 18" southern header line at 0814. The flanges were uncovered and cleaned to facilitate removal and installation of the 8" butterfly valve by 0841. The blinds were removed and the installation of the 8" butterfly valve commenced at approximately 0900. The bolts on the valve were torqued down by 0934. The nuts and all thread were sprayed with protective paint by 0937. The 8" butterfly valve was wrapped in plastic and duct taped by 0941.

Condensate sump CS-17 was struck and one of the 6" pipes protruding from the top of the sump was damaged at 0915. The extrusion weld holding the 6" HDPE pipe in the top of the condensate sump broke as well as the actual pipe.

The excavated area for the eastern 8" sub-header line butterfly valve was re-excavated due to the sediment and water that had filled it up from the weekend rains starting at 1009 and was complete at approximately 1045. The 8" line was pressurized to 40 psi and the 8" butterfly valve that was in the re-excavated was checked for leaks. None were found at this location. Shaw began to excavate the 8" butterfly valve on the North side of the eastern sub-header line at CP-7 at approximately 1200.

Well heads for EW-56, EW-14, EW-15, EW-16, EW-17, and EW-10 were swapped from the existing vacuum system to the new 8" western sub-header and EW-71 was connected to the new 8" western sub-header. These well connections were performed from approximately 1030 till approximately 1230.

Shaw broke for lunch at 1400 and returned at approximately 1500.

The damaged lid of CS-17 was unbolted and removed by 1529. The lid was unbolted and removed from the remaining uninstalled condensate sump that will be utilized for CS-5 approximately 1630. A 6" blind flange was welded onto the pipe stub on top of the lid by 1641. The lid off of CS-5 was then placed on CS-17 and bolted in placed by 1658. The damaged lid was repaired from 1800 to 1925.

EW-58 was disconnected from the existing vacuum system and attached to the lateral run from 18" header from 1527 to approximately 1600.

The northern 8" butterfly valve in the eastern 8" sub-header line was prepped for removal starting at 1715. The 8" butterfly valve was removed by 1737 and a blind was installed over the northern most flange to keep the 16" northern header by 1739. Blind was installed over the southern flange by 1743.

	The 8” butterfly valve was pressure tested and then was began repairs at approximately 1805. Repairs to butterfly valve were abandoned after 1928 as valve could not be fixed onsite.
	An air test for the eastern 8” sub-header was preformed at 10 psi for an hour starting at 1826. The line was check and passed the air test by 1934.
	Shaw cleaned up and left the site at 2000.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/13/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (56 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
81 F	56 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Sod contractor on site.

Shaw began moving soil that had eroded on the northern slope from heavy rainfall over the weekend, beginning at approximately 0745.

Trenching for connection/lateral to EW-49 began at 0753 near the 16" northern header and headed South up the North slope of the North cell. Trenching reached the first bench by 0904. Trenching reached the second bench by 1131. The 2" compressed air line, 4" vacuum line and the 4" force main where laid in the trench up to the first bench by 1133. Trenching reached EW-49 by 1134 and was completed at 1138. Backfilling began at approximately 1150 from the bottom of the slope, up. The ninety degree elbows and risers where installed by 1241. Backfilling was paused at 1245.

Well heads were attached to the eastern 8" sub-header line from approximately 0800 to approximately 1130. The wells EW-19, EW-20, EW-21A, EW-22A, EW-23A, EW-55, EW-57, and EW-25 were connected to the 8" eastern sub-header. Wells EW-21A, EW-22A and EW-23A received new well heads.

Shaw began building more drip traps at approximately 0915. Drip traps were completed at approximately 1545.

Load of stone was delivered by 0940.

Shaw broke for lunch at 1250 and returned at 1400.

After lunch Shaw returned to fabricating drip traps at 1420,

Excavation to install the risers for HC-5A and HC-2A was performed from 1240 to 1439. The vacuum risers for these HC-2A and HC-5A are combined at a tee for only one penetration into the 16" header line. The riser was fused in place from 1440 to approximately 1510. Backfilling of the risers was begun at 1533.

Began exploratory excavation to abandon existing line to HC-7A at 1441 by looking for the elbow at the riser near the well head for HC-7A. Moved further down existing line and removed approximately 200ft of 6" SDR17 HDPE pipe and abandoned the rest in place. By slip capping and screwing the cap in place.

Excavation for HC-3A for adjustment and to trench to the 16" northern header where the drip trap will be installed began at 1536. Approximately 75 ft of trench was excavated to the 16" header line. The extension of HC-3A with pipe that was already onsite was performed from 1629 to 1647.

	Backfilling of the area including the trenches for HC-3A, EW-49 and the line abandonment locations began at 1653. Loads of backfill material were hauled from the County's stockpile area starting at 1745. Backfilling for the evening was stopped at 1850.
	Shaw cleaned up and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/14/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (58 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
81 F	58 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0740.

Sod contractor on site.

Gussets for 16x6 tee that would be used for the tie in of HC-7A were fabricated from 0735 to approximately 0930.

Shaw began to fuse together the section of 6" HDPE pipe for HC-6A at 0749 until 0815 when sections of 6" HDPE pipe for the lateral to HC-7A were begun being fused.

Shaw began loading and hauling fill material from the County's stock pile to the northern slope of the North cell were EW-49, EW-70 and HC-1A through HC-6A are located at 0757 and was continued till 1125.

The section of pipe fused together earlier for HC-6A, from pipe recycled from abandonment from the day before, was fused to the horizontal collection well HC-6A from 0942 to 0958.

Seven sticks of 40ft 6" SDR 17 were retrieved from the County's bone yard by approximately 1100 these sections of pipe were begun being fused together immediately and were completed by 1420.

Trenching for HC-6A was started at 1135 and reached the location of where the drip trap would be later installed near the 16" northern header line by 1151. The already extended horizontal was placed in the trench and backfilling began at 1157.

Shaw received a shipment of HDPE pipe by 1200.

Shaw broke for lunch at approximately 1230 and returned at approximately 1325.

Silt fence repair/extension was performed from 1330 to approximately 1345 on the northern slope of the North Cell.

Returned to fusing together 6" HDPE SDR 17 pipe at approximately 1350 and completed fusing the available pipe, sourced from the County's bone yard, to 250ft the length needed for the lateral run to HC-7A by 1420.

Backfilling on the trench for HC-6A was returned to at 1330 with the Deere dozer and was completed by 1334. The dozer was then utilized to backfill and manicure the area surrounding EW-70, EW-49, the horizontal gas collection wells from 1336 to approximately 1700

Trenching for the lateral from the 16" northern header line to the location of HC-7A began at 1335. Trenching reached the location of HC-7A's well head by 1518 and trenching was stopped. The lateral line was placed in the trench from 1520 to 1527; 250ft was used to connect HC-7A to the 16" northern header. Backfilling of the trench excavated for HC-7A was performed from 1535 to 1609.

	Shaw began transporting fill material to the northern slope of the North cell and manicuring the site of the horizontal drip trap installs from approximately 1655 to approximately 1820.
	Shaw cleaned up and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/15/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (61 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
81 F	61 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0740.

Sod contractor on site.

Excavation for the drip trap for HC-6A was begun at 0831. Excavator tooth struck the bottom liner system at 0837 and excavation for the drip trap ceased.

After striking the bottom liner Shaw began to clear away the waste and soil starting at 0838 to uncover damage to liner. The area of damage was completely uncovered and inspected. This area of where damage had occurred was at a seem of geocomposite drainage layers, thus several layers of the geocomposite were overlapped. This overlapping allowed for cushioning and protection of the bottom of the two liners installed. After inspection it was determined that the top geocomposite layer, the top 16 mil textured liner, and the gcl layer where the only layers damaged. Shaw has called to have someone who is certified in liner repair to make the repair.

Began excavation for HC-3A and its drip trap at 1159.

Shaw broke for lunch at 1230 and returned at approximately 1400.

Returned to excavation on HC-3A at 1405. Struck pipe at 1430 that was later verified to be LCR-8 by video. Began clearing area for repair to LCR-8 and excavation to install drip traps for HC-3A and HC-6A at approximately 1500. The damaged section of LCR-8 was exposed by 1709. The damaged section of 6" pipe for LCR-8 was removed and a replacement piece was cut to be reinstalled. The piece and the ends of the exiting pipe were prepped with had scrappers and wiped with alcohol and a rag. Two 6" electro fusion collars were used to fuse the pipe together. Electro fusion was performed from 1751 to 1805. A 2" HDPE line was also present with the 6" pipe for LCR-8 this was but capped at both ends of the damage and abandoned in place.

The area of the liner damage was covered with a new piece of liner material and taped down to avoid moisture hydrating the GCL layer under the liner. A tarp was placed over the hole that had been excavated in the waste as work would continue on the drip traps on the following day.

Shaw cleaned up and left the site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/16/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
81 F	59 F	Sunny	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Kenny Wilson	Foreman	Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Tarps were removed from the holes excavated the previous day in the waste by 0741.

Drip trap for HC-3A was placed starting at 0751 in the excavation that was performed on the previous day. HC-6A was placed beginning at 0822 again utilizing the excavation from the previous day to repair LCR-8. Gravel was placed on both HC-3A and HC-6A by 0922 and each drip trap was fused to its respective horizontal gas well by 1003. Geo composite layer was placed over the area of both horizontals by 1044. Soil was placed on top of the geocomposite layer and 36 bags of granular bentonite were spread over the area where the horizontal drip traps are located. Twenty-four of the bags were from Shaw another twelve came from the County stockpile. The bentonite was hydrated from 1124 to 1143. A lateral line of 27ft was installed by 1200, which ran from the 16" northern header to a tee allows for two stub ups to allow for both HC-3A and HC-6A to connect to the one header connection. Both of the horizontals were shortened to allow for the drip traps to be placed in enough waste. The area around both drip traps was partially backfilled by 1154. The new lengths of install are now 56ft for HC-3A and 75 ft for HC-6A.

Shaw broke for lunch at 1215 and returned at approximately 1330.

Shaw began manicuring the site around the horizontals at approximately 1340 and till approximately 1620.

Shaw extrusion welded a piece of 16 mil textured liner to the area where the liner was damaged as a temporary way to keep any moisture out of the GCL till the liner could be repaired with the proper certifications and materials. This task was completed by 1434.

Shaw extended the silt fence to encompass the location of construction on the Northern slope.

Shaw began the abandonment of EW-22 at approximately 1530 by excavating down near the well head. The 6" well head was cut, slip capped and the slip cap was screwed down. The 4" vacuum riser was cut and butt capped. This abandoned both in place by 1646. The area was backfilled by 1656. The remote well head for EW-22R was excavated and by approximately 1655. The 6" remote well head was cut down and slip capped with screws to hold the cap in place. The 4" vacuum line was cut down and butt capped. This abandoned both in place by 1706. The area of the remote for EW-22R was backfilled by 1716.

Excavation around the well head for EW-23R was begun at approximately 1600. A 2" jumper air line was hit and damaged. Fortistar was contacted and it was decided to abandon this section of pipe as it no longer connected to any items. The 6" well head was cut below grade and capped with a slip cap that was screwed in place and the vacuum line was butt capped, abandoning both in place by 1646. The two 2" jumper lines that were connected to the well were also abandoned with butt caps. The area of EW-23 was backfilled by 1646.

Shaw cleaned up and left the site at 1815.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 3/19/2012	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Cliff Koenig	

Weather Conditions:

Temperature		Weather		Precipitation
Max.	Min.	Morning Sunny/Clear	Afternoon Sunny and Clear	None
83 F	59 F	55 F @ 0634		0” Rain

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan	Supervisor	
Ashley	Operator/Technician	CAT 320D LRR Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Sam		CAT 297C Skid Steer Loader
Kenny Wilson		Kubuta RTV 900
Ozman		Chevy Silverado 2500 HD (x2)
Marvin		GMC 2500 HD Truck
		GMC C4500 Flat Bed Truck

Work Performed:

Shaw arrived on site 0645. Shaw wanted to coordinate valve install on North side header, but Bill Wight is off work today. Shaw welding southwest corner airline valve inside waste limits. Shaw then started excavating area for AP-3 installation. Evan operating excavator. Ashley operating articulated truck and spotting for header line. David assisted with spotting. Header uncovered without incident. Shaw then started pulling above grade 2-inch lines on south slope now that below grade laterals are connected except for EW-24.

EW-24 cut and capped 4-inch lateral and 2-inch airline. Julio with Fortistar stopped by and commented that oxygen had increased slightly. I asked Julio to let me know if it increased further.

EW-14 cut and capped 4-inch lateral and 2-inch airline. David stated that gas was present in 2-inch airline. This is a concern since it should only be air.

Welded temporay airline for existing south slope sump (to be abandoned). Old 2-inch airline is not pressurizing. Sump is now pumping again. This will keep system operating until Shaw is ready to dig out sump.

South slope horizontals will have drip traps added similar to north slope retrofit. Connection will be 4-inch laterals to new 18-inch header line. Lunch at 12:30 PM. Back at 1:25 PM.

Evan stated that several line abandonments have been performed and to be aware of these for the invoice. Scott Karwan has recorded the number of piping abandonment (cut and cap).

AP-3 branch saddle fused on header. Penetration into header to be performed when Bill Wight back on-site.

EW-24 lateral installed. 4-inch lateral, 4-inch forcemain and 2-inch airline completed at 6:25 PM. EW-24 lateral length = 145 feet.

Shaw backfilled EW-24 and returned to original grade. Shaw added bolts to North slode sump in preparation for installation. Shaw left site at 7:45 PM.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/20/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (65 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	Light shower 0750 - 0805
81 F	65 F	Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
		Kubota RTV 900
Ashley	Operator/Technician	Chevy Silverado 2500 HD (x4)
Sam	Operator/Technician	John Deere 650J LPG Dozer
Osman	Operator/Technician	

Work Performed:

Shaw was on site when HDR arrived at 0645 and had completed safety meeting by 0715.

Sod Contractor on site.

Began excavation for trench to continue the 16" northern header across limits of liner and outside of waste at 0912. The 16" header had previously been left off at 1+90.

Shaw pumped condensate out of CS-17 and CS-16 that had collected in the sumps as the lines had been placed in temporary service to provide additional gas to Fortistar from 0900 to approximately 1215. Pump was restarted after return from lunch; CS-17 was pumped till approximately 1ft~2ft of liquid was left in the bottom of the sump by 1610.

Shaw broke for lunch at approximately 1220 and returned at 1315.

Construction of the section of 16" northern header that contained the tee to connect to HC-7A was begun at 1329. This section was completed and placed in the trench by 1458. The prefabricated section was fused to the 16" northern header that had been installed so from 1540 to 1606.

The 6" flanges between the stub out in the 16" header from a 16" x 6" and the 6" flange on the 6" HDPE line run from HC-7A on a previous day were bolted together by 1622. Flange bolts and nuts were coated in protective paint by 1626 and wrapped in plastic and duct taped by 1628.

The prefabricated section of 16" header line with the 16" flange for the 16" butterfly valve and the forty-five elbow fitting was completed and fused to the previously installed 16" northern header line by 1655.

The 16" butterfly valve was be placed on the flange that had already been placed and held in place awaiting the second flange of the 16" header to continue installation by 1722.

Backfilling on sections of the 16" header that were trenched and pipe was placed, began at 1755. Backfilling was paused at 1820 to allow for further installation of the 16" header.

Section of the 16" header line that included the second flange for connection to the 16" butterfly valve and included AP-10 was completed by 1824. This section of the 16" header was placed in the trench by 1825. The flanges met at and began being bolted together at 1835. The nuts and all-thread were torqued down by 1914 and then coated in protective paint by 1918. Plastic film was wrapped around the valve and duct taped in place by 1925.

The stub ups in the 2" compressed air line and the 4" force main line for the respective ball valves were installed by 1932. The stub ups for the 2" compressed air line and the 4" force main line were installed for AP-10 by 1937.

	Backfilling for on the 16” header line was returned to again at 1933, and was completed for the evening as far as possible with out the 16” HDPE pipe completely run to CS-6 by 1955.
	Shaw cleaned up and left the site at 1815.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/21/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (65 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	Light rain 1052 - 1130
81 F	65 F	Partly Cloudy	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Kenny	Forman	CAT 299C Skid Steer Loader
Ashley	Operator/Technician	Kubota RTV 900
Sam	Operator/Technician	Chevy Silverado 2500 HD (x4)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0710.

Shaw extended the silt fence along the work area on the northern side of the North cell where work had been performed during the week for the 16" header trench. This was performed from 0735 to 0748. Berms were also place around the location of the HC-3A, HC-6A and damaged liner repair by 0748.

A 16" flange was fused to the section of 16" HDPE pipe that had already been placed partially in the trench on the previous day. The fusion of the flange on to the pipe occurred from 0741 to 0808. A second flange was fused to another section of 16" HDPE pipe from 0809 to 0829 to allow for attachment to the eastern flange on condensate sump CS-6 after its installation. The 4" SDR 11 HDPE force main was extended in the trench that contained the 16" header from 0826 to approximately 0900.

Trenching for the 16" northern header line was returned to at 0751 where Shaw had left off on the previous day at 3+35. Trenching reached the location of LCR-5 by 0936. Trenching reached the location of the 4" force main line that is the discharge from LCR-5 by 0947.

Comanco arrived onsite at 0950 to perform liner repair. Liner repair was completed by 1526. Select sand was placed in a 2ft lift over the liner with 4" HDPE SDR 17 pipe left on the liner to allow for surveyors to measure the location of the liner repairs.

The 16" header line was placed in the trench from 1030 to 1033. The 16" header line was backfilled and the trench boxes for CS-6 were placed in the partial excavation made for CS-6 by 1210.

Shaw broke for lunch at approximately 1215 and returned at 1345.

Shaw further installed stilt fence along the northern toe of slope of the northern cell where the 16" header trenching and construction had been completed by 1415.

It was discovered that damage had occurred to the undercharge of the off-road dump truck had occurred. Shaw attempted to repair and then prep the off-road truck for the service repair person. This all occurred in the time frame between approximately 1430 and approximately 1700.

Some of the condensate sumps were pumped out utilizing an external compressed air source to allow for some vacuum reduction need to draw gas of the 18" southern header line. Approximately 150 gallons of liquid were pumped out of CS-18 and approximately 200 gallons of liquid were removed from CS-17 by 1724.

Shaw cleaned up and left the site at 1730.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/22/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (64 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
81 F	64 F	Sunny	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Kenny	Forman	CAT 299C Skid Steer Loader
Ashley	Operator/Technician	Kubota RTV 900
Sam	Operator/Technician	Chevy Silverado 2500 HD (x4)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Work was begun on 4" force main ball valve at the junction of 8" eastern sub-header and the 18" southern header line at 0747and was completed at approximately 1130.

A section of 16" header with was assembled from approximately 0845 to 1021. This section had a flange fused onto it to attach to the sump CS-6 and a tee for the access riser AP-11. A second section of 16" HDPE pipe was cut to the remaining length of run for the 16" header line from AP-11 and a flange was welded onto the end of this section.

Surveyor onsite at approximately 0900 to record location of liner repair and to survey some more points for the as built drawings.

Excavation for CS-6 was returned to at 0931 where it had been left off on, on the previous day. Two trench boxes were placed in location in the hole excavated for CS-6 by 1031. Multiple attempts were made to place the sump due to soil intrusion and sump was finally placed in the hole at 1256. The flanges on the 16" header and on condensate sump CS-6 met at 1258 and were begun being bolted together. All the nuts were torqued tight on the all-thread by 1318. The thread and nuts were then covered in a protective paint coating by 1320 and wrapped in plastic and duct taped by 1324.

Shaw broke for lunch at 1335 and retuned at 1420.

The concrete truck arrived on site at approximately 1435 and concrete was placed in the hole around the sump beginning at 1442. A total of nine yards was placed around the sump by 1455.

The pump for CS-16 was assembled beginning at 1455 and was installed beginning at 1552. A pump was also installed in CS-18 with the assistance of Fortistar by 1824.

Shaw installed the 2" compressed air line riser and 4" force main riser for CS-6 by approximately 1545. The tie in of the force main to LCR-5 was begun at 1600 by fabricating/fusing together the pieces of 4" SDR 11 that would join the force main to the leachate cleanout riser. The pieces of 4" HDPE pipe were fabricated and the process stopped at approximately 1815 as the force main would be tied into on the ensuing day.

Backfilling of the area around HC-3A, HC-6A, and the liner repair began at approximately 1630. This activity transitioned into the manicuring of the area of the 16" header line from the forty-five out of the waste to the area of where condensate sump CS-6 was placed. The area that encompassed the connection/drip traps for HC-3A and HC-6A as well as the location of the liner repair was backfilled by 1838. Manicuring of the rest of the area around the 16" header between the forty-five and CS-6 was complete by approximately 1915.

Shaw cleaned up and left the site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/23/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (61 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
84 F	61 F	Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Kenny	Forman	CAT 299C Skid Steer Loader
Ashley	Operator/Technician	Kubota RTV 900
Sam	Operator/Technician	Chevy Silverado 2500 HD (x4)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0730.

Shaw started the day by having two technicians cut all thread to the size needed for securing blinds and valves for the 16" header line. This task was performed from 0746 to approximately 1145.

The tie in of the 4" force main line to leachate cleanout LCRS-5 by penetrating into the side of the LCRS itself with the 4" HDPE line was performed beginning at 0835. The 4" line was extrusion welded in place into the west side of LCRS-5 by 1032. The 4" force main line was connected to the tie in to LCRS-5 by 1553.

Trenching for the 16" header's final section from CS-6 to the termination of the line was begun at 0854 where the excavation for CS-6 was located. The trench for the 16" header reached its termination point by 1116 and was stopped.

Shaw began fusing together the final section of 16" HPDE pipe for the northern header at 1107. This section already included AP-11 and a 16" flange.

The site between CS-6 and AP-10 was manicured using the dozer between 1122 and approximately 1215.

The 2" ball valve, that connects the new 2" compressed air line that runs around the western and northern perimeter of the North cell and the new 2" compressed air line that was run with the extension of the 16" header line, was installed from 1124 to 1213.

Shaw broke for lunch at approximately 1220 and returned at 1325.

The fused together section of 16" header with AP-11 and flanges on either end was placed in the trench by 1339. The flanges on the condensate sump CS-6 and on the 16" header met at 1354 and began being bolted together. The nuts were tightened down on the all thread by 1419. The nuts and all thread were then covered in a protective coating by 1421. The flanges were then wrapped in plastic and duct taped by 1425. The 2" compressed air line and the 4" force main lines were placed in the trench by 1443. Backfilling of the trench began at 1453. The 2" compressed air line stub up and the 4" force main stub up near AP-11 were in place by 1514. The 2" compressed air line's and the 4" force main line's blind flanges were installed at the termination of the northern header by 1525, both flanges had their hardware coated with protective paint and were wrapped in plastic and taped by 1527. The remaining trench box was removed from the supporting the soil around CS-6 by 1533.

Shaw loaded and hauled backfill material to backfill additionally on the area of 16" header trench and CS-6 that had been excavated. Loads where hauled from 1649 using one of the County's off-road dump trucks as the one Shaw had rented from hertz was in for repairs. Backfilling was performed till approximately 1830.

Shaw cleaned up and left the site at 1900.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/26/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
81 F	59 F	Sunny	Sunny	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Kenny	Forman	CAT 299C Skid Steer Loader
Ashley	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x3)
Osman	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0735.

David began assembling the pumps and the required lines for CS-15, CS-17 and CS-6 at 0803.

Began preparing for the air test of the lines that were run with the 16" header and with itself at approximately 0750.

Shaw began installing the 2" compressed air line and 4" force main lines ball valves just East of the 16" header butterfly valve 0838.These valves were completely assembled and fused into place by approximately 1020.

AP-11 was adjusted to make it lower and more uniform in the height of the access risers, blind flanges were also installed on the 2" compressed air line and the 4" force main lines that were previously only butt caps were installed. All of this work was wrapped up by1127.

Three air tests were preformed for the 16" vacuum line, the 2" compressed air, and the 4" force main. The 2" compressed air line was tested for an hour starting at 1224 and passed the spec. The 16" northern head was air tested for an hour starting at 1157. The 16" header also passed it. The 4" line had a small leak that was found to been in the valve at CP-6. The valve was tightened and this rectified the leak. The line would have to be retested.

Shaw broke for lunch at 1245 and returned at 1355.

Air test for the 4" force main, running from the termination of the line with the 16" header termination to the valve at CP-6, was run for an hour starting at 1417 at a pressure of 30 psi. At 1529 the gauge was checked and the 4" force main line passed the air test.

Pump was installed in CS-6 from 1408 to 1423, but was not completely installed as it awaited the force main to pass its air test before the pump could be connected to it.

Began assembling the drip traps at 1456 for the six horizontal well heads that were repaired on the North slope. This assembly and fabrication of the drip traps will be used on the southern side of the.

Shaw disassembled the two trench boxes that they had rented to utilize while installing the condensate sumps. Both boxes were disassembled by approximately 1700.

The chipped bentonite that was order was swapped out with the site's granular bentonite from 1712 to approximately 1745. This done to allow the site to maintain a stock pile of the specified chipped bentonite for any additional wells that might be placed in the future as the granular would work for the horizontal drip traps.

Shaw cleaned up and left the job site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/27/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (55 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
82 F	55 F	Sunny	Sunny	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0720.

Shaw began excavation of the area near condensate sump CS-4 at 0748 and began to uncover lines that were run to the condensate sump. A line was followed back to an 8" valve that is believed to be V-4. Additional exploratory excavation was performed to unearth piping in the area. Excavation paused at approximately 1100 to load trench boxes for trench box vendor and unload steel casing that arrived on a delivery truck at 1117.

Osman returned to fusing together the parts for the six drip traps that will be installed for the horizontals HC-1B through HC-6B at 0934.

Shaw broke for lunch at 1200 and returned at 1305.

Exploratory excavation was restarted at 1310 near the access riser that fed into CS-4. The horizontal well heads HC-1B through HC-7B were uncovered by 1455. A depression was found in the line that connected HC-1B, 2B, 4B, and 5B that may have been causing gas collection problems by creating a water trap. Excavation moved west of the access riser and the CMP for the old road crossing with the 12" header and 2" compressed air line in it was located at 1511. The excavation was halted at approximately 1530.

The abandonment of condensate sump CS-4 was begun at 1536 and the sump was removed from the ground by 1600. Next the force main from the 8" butterfly valve, South of the access riser in the 12" header line, to CS-4 was removed from the surrounding area. The area was partially backfilled from 1614 to 1630 to contain any leachate inside the liner limits.

Exploratory excavation for the compressed air line and force main lines that connected to CS-4 was begun again at 1631. The force main was found to have its carrier pipe of the dual containment system compromised. The riser for the force main that was adjacent to the sump CS-4 was removed and the additional force main that stubbed out South with a tee was slip capped till a time which it could be butt capped by 1750. The excavation and removal of the force main line continued removing further sections to allow the leachate to drain further within the liner limits. This section was removed by 1806. Sections of the pipe were cut out to salvage and the bad sections were disposed of by 1849. Backfilling of the area was performed from 1840 to 1855.

Shaw cleaned up and left the site at 1945.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/28/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
82 F	59 F	Sunny	Sunny	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0715.

Shaw started the day at 0754 by bolting together the drip traps that had been fabricated on a previous day that will be used for the horizontal gas collection wells on the Southern slope of the North cell. All six of the drip traps were assembled by 0848. The weep holes for the drip traps were drilled into the outer casing of the drip trap by approximately 0945.

The abandoned condensate sump CS-4 was taken to the bone yard by 0845.

Fortistar shut down their engines at 0922 as part of a planned shut down to work with FPL, perform maintenance, and to allow Shaw to perform tie ins.

A previously assembled pump was installed in condensate sump CS-15 by 0928.

AP-3 had been excavated on 3/19 and had a branch saddle extrusion welded to the 18" header. Shaw could not tie into the header while Fortistar was up and running and thus had to do the tie in today. The initial cut into the header was performed at 0941 with a hole saw, additional removal of the header side wall with a saws-all. The access point was installed with an 8" stub up with a blind flange on top by 1022.

The 16" blind that was separating the new and existing 16" header lines on the northern slop of the North cell was removed starting at 1054. Considerable condensate had pooled up against the blind and had to be drained before work could commence on the connection. The two 16" flanges between the existing 16" header and the new expansion 16" header were connected beginning at 1059. All-thread and nuts were used to connect the two flanges. The flanges were bolted together and torqued down by 1112. The all-thread and nuts were painted with a protective coating by 1115 and then wrapped in plastic that was taped in place by 1120.

Shaw returned to replacing the 8" butterfly valve at CP-7 at 1135. The blinds were removed with considerable condensate coming out of the southern leg of the 8" sub-header line. The valve could not be placed back into the gap between the two flange faces. Shaw decided to cut and remove a small section of the 8" line and re-weld it. This was performed from 1256 to 1321. The 8"butterfly valve was placed on the flanges by 1322 and began being bolted together. The all-thread and nuts were tightened by 1334. The threads and nuts were painted with protective coating by 1340 and wrapped in plastic and duct taped by 1343.

Backfilling of the excavation of where the new and existing 16" header lines met was begun at approximately 1345 and was performed till 1405.

United rental truck on site to collect the remaining trench box at 1409.

Shaw broke for lunch at 1430 and returned at approximately 1600.

	Shaw began installing well heads on the horizontal drip traps on the northern slope at 1605. By 1638 horizontals HC-1A, HC-2A, HC-3A, HC-4A, HC-5A, HC-6A, and HC-7A were connected to the gas collection system with well heads. Well heads were also placed on EW-49 and EW-70 by 1659, connecting them to the gas collection system as well.
	Backfilling on CP-7 began at approximately 1645 and transitioned to backfilling of the 16" header connection at 1710. Backfilling was completed for the day at 1805.
	Shaw cleaned up and left the site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/29/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (58 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
82 F	58 F	Sunny	Partly Cloudy	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0725.

Shaw began excavation towards leachate sump LS at 0754 along the path of the existing 12" header and its ancillary lines. Trenching was paused when CAT service when service technician arrived onsite at 0815. Trenching was resumed at 0900. At approximately 0945 a section of ABS plastic pipe was encountered on top of the CMP that incased the 12" header as well as the 2" compressed air line run with the header. Underneath the ABS pipe was a damaged section of CMP that compromised the carrier pipe for the 4"x8" dual contained force main line when the damage occurred. This was approximately 75 ft southeast of leachate sump LS. A 6" HDPE pipe was struck during excavation at 0953. This pipe was later butt capped at 1540 as it could not be discerned to be of any importance. Approximately 10 to 15 ft west of the prior damage found, additional damage was found to the force main line in its own CMP at 1010. This time with concrete placed to patch it. Trenching reached the area of leachate sump LS by 1106 and excavation around the sump for the new line placement and existing line abandonment began.

The lines from the horizontal wells to the12" header access riser on the southern slope of the North cell were removed after the valves for each of the horizontal wells were closed from HC-1B to HC-7B. This was performed from 0829 to 0840.

The top flange of leachate sump LS was removed by 1157 with the pump still attached.

The 4"x8" dual contained force main line was removed from the trench by 1233.

Shaw broke for lunch at 1300 and returned at 1400.

The removal of the 12" access riser that near the horizontal wells on the South slope of the landfill was removed by 1410. The 12" header was cut West of the CMP by 1500 and the CMP was removed from the trench. The air line that had been run with this headed had become smashed by the weight of the 12" pipe as it was under the 12" in the trench. The 12" header was cut and butt capped from 1528 to 1534. Shaw began backfilling on the trench and grading it for the new 2" and 4" lines that are to be placed to reconnect the leachate sump LS at 1614. The grading of the trench was completed at approximately 1645.

Shaw assembled two 18" flanges with a short pup in between to extend leachate sump LS further out of the ground closer to grade. The piece was fabricated, placed, and torque tight by 1622. All the threads and bolts were coated in protective paint by1624 and then wrapped in plastic and duct taped.

Shaw fused together sections of 2" and 4" that they had around the site for the lines that were run to LS. These lines were fused together from approximately 1630 to 1845. The lines were then placed in the trench by 1903. 1+50 ft of pipe was run in the trench. Backfilling began at 1910 and was continued until 2009.

Shaw cleaned up and left the site at 2030.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 03/30/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (61 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
82 F	61 F	Partly Cloudy/Sunny	Partly Cloudy/Overcast	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was on site when HDR arrived at 0700 and had completed safety meeting by 0745.

Began excavation to butt cap 4"x8" dual contained force main line that ran from condensate sump CS-4 as well as leachate sump LS to the cleanout on the Southeast corner of the North cell at 0808. The force main was cut and butt capped by 0900, with the area backfilled by 0916.

Returned to backfilling the trench that was run previously with the air, force and vacuum lines that connected to the leachate sump LS at 0907. An additional section of pipe was added to the line run from leachate sump LS from 0917 to approximately 0930.

Shaw worked on salvaging/separating sections of the pipe that had been abandoned the previous day during the excavation fro the lines to the leachate sump LS and taking the salvageable sections to the County's bone yard. This was performed from approximately 0930 to 1049.

Excavation for the horizontals on the south slope, HC-1B, HC-2B, and HC-4B, was begun at 1039. E

Delivery of 2" and 4" HDPE pipe arrived at 1135.

Shaw broke for lunch at 1145 and returned at 1300.

Fused additional 2" compressed air line to the line running from LS towards the horizontal wells from 1310 to approximately 1330.

Shaw returned to excavation to expose and separate the horizontal wells at 1325. Excavation to expose HC-1B, HC-2B, and HC-4B was stopped by approximately 1530. HC-2B was cut and capped by 1538; HC-4B was cut and capped by 1542. The extraneous sections of the horizontals were removed by 1559. The excavation for drip traps for HC-2B and HC-4B began at 1607; both of these horizontals were set in the same gravel pack as their proximity to each other would not allow for separating them without significant effort and waste removal. The excavation was completed and drip traps began being placed at 1632. HC-4B was fused to its drip trap by 1700 and HC-2B was fused to its drip trap by 1717. Gravel was placed in the hole containing HC-2B and HC-4B's drip traps by 1815. A geocomposite layer was placed on top of the gravel pack by 1818 and a soil layer on top of the geocomposite by 1822. Thirty-six bags of granular bentonite were spread over the soil layer by 1834 and hydrated by 1852.

HC-1B was cut into at 1937 and capped. The excavation for the drip trap for HC-1B was begun at 1943, by approximately 2000 liner sand was encountered and excavation was stopped. The drip trap was shortened by 18" and reassembled by 2038. The drip trap was fused to HC-1B by 2054. Gravel pack was placed around the drip trap by 2121 up to the flanges in the drip trap. The geocomposite layer was placed on top of the gravel by 2122. A soil layer was placed on top of the geocomposite by 2124. Twenty-two bags of granular bentonite were spread over the soil layer and hydrated by 2139. All there of the drip traps were extended up 7ft by 2243.

Backfilling of the area of HC-1B, HC-2B, and HC-4B was begun at 2140 and completed for the evening at 2303.

	Shaw cleaned up and left the site at 2315.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/02/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (67 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
88 F	64 F	Overcast	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x3)
		John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0730.

David and Ashley had come in on Saturday 3/31 to continue backfilling and dressing up the location of HC-1B, HC-2B, and HC-4B, hauling 27 loads of backfill between 0900 and 1400.

Excavation to follow HC-5B further into the North cell was begun at 0758. HC-5B was exposed satisfactorily to allow for install of the drip trap by 0921 and excavation on that task stopped. HC-5B was cut and capped by 0927. The excavation for the drip trap for HC-5B was begun at 0939 and reached the desired depth to set the drip trap by 1013. The drip trap was fused to HC-5B from approximately 1035 to 1100. Gravel was placed in the hole around the drip trap for HC-5B at 1103. The gravel was filled to the level of the flanges in the drip traps by 1123. A geocomposite layer was placed on top of the gravel, followed by a layer of soil on top of that by 1131. Twenty bags of bentonite were then spread/placed on top of the soil layer by 1135 and hydrated by 1200.

Began excavation to follow HC-3B and HC-6B back into the hill at 1137.

Shaw broke for lunch at 1210 and returned at 1257.

The county had previously in the day struck a 6" vacuum line at EW-6 and requested that Shaw repair this for them. The repair began at 1311 utilizing the County's CAT 420E. The damaged section was exposed, removed and replaced with a 30" piece of 6" HDPE by 1417. One side of the 6" piece was hard fused the other was electro fused. A 2" air line was also repaired in the same location by 1509. The site was partially backfilled by1510.

Backfilling on HC-5B was continued at 1551 and was completed for the ay at approximately 1715.

Shaw cleaned up and left the site at 1745.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/03/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (67 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
88 F	64 F	Overcast	Partly Cloudy	None

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0715.

Excavation to exposed HC-3B and HC-6B began at 0727 and was completed by 0847. Excavation for the drip traps for both HC-3B and HC-6B was begun at 0847. One larger hole was excavated for the drip traps for HC-3B and HC-6B as there proximity to each other necessitated with out extensive excavation into the North cell. The excavation for the drip traps was completed at 0909. The drip trap for HC-3B was fused to HC-3B from 0934 to 0944 followed by fusing of the drip trap to HC-6B from 0945 to 0957. Gravel was placed in the hole containing the drip traps by 1022 to above the flanges in the drip traps. A geo composite layer was place on top of the gravel by 1026. A soil layer was then placed on top of the composite layer by 1031 and 40 bags of bentonite were spread on top of the soil by 1038 and were completely hydrated by 1051. Backfilling of the area of HC-3B and HC-6B drip trap was begun at 1054. Loads of backfill were hauled from the sites stockpile from 1122. Backfilling was paused at 1215.

Shaw broke for lunch at 1215 and returned at 1325.

Backfilling and manicuring the site of HC-3B and HC-6B was returned to at 1336. Shaw also began hauling additional loads of backfill from the County stock pile at this time. This was continued till approximately 1500, when backfilling was completed around the drip trap stub ups.

Moved to the repair of the temporary road crossing on the western 8"/6" sub-header line on the top deck of the North cell. Began exposing the damaged CMP at 1541 with the excavator. The CMP and sections of the sub-header were fully excavated by 1620. The CMP was cut using an abrasive wheel on a chop saw from 1628 to approximately 1715. The CMP was removed by 1721. The 2" compressed air line, the 4" force main, and the 6" vacuum lines were all cut by approximately 1730 and swung out of the trench of where the road crossing was. The area where the new CMP would lay was then regarded starting at approximately 1735. The section that was regarded was between the wells EW-15 and EW-71's remote tie in. The re-grade was completed by approximately 1815.

Marvin and Osman completed prefabrication of section of pipe for connection to the horizontal wells by approximately 1645.

Shaw cleaned up and left the sit at 1830.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/04/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (62 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
90 F	62 F	Partly Cloudy/Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0710.

Work returned to temporary road crossing on the western 6"/8" sub-header at 0723. The 2"compressed air line, 4" force main, and the 6" vacuum lines were run through the 40 ft section of new CMP to replaced the two 20ft sections of CMP that had been damaged. This process began at 0728, with the 6" vacuum line run through the CMP by 0732. A small section of 6" HDPE pipe was used to rejoin the sub-header line back together by 0849. The 2" compressed air line and the 4" force main were also run through the CMP and were fused back together by 0915. The 4" was fused using an additional piece of pipe and the 2" line had enough slack/play to be fused back together with out additional pipe. Backfilling over the CMP began at 0910 and was stopped at approximately 0930. Additional backfill will be placed at an additional time to complete the repair. The new CMP location is now shifted to 06+39 to 06+79 on the 6" section of the western sub-header.

The excavation for the trench that would run the vacuum to all the horizontals wells on the south slope, as well as the leachate sump also on the southern slope began at approximately 0950. Gravel and a 6" pipe were encountered approximately 50 ft north of the 18" southern header line, near to the suggested location of CP-2. The pipe was damaged with the excavator and a section was removed and the pipe was slip capped with the caps being screwed into the well itself by 1136. Trenching was resumed after the repair was made.

Shaw broke for lunch at 1220 and returned at approximately 1310.

Began placing the 10" vacuum pipe with tee fittings pre-welded in place in the trench for connection to the horizontal wells at 1315. The flanges on the 10" line and the 10" butterfly valve met and began being bolted together at 1326. The nuts were tightened down on the all thread by 1403. The all-thread and nuts were coated with protective paint by 1407 and wrapped in plastic and duct taped by 1409. The northern most 10" tee that connects to the eastern cluster of horizontal wells in the 10" section of pipe was removed and re-welded to adjust the angle of the tee that would affect the grade of the line feeding the eastern horizontals. This was performed from 1420 to 1451. The 6" lateral that connects HC-7B was fused to the ne 10" vacuum source by 1516. Grading was checked for the sections of pipe that were installed. The 2" compressed air line and the 4" force main line were installed by 1714 that feed the leachate sump LS.

The line previously backfilled that was run from the leachate sump was uncovered from approximately 1405 to 1415 to allow for the connection of the line from the leachate sump to the 10" vacuum source.

Excavation for the 6" tee that would run to the western grouping of horizontal wells was performed approximately 1520 to 1545 to allow for the tee to be installed with a stub up for tie in on the following day.

Backfilling to cover any waste and pipe was performed from 1751 to 1823. Small holes were left exposed to allow for the pick up of the rest of the tie in for the horizontal wells on the following day.

Shaw cleaned up and left the site at 1830.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/05/12	Day: Thursday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (69 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	
88 F	69 F	Over Cast/Light Rain	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Ashley	Operator/Technician	CAT 299C Skid Steer Loader
Osman	Operator/Technician	Kubota RTV 900
Marvin	Operator/Technician	Chevy Silverado 2500 HD (x3)
Sam	Operator/Technician	John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0715.

Light rain present onsite upon arrival.

Excavation/trenching for the eastern set of horizontal wells, HC-5B, HC-3B, and HC-6B, on the southern slope of the North cell was started at 0724 and was completed by 0801. The trench for the western set of horizontal wells, HC-1B, HC-2B, and HC-4B, was begun at 0802. The laterals to HC-5B, HC-3B, and HC-6B were installed by 0936. Shaw then moved to installing the laterals for HC-1B, HC-2B, and HC-4B and completed them by 1032. Backfilling of the horizontal well tie-ins was begun at 1056 and was performed until 1135.

Marvin and Osman began prepping for the air test of the new vacuum line, force main, and air line. They started by but capping the vacuum line at HC-7B from approximately 0745 to 0846. Then installed flanges on the 2" compressed air and 4" force main stub ups at the leachate sump LS by 1038.

Shaw began installing flanges at the location of where the 2" compressed air and 4" force main lines that supplied the leachate sump LS would tie into the lines that were run with the 18" southern header line at 1055.

Shaw broke for lunch at 1200 and returned at 1310.

Ashley and Sam began loading backfill from the County's stockpile and bringing additional backfill to the site of the horizontal wells on the southern slope at 1316. Backfilling of the southern horizontal area was completed by 1641.

Air test were preformed on the section of 2" compressed air line, 4" force main and various sizes of vacuum line that connected the 18" header to the southern horizontals and the leachate sump LS. These air tests were all performed in unison from 1349 to 1449 with all three lines passing the air tests.

Fittings in the sumps on the southern 18" header were swapped out for the proper stainless steel that arrived today form approximately 1345 to approximately 1450.

The 2" compressed air line and 4" force main line were connected to the lines that connect to the lateral that feeds the leachate sump LS by 1638.

Placing of backfill/soil on top of the temporary road crossing in the western sub-header line where the repair to the road crossing/CMP had been repaired on the previous day began at approximately 1645 and was completed by 1824.

Shaw cleaned up and left the site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/06/12	Day: Friday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (65 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	Light rain at 1135 ~15 min
86 F	63 F	Sunny/Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Mike Parker	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0730.

The abandonment of LCR-6R began at 0743. The risers for the vacuum and well head risers were exposed and cut below grade by 0801. The line that rand from LCR-6 had a butt cap welded to it by 0817. The vacuum collection riser was slip capped and screws were placed in the cap to hold it in place by 0816. The 6" line that connected the LCR-Rs to the 10" sub-headed had a butt cap welded to it by 0843. The hole for the abandonment was backfilled by approximately 0840.

Excavation at LCR-5R began at 0844. The riser pipes were exposed below grade and cut by 0859. The tee in the lateral/vacuum line was cut out and both sides of the remaining pipe were slip capped with screws installed by 0904. The lateral from LCR-5 had a butt cap welded on to it by 0921. The area was backfilled by 0931.

Excavation of LCR-4R began at 0934. The vacuum line was cut and a slip cap was screwed in place by 0942. The lateral from LCR-4 had a butt cap welded to it by 0955. The area was backfilled by 1010.

Excavation of LCR-3R began at 1011. The vacuum line and the lateral that once connected to LCR-3 were cut and a slip caps were screwed in place by 1020 on both. The area was backfilled by 1028.

Excavation of LCR-2R and LCR-1R began at 1044. Both of the lines from the LCRs had butt caps welded to them and both vacuum lines were slip capped with screws to hold the caps in place by 1119. The area was backfilled by 1133.

Began excavation of LCR-7R at 1138. The vacuum source was a branch saddle on the 10" sub-header line, the riser was cut down as much a possible and a butt cap was welded in place by 1211. The lateral that connects to LCR-7 also utilized a butt cap welded in place by 1203. The area was backfilled by 1225. A 3ft section of 2" HPDE pipe was used to mark the location of the butt cap on the 10" sub-header, as it is very shallow compared to grade.

Shaw broke for lunch at 1235 and returned at 1330.

Sam began installing well heads on the horizontal gas wells/drip traps on the Southern slope at 1345. Well heads were installed on HC-1B through HC-6B and HC-7B was reconnected to vacuum by approximately 1515.

Excavation of EW-16 for abandonment of the old vacuum line began at 1355. The 4" vacuum line was butt capped by 1459. The area was backfilled by 1440.

Excavation to abandon EW-17R from the old system began at 1442. The vacuum riser was exposed, cut, and had a butt cap welded to it by 1459. The area was backfilled around EW-17R by 1505.

Excavation for EW-20 began at 1508. The 2" compressed air line and 4" vacuum lines from the old system were had butt caps welded to them by 1532. The area was backfilled by 1549.

	Shaw cleaned up and left the site at 1630.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/10/12	Day: Tuesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (58 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
84 F	58 F	Partly Cloudy	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0720.

Shaw began the day by working on some equipment that had failed and broke.

Sam and Marvin replaced the blind flange on top of the leachate sump LS from approximately 0845 to 0937.

David began assembling sample ports at for all the valves at approximately 0900 and continued until 1215.

The off-road dump truck died randomly when attempting to move it at 1039. Shaw tried to diagnose the problem but was unable to ascertain how to fix the problem. Shaw stopped by CAT service location on lunch break to discuss and request a technician.

Shaw broke for lunch at 1220 and returned at 1330.

David returned to assembly of the sample ports at 1336. He completed the sample ports that will be needed for all the valves on site by approximately 1500.

Sam and Marvin began installing valve stems at 1341. Valve stems were placed on the 18" butterfly valve that is at CP-1 in the new southern 18" header line, and in the southern two 8" valves that isolate the sub-header lines from the 18" header line by approximately 1600. Sam and Marvin then moved to installing valve stems for the 16" northern header and one of the 8" sub-headers by 1655. Next they worked on installing the valve stem for the 10" southern valve that isolates the horizontals from the 18" header by 1726.

Evan began placing the steel casing to weld it together at 1344. The edges that were to be welded together were ground from 1354 to 1415. Welding began 1420; the two pieces of steel casing were welded together by 1707.

Shaw was able to diagnose the problem with the dump truck on second glance and got it up and running by 1740.

Shaw returned to repairing damage to some of their equipment and cleaned up and left the site at 1845.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/11/12	Day: Wednesday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
84 F	58 F	Sunny	Sunny	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw arrived at 0700 and had completed safety meeting by 0715.

Excavation on 8" butterfly valve on the Northern side of North cell for the eastern sub-header line began at 0819, as the valve had become covered in silt and soil. The valve was completely exposed by 0907. Sample ports and the valve stem were installed from 0938 to 0945. The area around the valve was backfilled by 1040.

One of the valve box lid mounting studs was struck while excavating around the valve box that had been previously installed to protect the valve before the areas was completely backfilled. The lid mounting stud was repaired began at 1014. The remaining damaged extrusion weld was ground out and the stud was completely extrusion welded back into place by 1036.

Shaw began placing the valve box around the 8" valve for the eastern sub-header line on the North slope of the landfill at 1041. The valve box was installed in its final location at 1049. The 2" and 4" valves near the 8" valve were also had their valve boxes installed from 1051 to 1107.

Excavation at EW-10 began at 1111 to abandon the old 4" vacuum and 2" compressed air risers that were present at the well. The risers were excavated and the cut by 1118. The 4" vacuum riser had a butt cap welded to it by 1129 and the 2" compressed air riser had a butt cap welded to it by 1138. The area was backfilled by 1141.

Excavation at EW-19 began at 1144 to abandon the old 4" vacuum and 2" compressed air risers. The area was exposed, the 2" compressed air and 4" vacuum risers were cut and butt caps were welded in place by approximately 1155. The area was backfilled by 1246.

Sample ports and valve stem were installed in the western sub-headers 8" butterfly valve on the northern slope by approximately 1205. The area was backfilled by 1223 to existing grade. The valve box was installed from 1223 to 1230.

The 2" air line ball valve that is near the 8" western sub-header butterfly valve on the northern side of the North cell was installed starting at 1235. The valve was completed by 1309.

The valve boxes for the 2" compressed air line and the 4" force main valve at CP-7 were placed from 1323 till 1327.

Shaw finished manicuring the site of CP-7, and cleaned up and left the site at 1400. Work day was cut short today as Shaw had to move out of one of the condo's they had rented.

Daily Field Report

Project Name: North Cell Closure – Sequence 1	Date: 04/16/12	Day: Monday
Project Site: Tomoka Farms Road Landfill	Contractor: Shaw Environmental	
Project Location: Volusia County, FL / Daytona Beach, FL	CQA: Scott Karwan (HDR)	

Weather Conditions:

Temperature		Weather (59 F at 0700)		Precipitation
Max.	Min.	Morning	Afternoon	None
90 F	59 F	Partly Cloudy	Partly Cloudy	

Contractor's Employees / Title		**Equipment Used/ On Site**
Evan Lightner	Supervisor	CAT 320D L Excavator
David	Operator/Technician	CAT 725 Off-road Articulated Dump Truck
Marvin	Operator/Technician	CAT 299C Skid Steer Loader
Sam	Operator/Technician	Kubota RTV 900
		Chevy Silverado 2500 HD (x2)
		John Deere 650J LPG Dozer

Work Performed:

Shaw was onsite before 0700 and had completed safety meeting by 0730.

During the previous Friday Shaw had installed all the valve boxes around the 2", 4", 8", 10", 16" and 18" valves.

Repair of the Eastern sub-header permanent road crossing began at approximately 0750 with the excavation of the previously installed road crossing. The area to the immediate North of AP-13 was excavated and the 8" flange in the sub-header was unbolted as well as the 2" compressed air and 4" force main lines were cut by 0814. The soil surrounding the CMP for the road crossing was exposed by 0819. The compromised CMP was cut using an abrasive chop saw from 0822 to 0854 to allow access to the sub-header and its accompanying lines. The 2", 4" and 6" lines were removed from the CMP by 0856. The CMP was removed from the trench by 0858. The road crossing area was regarded and checked with trench laser by 0917. The 2" compressed air, 4" force main, and 6" vacuum line were run through the 18" steel casing by 0927. The all-thread and nuts on the 8" flanges were torqued together by 0935. The all thread and nuts were coated in protective paint by 0935 and wrapped in plastic and duct taped by approximately 0945. The 2" compressed air and 4" force main lines were reconnected/fused from 0938 to 0956. Backfilling on the steel casing began at 1009. The backfilling and grading of the road crossing continued until approximately 1215. The new location of the permanent road crossing in the eastern sub-header line is at 04+88 to 05+28.

Shaw broke for lunch at approximately 1220 and returned at approximately 1340.

Evan and Marvin began marking out the locations for the bollards at approximately 1400 and David and Sam worked on hauling and grading more fill material on top of the permanent road crossing from approximately 1415 till 1510.

David began manicuring section of the South slope with the dozer at approximately 1530.

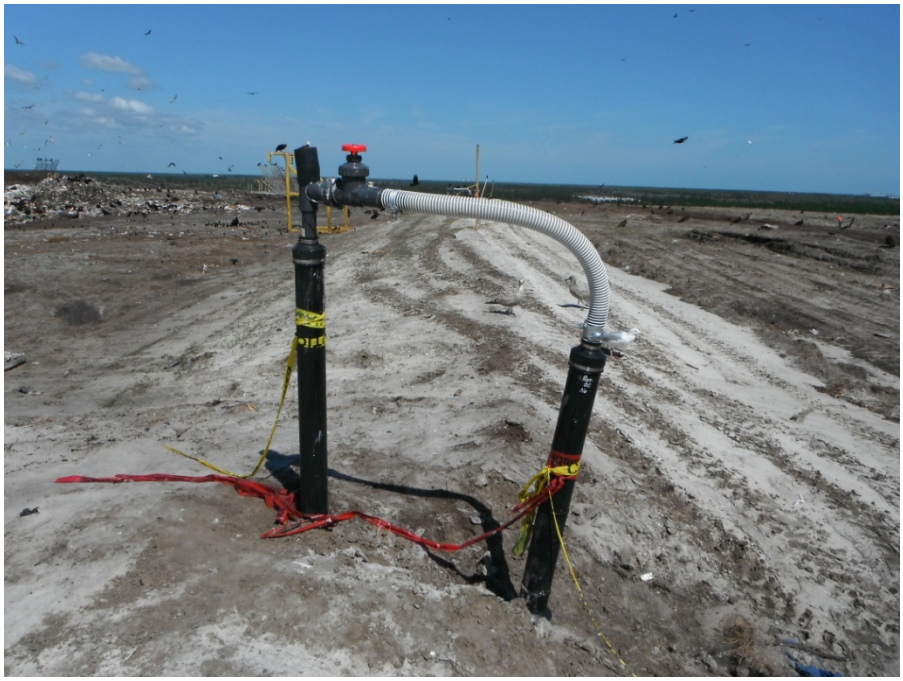
Appendix B

Construction Photographs

Vertical Well Installation

8” Sub-Header Installation

Horizontal Well Drip Trap Fabrication



Vertical Well Completion

Horizontal Well Drip Trap Riser

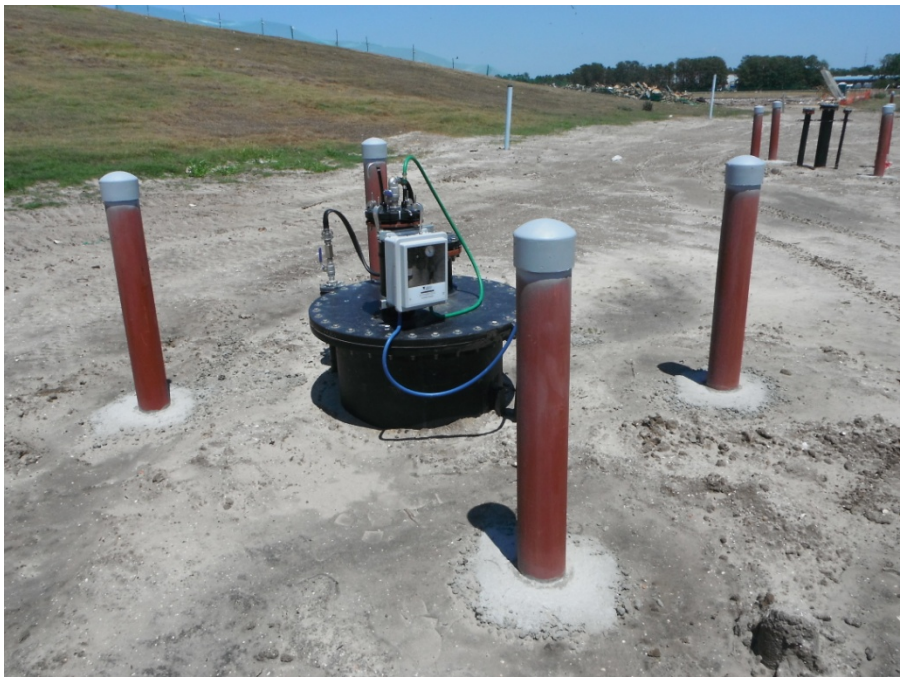
Horizontal Well Completion

South Slope Condensate Sump Installation

Isolation Valve Vaults

West Slope Air Line –Outside of Waste

Lateral Connection to Header via Electrofusion Collar



Condensate Sump Completion

Top Deck Road Crossing

Appendix C

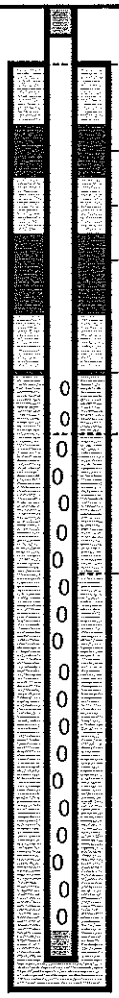
Boring Logs

SHAW GROUP

Site Name:	Tomoka Farms	Well Number:	EW71
Location :	Daytona Beach		
Start Date:	1/5/2012		
Completed:	1/5/2012	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" HDPE
Rig:	soilmac	Total Depth Drilled:	105
Inspector:		Completion:	105
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	95
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	1
GEOTEXTILE	1
GRAVEL PACK	97

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	95
BOTTOM CAP	1
BENTONITE	4
BACKFILL	9
STONE	97
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
86	10	SMW	min	dry
93	20	SMW	min	dry
108	30	SMW	min	dry
115	40	SMW	mod	dry
127	50	SMW	mod	dry
138	60	SMW	mod	dry
142	70	SMW	mod	dry
139	80	SMW	mod	dry
141	90	SMW	mod	wet
123	100	SMW	mod	wet
	110			
	120			
	130			
	140			
	150			

COMMENTS Built Bench

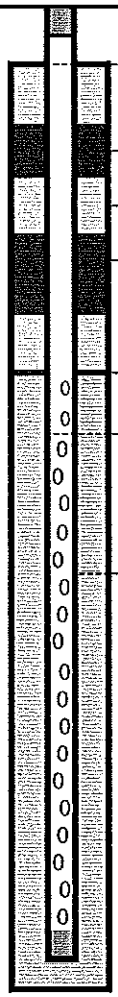
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoka Farms	Well Number:	EW49
Location :	Daytona Beach Fl		
Start Date:	1/5/2012		
Completed:	1/5/2012	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" HDPE
Rig:	soilmac	Total Depth Drilled:	71
Inspector:		Completion:	71
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	61
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	63

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	61
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	63
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
81	10	SMW	min	dry
94	20	SMW	mod	dry
107	30	SMW	mod	dry
96	40	SMW	mod	dry
106	50	SMW	mod	dry
111	60	SMW	mod	dry
106	70	SMW	mod	dry
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS Built Bench

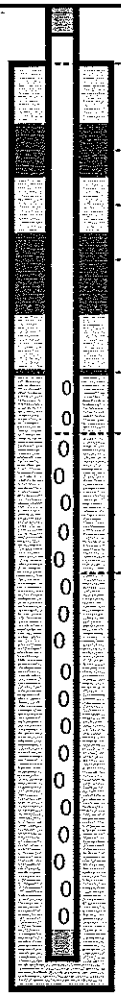
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoca Farms	Well Number:	EW21A
Location :	Dayatona Beach Fl		
Start Date:	1/6/2012		
Completed:	1/6/2012	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	99
Inspector:		Completion:	99
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4ft
RISER BELOW	10ft
PERF.PIPE	89
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	1
GEOTEXTILE	1
GRAVEL PACK	91

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14ft
PERF PIPE	89
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	91
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
89	10	SMW	min	dry
103	20	SMW	min	dry
114	30	SMW	min	dry
133	40	SMW	mod	dry
129	50	SMW	mod	dry
129	60	SMW	mod	dry
122	70	SMW	mod	dry
132	80	SMW	mod	wet
133	90	SMW	mod	wet
131	100	SMW	mod	wet
	110			
	120			
	130			
	140			
	150			

COMMENTS _____

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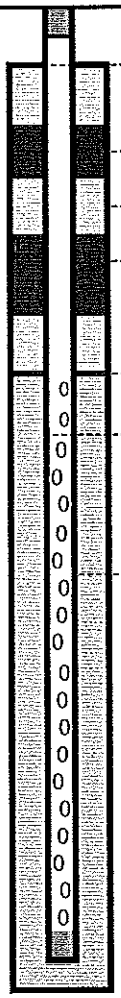
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW22A
Location :	daytona beach fl		
Start Date:	1/7/2012		
Completed:	1/7/2012	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	100
Inspector:		Completion:	100
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	90
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	
GEOTEXTILE	1
GRAVEL PACK	92

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	90
BOTTOM CAP	1
BENTONITE	4
BACKFILL	5
STONE	92
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
101	10	SMW	mod	dry
108	20	SMW	mod	dry
128	30	SMW	mod	dry
115	40	SMW	mod	dry
128	50	SMW	mod	dry
126	60	SMW	mod	dry
125	70	SMW	mod	dry
129	80	SMW	mod	dry
133	90	SMW	mod	wet
126	100	SMW	mod	wet
	110			
	120			
	130			
	140			
	150			

COMMENTS _____

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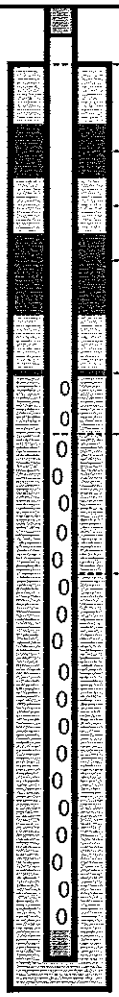
QA/QC _____ DATE _____ SHAW REP. _____ DATE _____

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW23A
Location :	daytona beach fl		
Start Date:	1/11/2012		
Completed:	1/11/2012	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	87
Inspector:		Completion:	87
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	77
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	79
GEOTEXTILE	1
GRAVEL PACK	

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	77
BOTTOM CAP	1
BENTONITE	4
BACKFILL	2
STONE	79
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
97	10	SMW	min	dry
107	20	SMW	min	dry
119	30	SMW	mod	dry
115	40	SMW	mod	dry
132	50	SMW	mod	dry
110	60	SMW	mod	wet
129	70	SMW	mod	wet
122	80	SMW		wet
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS

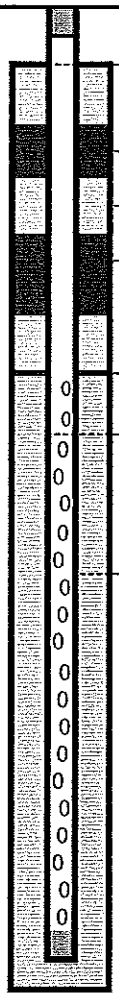
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoka Farms	Well Number:	EW24
Location :	Daytona Beach		
Start Date:	12/14/2011		
Completed:	12/14/2011	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" HDPE
Rig:	soilmac	Total Depth Drilled:	66
Inspector:		Completion:	66
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	54
BACKFILL	2
BENTONITE #1	2
BACKFILL	4
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	0

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	54
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	56
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
95	10	swm	mod	dry
100	20	swm	mod	dry
119	30	swm	mod	dry
115	40	swm	mod	dry
123	50	swm	mod	dry
95	60	swm	mod	wet
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

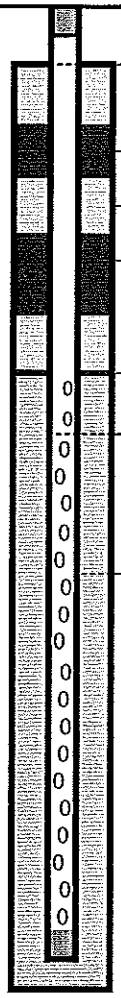
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoka Farms	Well Number:	EW57
Location :	Daytona Beach Fl		
Start Date:	12/14/2011		
Completed:	12/14/2011	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" HDPE
Rig:	soilmac	Total Depth Drilled:	31
Inspector:		Completion:	31
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	20
BACKFILL	2
BENTONITE #1	2
BACKFILL	4
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	22

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	20
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	22
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
102	10	SMW	mod	dry
114	20	SMW	mod	dry
109	30	SMW	mod	dry
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

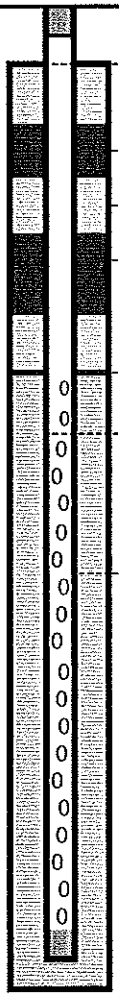
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoka Farms	Well Number:	EW56
Location :	Daytona Beach Fl		
Start Date:	12/14/2011		
Completed:	12/14/2011	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" HDPE
Rig:	soilmac	Total Depth Drilled:	27
Inspector:		Completion:	27
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	16
BACKFILL	2
BENTONITE #1	3
BACKFILL	5
BENTONITE #2	
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	18

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	16
BOTTOM CAP	1
BENTONITE	3
BACKFILL	7
STONE	18
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
91	10	smw	mod	moist
94	20	smw	mod	wet
90	30	smw	mod	wet
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench drilled at 52 ft hole kept filling bring out full buckets

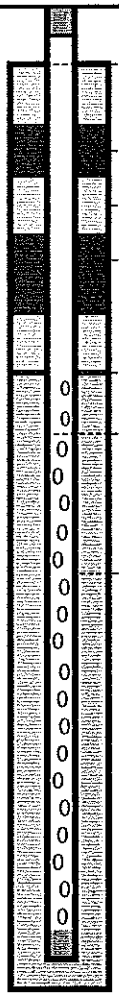
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoca Farms	Well Number:	EW58
Location :	Dayatona Beach Fl		
Start Date:	12/15/2011		
Completed:	12/15/2011	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	29
Inspector:		Completion:	29
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4ft
RISER BELOW	10ft
PERF.PIPE	18ft
BACKFILL	2
BENTONITE #1	2
BACKFILL	4
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	20

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14ft
PERF PIPE	18ft
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	20
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
93	10	smw	min	dry
97	20	smw	min	dry
108	30	smw	mod	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

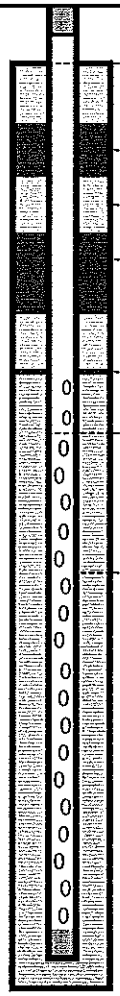
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW59
Location :	daytona beach fl		
Start Date:	12/15/2011		
Completed:	12.15.11	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	28
Inspector:		Completion:	28
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	18
BACKFILL	2
BENTONITE #1	2
BACKFILL	3
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	20

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	18
BOTTOM CAP	1
BENTONITE	4
BACKFILL	9
STONE	20
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
97	10	smw	mod	dry
99	20	smw	mod	dry
105	30	smw	mod	dry
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

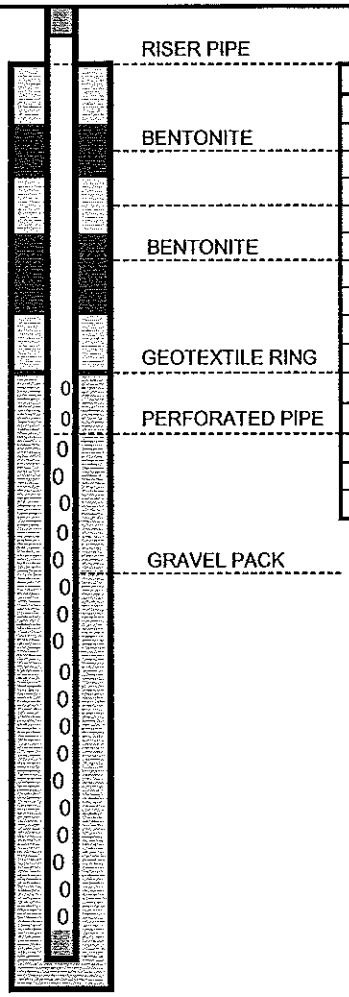
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 60
Location :	daytona beach fl		
Start Date:	12/15/2011		
Completed:	12/15/2011	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	28
Inspector:		Completion:	28
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	18
BACKFILL	2
BENTONITE #1	2
BACKFILL	3
BENTONITE #2	2
BACKFILL	
GEOTEXTILE	1
GRAVEL PACK	20

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	18
BOTTOM CAP	1
BENTONITE	4
BACKFILL	5
STONE	20
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
90	10	smw	min	dry
98	20	smw	min	dry
96	30	smw	min	dry
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

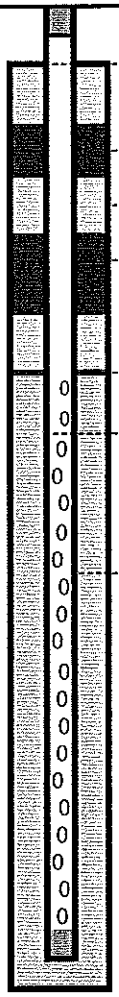
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW61
Location :	daytona beach fl		
Start Date:	12/15/2011		
Completed:	12/15/2011	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	30
Inspector:		Completion:	30
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	20
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	
GEOTEXTILE	1
GRAVEL PACK	22

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	20
BOTTOM CAP	1
BENTONITE	4
BACKFILL	2
STONE	22
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
91	10	smw	mod	moist
99	20	smw	mod	moist
101	30	smw	mod	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

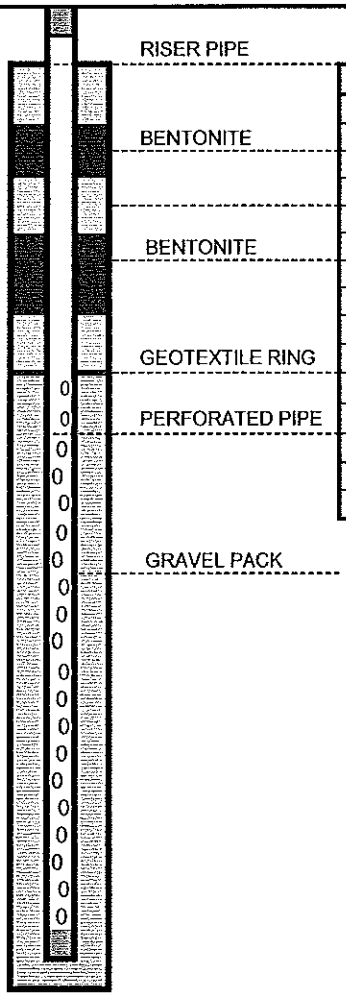
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 63
Location :	daytona beach fl		
Start Date:	12/15/2011		
Completed:	12/15/2011	Boring Diameter:	36"
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmac	Total Depth Drilled:	29
Inspector:		Completion:	29
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	19
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	21

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	19
BOTTOM CAP	1
BENTONITE	4
BACKFILL	2
STONE	21
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
93	10	smw	mod	moist
111	20	smw	mod	moist
111	30	smw	mod	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

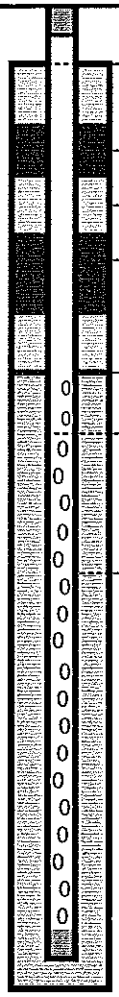
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 62
Location :	daytona fl		
Start Date:	12/16/2011		
Completed:	12/16/2011	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmec	Total Depth Drilled:	30
Inspector:		Completion:	30
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	20
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	
GEOTEXTILE	1
GRAVEL PACK	22

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	20
BOTTOM CAP	1
BENTONITE	4
BACKFILL	2
STONE	22
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
81	10	smw	min	wet
94	20	smw	min	moist
112	30	smw	mod	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

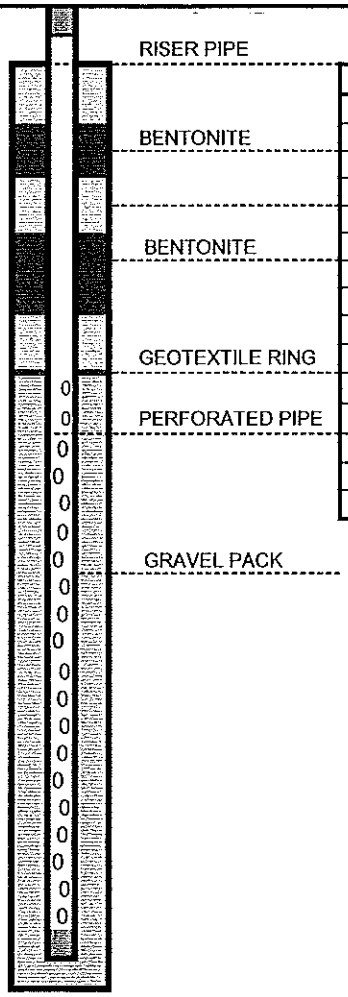
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 55
Location :	daytona beach fl		
Start Date:	12/19/2011		
Completed:	12/19/2011	Boring Diameter:	36
Contractor:	shaw	Pipe Material & Diameter:	6" hdpe
Rig:	soilmec	Total Depth Drilled:	41
Inspector:		Completion:	41
Driller:	waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	21
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	
GEOTEXTILE	1
GRAVEL PACK	23

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	21
BOTTOM CAP	1
BENTONITE	4
BACKFILL	2
STONE	23
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
115	10	smw	min	moist
117	20	smw	mod	moist
119	30	smw	mod	moist
119	40	smw	mod	moist
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

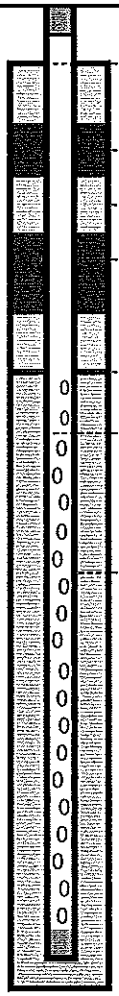
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 64
Location :	Daytona Beach Fl		
Start Date:	12/17/2011		
Completed:	12/17/2011	Boring Diameter:	36
Contractor:	Shaw	Pipe Material & Diameter:	6" HDPE
Rig:	Soilmec	Total Depth Drilled:	45
Inspector:		Completion:	45
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	35
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	37

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	35
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	37
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
92	10	SMW	min	moist
100	20	SMW	mod	moist
118	30	SMW	mod	moist
117	40	SMW	mod	moist
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

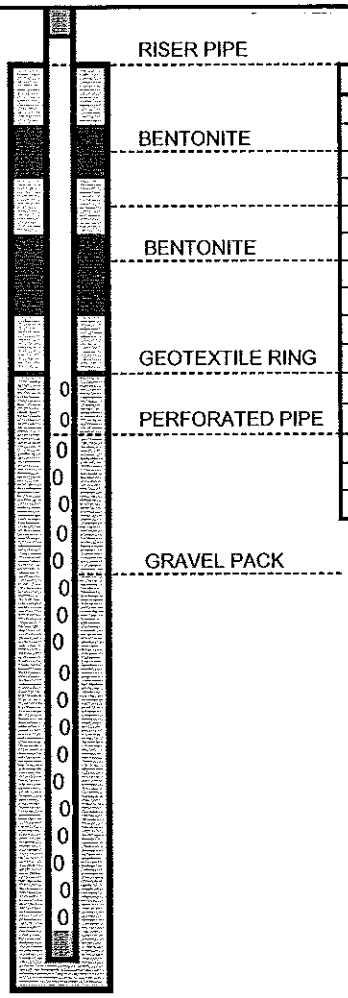
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW 65
Location :	Daytona Beach Fl		
Start Date:	12/7/2011		
Completed:	12/7/2011	Boring Diameter:	36
Contractor:	Shaw	Pipe Material & Diameter:	6" HDPE
Rig:	Soilmec	Total Depth Drilled:	48
Inspector:		Completion:	48
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	38
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	40

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	38
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	40
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
86	10	SMW	min	moist
101	20	SMW	mod	moist
110	30	SMW	mod	moist
108	40	SMW	mod	moist
115	50	SMW	mod	moist
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS bulit bench

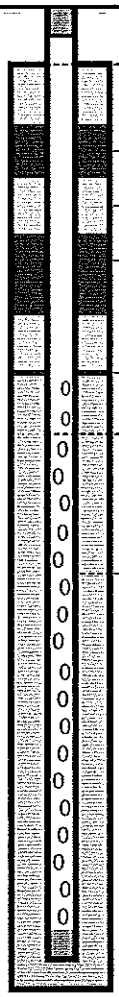
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW66
Location :	daytona beach fl		
Start Date:	12/7/2011		
Completed:	12/7/2011	Boring Diameter:	36
Contractor:	Shaw	Pipe Material & Diameter:	6" hdpe
Rig:	Soilmec	Total Depth Drilled:	29
Inspector:		Completion:	29
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	19
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	21

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	19
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	21
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
84	10	SMW	min	dry
87	20	SMW	mod	dry
90	30	SMW	mod	dry
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

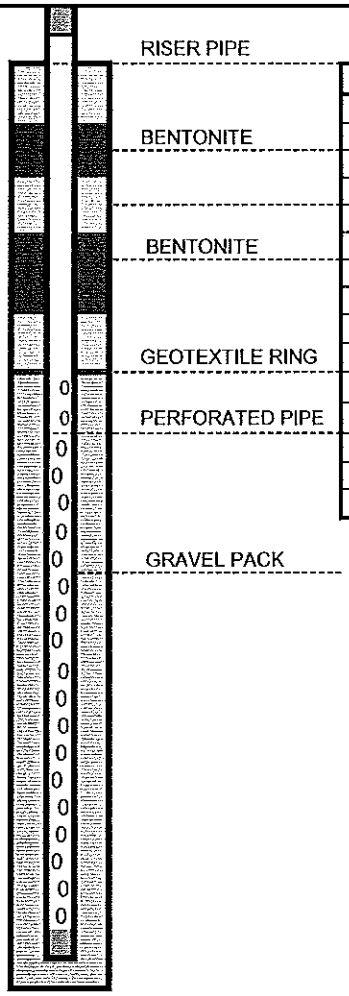
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	tomoca farms	Well Number:	EW67
Location :	Daytona Beach Fl		
Start Date:	12/19/2011		
Completed:	12/19/2011	Boring Diameter:	36
Contractor:	Shaw	Pipe Material & Diameter:	6" hdpe
Rig:	Soilmec	Total Depth Drilled:	34
Inspector:		Completion:	34
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	24
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	26

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	24
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	26
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
95	10	SMW	Mod	moist
109	20	SMW	Mod	moist
108	30	SMW	Mod	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS BUILT BENCH

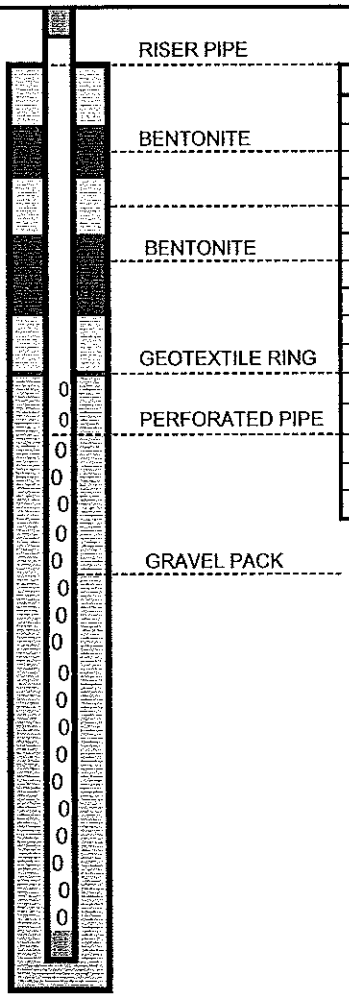
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	TOMOCA FARMS	Well Number:	EW 68
Location :	Daytona Beach Fl		
Start Date:	12/19/2011		
Completed:	12/19/2011	Boring Diameter:	36"
Contractor:	Shaw	Pipe Material & Diameter:	6" HDPE
Rig:	Soilmec	Total Depth Drilled:	35
Inspector:		Completion:	35
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	25
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	27

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	25
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	27
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
97	10	SMW	MOD	Moist
99	20	SMW	MOD	MOIST
118	30	SMW	MOD	MOIST
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

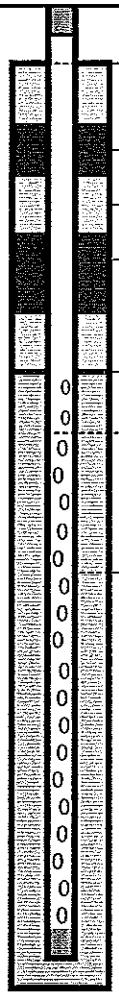
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoca Farms	Well Number:	EW 70
Location :	Daytona Beach Fl		
Start Date:	12/20/2011		
Completed:	12/20/2011	Boring Diameter:	36"
Contractor:	Shaw	Pipe Material & Diameter:	6" HDPE
Rig:	Soilmec	Total Depth Drilled:	32
Inspector:		Completion:	32
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	22
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	24

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	22
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	24
GEOTEXTILE	1



TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
95	10	SMW	Mod	moist
99	20	SMW	Mod	moist
105	30	SMW	Mod	Moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

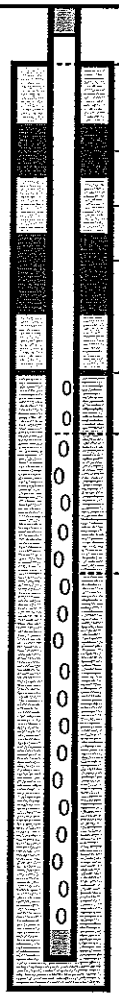
QA/QC DATE SHAW REP. DATE

SHAW GROUP

Site Name:	Tomoca Farms	Well Number:	EW 69
Location :	Daytona Beach Fl		
Start Date:	12/20/2011		
Completed:	12/20/2011	Boring Diameter:	36"
Contractor:	Shaw	Pipe Material & Diameter:	6" HDPE
Rig:	Soilmec	Total Depth Drilled:	33
Inspector:		Completion:	33
Driller:	Waters	Abandonment:	

COMPLETION LOG	
RISER STICK UP	4
RISER BELOW	10
PERF.PIPE	23
BACKFILL	2
BENTONITE #1	2
BACKFILL	2
BENTONITE #2	2
BACKFILL	0
GEOTEXTILE	1
GRAVEL PACK	25

MATERIALS LIST	
TOP CAP	1
SOLID PIPE	14
PERF PIPE	23
BOTTOM CAP	1
BENTONITE	4
BACKFILL	4
STONE	25
GEOTEXTILE	1



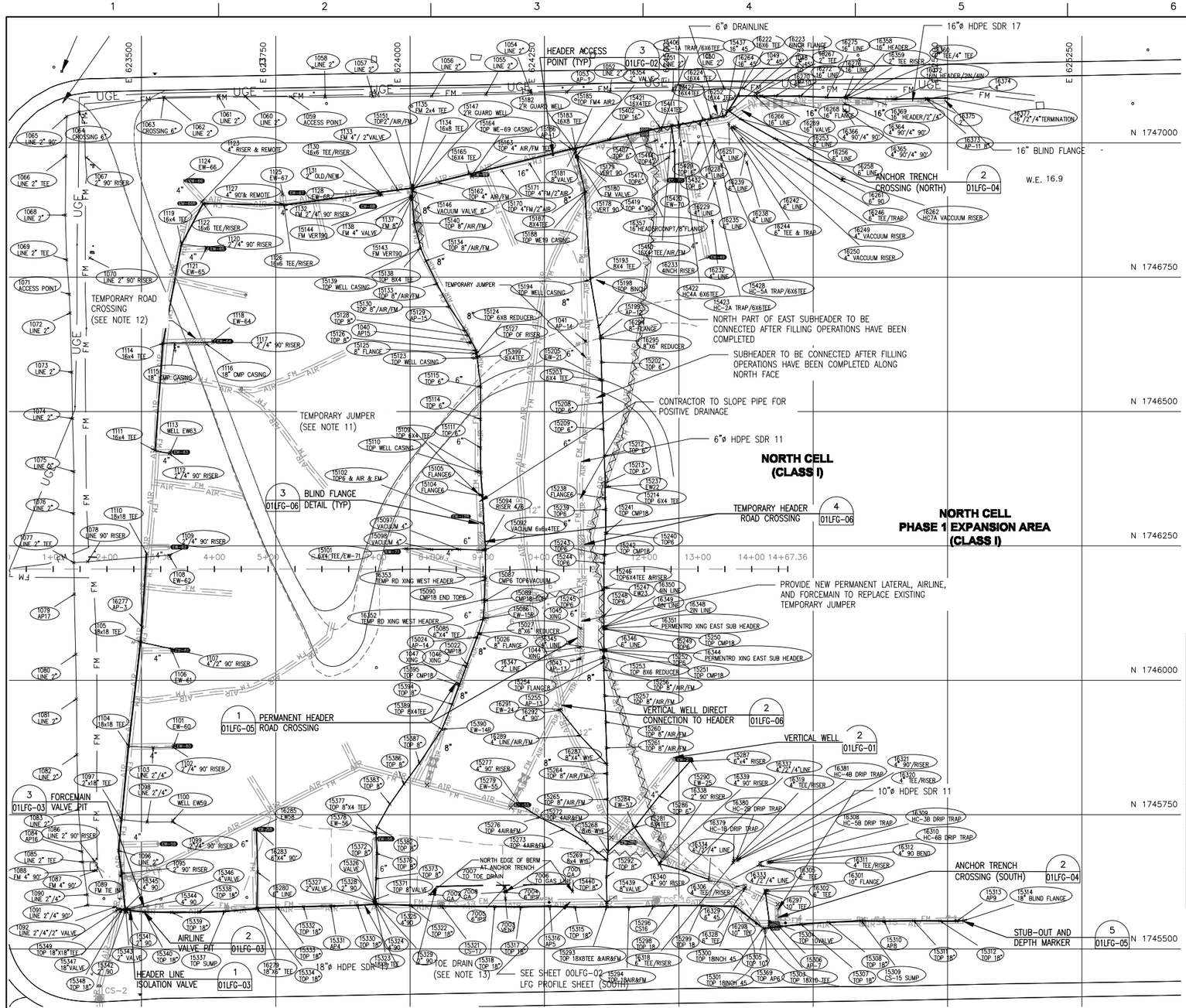
TEMP.	DEPTH	TRASH	DECOMP	MOISTURE
85	10	smw	MOD	moist
100	20	smw	MOD	moist
108	30	smw	MOD	moist
	40			
	50			
	60			
	70			
	80			
	90			
	100			
	110			
	120			
	130			
	140			
	150			

COMMENTS built bench

QA/QC DATE SHAW REP. DATE

Appendix D

Record Drawings



N

SCALE IN FEET

100 50 0 100 200

LEGEND

- LIMITS OF LINER
- LIMITS OF CONSTRUCTION
- 1080 — EXISTING CONTOURS (MAJOR)
- EXISTING CONTOURS (MINOR)
- LFG PIPE TO BE ABANDONED
- LFG PIPE ABANDONED IN PLACE
- NEW HDPE SDR 17 LFG HEADER (SIZE VARIES)
- HP — DENOTES HIGH POINT IN HEADER
- NEW HDPE SDR 11 LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HEADER PIPE (SIZE VARIES)
- EXISTING LFG LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND LEACHATE FORCEMAIN
- LCR–1 EXISTING LEACHATE CLEANOUT RISER
- HC–7B EXISTING HORIZONTAL LFG WELLHEAD
- EW–1 EXISTING LFG WELL
- LCRS EXISTING LEACHATE RISER SUMP
- CS–2 EXISTING CONDENSATE SUMP
- EXISTING HEADER ISOLATION VALVE
- ISOLATION VALVE
- CS–2 CONDENSATE SUMP
- EW–1 LFG WELL
- EW–24 CONNECTION TO EXISTING VERTICAL WELLS
- EW–16AR UPSLOPE WELLHEAD
- AP–2 ACCESS POINTS
- 30.64 / 20 SURVEY MONUMENTS
- CP–3 CONNECTION POINTS TO EXISTING LFG SYSTEM

NOTES:

1. AERIAL TOPOGRAPHY WAS TAKEN FROM AERIAL SURVEY PERFORMED BY AERIAL CARTOGRAPHICS OF AMERICA ON MAY 7, 2011.
2. LIMITS OF LINER OBTAINED FROM THE TOMOKA LANDFILL LINER AS-BUILT DRAWING BY MAPTECH, INC. ON OCTOBER 4, 2005 AND FROM THE CLASS I CELL FILL SEQUENCING PLAN DRAWING PREPARED BY SCS ENGINEERS AND SUBMITTED TO FDEP ON AUGUST 14, 2009.
3. UTILITY INFORMATION OBTAINED FROM THE SPECIFIC PURPOSE SURVEY GAS LINE AS-BUILTS TOMOKA FARMS ROAD LANDFILL PREPARED BY SUGER & ASSOCIATES, INC. ON MARCH 1, 2010.
4. CONTRACTOR TO PERFORM PRE CONSTRUCTION SURVEY AS SPECIFIED IN THE SPECIFICATIONS.
5. EXISTING EDGE OF LINER LOCATION ALONG THE NORTH SLOPE IS APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING LINER EDGE PRIOR TO CONSTRUCTION.
6. EXISTING CLEANOUT LOCATIONS AND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING CLEANOUTS AND UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
7. REBAR SPACED EVERY 50' O.C. ALTERNATING SIDES.
8. CONTRACTOR SHALL PROVIDE ADDITIONAL SUBHEADER TO ALLOW FOR EXPANSION.
9. 6" SUBHEADER BETWEEN ACCESS POINTS AP–12 AND AP–13, AP–14 AND AP–15 SHALL BE EXPOSED UNTIL FILLING OPERATIONS ON TOP DECK HAVE BEEN COMPLETED.
10. ALL ABANDONED LATERAL LINES TO BE CUT AND CAPPED. SEE DETAIL 5 ON SHEET 01LFG–06.
11. CONTRACTOR TO PROVIDE A TEMPORARY JUMPER AND UP SLOPE WELLHEAD UNTIL FILLING OPERATIONS HAVE BEEN COMPLETED.
12. CONNECTION OF WELL EW–64 SHALL BE MOVED TO CONNECT TO NEW HEADER LOCATION IN PHASE III B.
13. **CONTRACTOR TO CONNECT LANDFILL GAS COLLECTION SYSTEM FROM NEWLY INSTALLED HEADER LINE TO HIGH POINTS OF TOE DRAIN. LATERAL SHALL BE SLOPED TO HEADER AWAY FROM TOE DRAIN A MINIMUM OF 3% OUTSIDE OF WASTE. WELLHEAD SHALL CONSIST OF 2" BALL VALVE AND SAMPLE PORTS ON EITHER SIDE. LATERALS SHALL BE SAME SIZE DIAMETER AS TOE DRAIN. CONNECTION TO HEADER SHALL BE WITH BRANCH SADDLE.**
14. **DRAIN LINE TO LCR –8 TO BE CUT AND CAPPED AT LCR –8.**

PHASE III A CONSTRUCTION TABLE

ITEM DESCRIPTION	UNIT	QUANTITY
VERTICAL LFG WELLHEAD	EA	21
ACCESS POINT	EA	14
CONDENSATE SUMP	EA	5
2"ø HDPE SDR 9 AIRLINE	LF	5,992
4"ø HDPE SDR 9 CONDENSATE FORCEMAIN	LF	5,848
4"ø HDPE SDR 11 LATERAL	LF	1,147
6"ø HDPE SDR 11 LATERAL	LF	1,416
8"ø HDPE SDR 11 SUB-HEADER	LF	1,264
10"ø HDPE SDR 11 SUB-HEADER	LF	35
16"ø HDPE SDR 17 HEADER	LF	595
18"ø HDPE SDR 17 HEADER	LF	1,596

HDR Engineering, Inc.
300 W Forsyth St
Jacksonville, FL 32202
FLORIDA CA #00004215

ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	0000000000170244

Volusia County FLORIDA

CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA

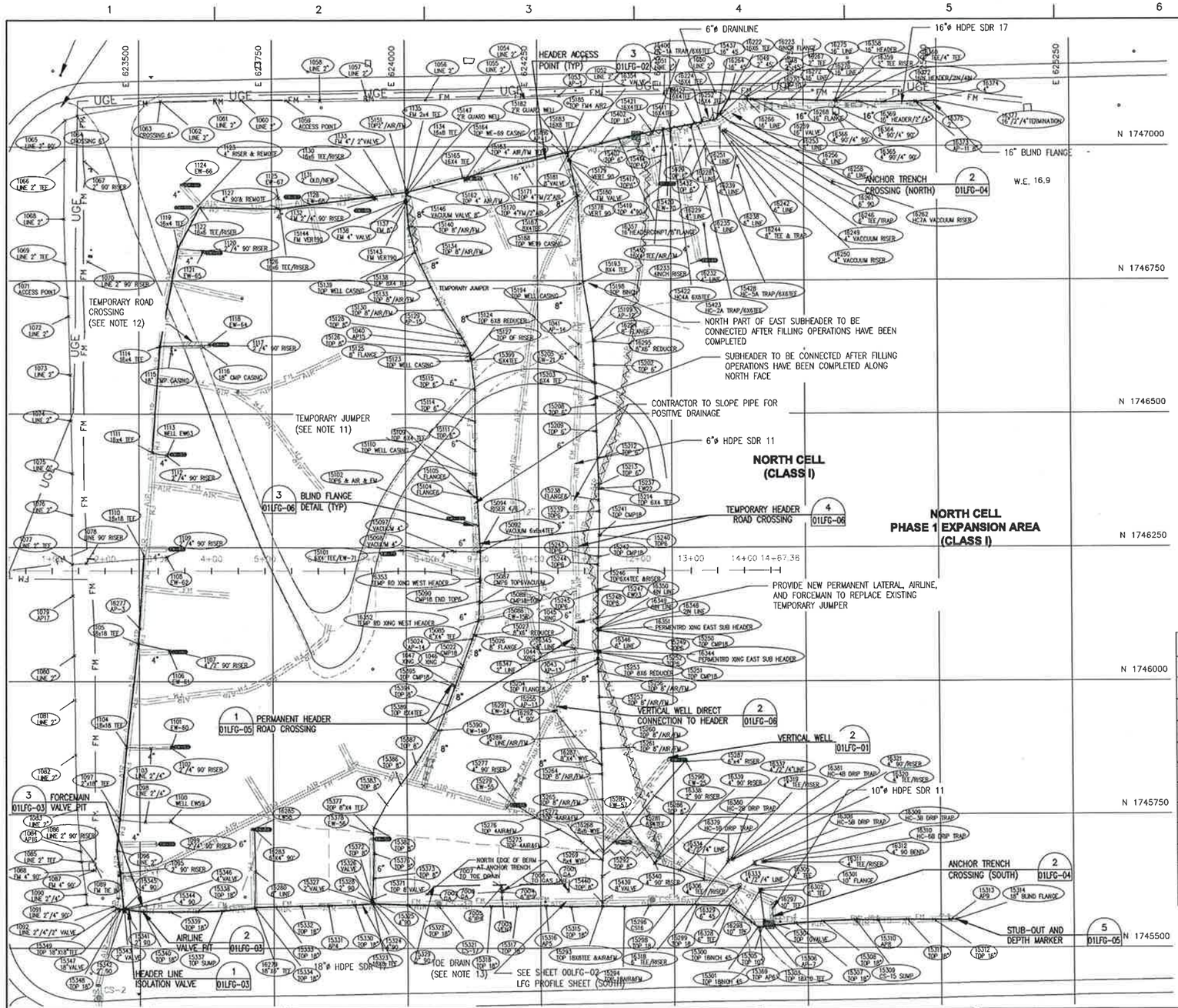
PHASE III - PART A
LFG SYSTEM EXPANSION

0 1" 2"

FILENAME	00LFG-01.dwg
SCALE	AS SHOWN

SHEET **00LFG-01**

K:\CONST\Tomoka Landfill\Horiz&Cons Types\2912-1-11\Adj.Jill\AS900 FC-01.dwg, 1 of 2, 6/12/2012 6:50:43 AM, JWC, To 3-F pc3, 24



N

SCALE IN FEET

100 50 0 100 200

LEGEND

- LIMITS OF LINER
- LIMITS OF CONSTRUCTION
- 1080 — EXISTING CONTOURS (MAJOR)
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- EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)
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- EXISTING UNDERGROUND LEACHATE FORCEMAIN

- LCR-1 — EXISTING LEACHATE CLEANOUT RISER
- HC-7B — EXISTING HORIZONTAL LFG WELLHEAD
- EW-1 — EXISTING LFG WELL
- LCRS — EXISTING LEACHATE RISER SUMP
- CS-2 — EXISTING CONDENSATE SUMP
- EXISTING HEADER ISOLATION VALVE
- ISOLATION VALVE
- CS-2 — CONDENSATE SUMP
- EW-1 — LFG WELL
- EW-24 — CONNECTION TO EXISTING VERTICAL WELLS
- EW-16AR — UPSLOPE WELLHEAD
- AP-2 — ACCESS POINTS
- 30.64 / 20 — SURVEY MONUMENTS
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NOTES:

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PHASE III A CONSTRUCTION TABLE

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4"ø HDPE SDR 11 LATERAL	LF	1,147
6"ø HDPE SDR 11 LATERAL	LF	1,416
8"ø HDPE SDR 11 SUB-HEADER	LF	1,264
10"ø HDPE SDR 11 SUB-HEADER	LF	85
16"ø HDPE SDR 17 HEADER	LF	595
18"ø HDPE SDR 17 HEADER	LF	1,581

CLIFFORD G. KOENIG LICENSE No. 64078 STATE OF FLORIDA PROFESSIONAL ENGINEER

11-10-2012

HDR Engineering, Inc. 320 W Forsyth St Jacksonville, FL 32202 FLORIDA CA #00000615

ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	0000000000170244

Volusia County FLORIDA

CLASS I ACTIVE AREA TOMOKA FARMS ROAD LANDFILL VOLUSIA COUNTY, FLORIDA

PHASE III - PART A LFG SYSTEM EXPANSION

0 1" 2"

FILENAME	00LFG-01.dwg
SCALE	AS SHOWN

SHEET 00LFG-01

K:\CONSTR\Tomoka_and\M\NorthCell\Ops=1\P12-1-11\Astuti\VS500 PC-01.dwg, 1 of 2, 6/12/2012 8:50:43 AM, DWG To PDF.pc3, 24"x36"

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
1040	AP-15	1746628.2376	624111.0705	136.09	X
1041	AP-14	1746630.9372	624326.4010	135.38	X
1042	AP-14	1746079.8544	624123.6905	135.29	X
1043	AP-13	1746039.8911	624315.9466	135.73	X
1044	XING	1746061.1877	624316.5989	135.55	X
1045	XING	1746096.6376	624317.6391	136.37	X
1046	XING	1746026.0906	624104.0238	134.96	X
1047	XING	1745993.0500	624091.2898	129.95	X
1048	2" 45° BEND	1747092.8318	624642.9107	27.46	31.45
1049	2" 45° BEND	1747101.4380	624620.4036	26.24	31.10
1050	2" LINE	1747100.4222	624584.5139	25.87	30.09
1051	2" LINE	1747097.2056	624488.8075	26.03	30.37
1052	2" LINE	1747095.8324	624372.0440	26.11	29.99
1053	ACCESS POINT	1747093.9647	624291.1874	25.84	30.30
1054	2" LINE	1747092.4538	624225.0844	25.63	30.19
1055	2" LINE	1747089.8033	624140.8365	25.49	30.08
1056	2" LINE	1747086.9149	624039.9627	25.63	29.76
1057	2" LINE	1747086.3081	623930.4965	25.89	29.51
1058	2" LINE	1747084.7924	623841.7176	25.87	29.70
1059	ACCESS POINT	1747085.8909	623777.4421	26.45	30.04
1060	2" LINE	1747086.3625	623692.9485	26.54	X
1061	2" LINE	1747086.7206	623643.4268	27.39	30.58
1062	2" LINE	1747084.8923	623541.5228	28.80	31.46
1063	6" CROSSING	1747084.8307	623541.6560	28.79	31.46
1064	6" CROSSING	1747057.6326	623383.6773	23.91	30.82
1065	2" 90° BEND	1747049.3437	623360.7693	27.25	X
1066	2" TEE	1746975.5594	623359.2616	24.74	27.52
1067	2" 90° RISER	1746972.6128	623397.5919	26.74	X
1068	2" LINE	1746865.5541	623358.1584	24.28	26.88
1069	2" TEE	1746782.3755	623360.8244	24.62	27.33
1070	2" 90° RISER	1746785.7617	623403.9615	26.92	X
1071	ACCESS POINT	1746718.2229	623365.6749	24.68	27.66
1072	2" LINE	1746683.3856	623366.8652	24.49	27.36
1073	2" LINE	1746573.0811	623370.1827	24.92	27.86
1074	2" LINE	1746486.9572	623371.6328	24.47	27.75
1075	2" LINE	1746388.1081	623374.2938	25.26	27.88
1076	2" LINE	1746310.2052	623373.7307	25.62	28.13
1077	2" TEE	1746218.7831	623374.0407	126.44	28.70
1078	90° RISER	1746220.6299	623400.0185	27.40	X
1079	AP-17	1746160.1631	623374.9163	25.11	28.72
1080	2" LINE	1746048.4328	623377.7155	25.60	28.57
1081	2" LINE	1745965.0115	623378.5932	26.74	29.15
1082	2" LINE	1745861.5038	623379.6089	26.15	X
1083	2" LINE	1745759.5525	623382.5666	25.72	28.64
1084	AP-16	1745680.9905	623389.2380	27.28	29.58
1085	LINE 2" TEE	1745661.5747	623390.4559	27.22	29.47
1086	2" 90° RISER	1745663.333	623412.7164	27.50	X
1087	FM 4" 90°	1745645.8817	623415.0125	28.01	X
1088	FM 4" 90°	1745646.0948	623415.4673	31.80	X
1089	FM TIE IN	1745656.1545	623415.8867	23.69	X
1090	LINE 2"/4"	1745600.9810	623399.2625	26.64	29.50
1091	LINE 2"/4" 90° BEND	1745581.4171	623399.9130	25.89	29.69
1092	LINE 2"/4"/2" VALVE	1745578.3581	623452.0153	26.28	29.20
1093	18"x18" TEE	1745574.3706	623456.8201	19.66	X
1094	18" VALVE	1745573.3670	623463.5039	28.07	X
1095	2" 90° RISER	1745640.5917	623463.0688	37.01	31.54
1096	2" LINE	1745683.1262	623457.2264	30.08	32.33
1097	2"x18" TEE	1745740.6109	623462.6168	31.93	X
1098	2"/4" LINE	1745735.9133	623510.5708	43.46	47.01
1099	2"/4" 90° RISER	1745736.3561	623557.5759	56.18	58.29
1100	EW-59	1745739.2370	623558.3440	62.93	58.29
1101	EW-60	1745878.0167	623560.1340	65.42	60.77
1102	2"/4" 90° RISER	1745875.1917	623559.3384	57.23	60.77
1103	LINE 2"/4"	1745874.5002	623521.7423	45.97	49.13
1104	18"x18" TEE	1745877.1907	623475.7177	33.28	37.54
1105	18"x18" TEE	1746070.9187	623498.2294	38.08	43.23
1106	EW-61	1746055.1926	623556.6987	65.70	62.14
1107	4"/2" 90° RISER	1746058.2687	623556.7702	58.35	62.14
1108	EW-62	1746229.8642	623552.7487	65.91	61.99
1109	2"/4" 90° RISER	1746232.7551	623551.4740	58.74	61.99
1110	18"x18" TEE	1746235.6346	623509.5775	44.35	48.54
1111	16"x4" TEE	1746427.5540	623525.0070	49.49	53.00
1112	2"/4" 90° RISER	1746421.7353	623551.7146	58.46	61.44
1113	EW-63	1746423.5334	623553.5981	66.29	61.43
1114	16"x4" TEE	1746626.7963	623539.7417	54.40	58.74
1115	18" CMP CASING	1746625.5978	623562.0344	61.52	67.05
1116	18" CMP CASING	1746625.3066	623621.2205	72.54	76.76
1117	2"/4" 90° RISER	1746629.1084	623633.0058	74.33	78.18
1118	EW-64	1746631.6584	623632.8600	81.68	78.18
1119	16"x4" TEE	1746811.2922	623574.4142	61.94	66.00
1120	2"/4" 90° RISER	1746805.9453	623620.2117	73.54	76.49
1121	EW-65	1746803.9547	623620.7375	81.85	76.49
1122	16"x6" TEE /RISER	1746887.3263	623614.9069	74.73	70.87
1123	4" RISER & REMOTE	1746890.3089	623612.0274	73.79	69.65
1124	EW-66	1746929.5765	623580.7679	59.01	61.11
1125	EW-67	1746904.5276	623762.6455	65.00	69.18
1126	16"x6" TEE /RISER	1746884.2903	623765.0659	70.51	75.05
1127	4" 90° BEND & REMOTE	1746886.0559	623762.7705	70.01	75.05
1128	EW-68	1746904.6993	623945.1798	67.15	70.60
1130	16"x6" TEE /RISER	1746907.5222	623944.3777	63.41	70.60
1131	2" OLD/NEW	1746907.1759	623944.3305	67.81	70.60
1132	FM 2"/4" 90° RISER	1746902.9999	623947.1684	68.21	70.98
1133	FM 4"/2" VALVE	1746911.2890	623977.3040	65.63	68.54
1134	16"x8" TEE	1746915.8564	624004.1541	60.70	67.50
1135	FM 2"x4" TEE	1746917.4481	624004.1138	61.98	67.56
1136	8" VALVE	1746910.9007	624004.5541	63.25	X
1137	FM 8"	1746899.7603	624003.1075	59.84	71.04
1138	FM 4" VALVE	1746899.7178	624003.2541	59.62	71.04
7001	GA	1745606.5449	624302.0470	25.80	X
7002	GA	1745601.6979	624036.0893	26.30	X

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
7003	VENT	1745594.4088	624177.2169	34.24	X
7004	6"IPS	1745605.9025	624176.8575	27.56	X
7005	6"IPS	1745614.4579	624176.2358	23.05	X
7006	TO GAS LINE	1745608.3457	624176.7938	28.75	X
7007	TO TOE DRAIN	1745615.6853	624176.1744	24.19	X
7008	GA	1745606.3532	624177.7650	25.70	X
15022	18" CMP	1746029.2413	624106.2043	147.09	142.48
15024	AP-14	1746079.6160	624124.1161	142.62	144.09
15026	8" FLANGE	1746086.3086	624126.9828	143.22	144.55
15027	8"x6" REDUCER	1746087.5436	624127.3699	143.01	144.55
15085	6"X4" TEE	1746114.1452	624136.2214	144.35	145.85
15086	EW-15R	1746115.0411	624138.5547	150.31	145.85
15087	6" CMP TOP 6" VACUUM	1746147.0363	624138.0241	146.01	147.45
15089	18" CMP TOP	1746147.0853	624137.9098	147.08	147.45
15090	18" CMP END TOP 6"	1746187.3487	624139.6712	147.35	149.61
15092	6" VACUUM 6"x4" TEE	1746242.6522	624140.1034	148.41	149.73
15094	4"/6" RISER	1746242.3298	624136.9243	148.27	150.11
15097	4" VACUUM	1746243.3326	624091.7346	145.71	148.28
15098	4" VACUUM	1746243.3378	624040.0325	141.60	144.50
15101	6"x4" TEE & WE-71	1746244.9945	623992.3769	133.05	136.25
15102	TOP 6"/AIR/FM	1746291.0715	624136.1783	149.00	150.46
15104	6" FLANGE	1746343.1300	624134.5280	149.74	150.66
15105	6" FLANGE	1746343.5352	624134.7103	149.86	150.66
15109	TOP 6"x4" TEE	1746386.9382	624131.3267	148.31	149.27
15110	TOP WELL CASING	1746387.1742	624126.3874	151.45	148.10
15111	TOP 6"	1746432.4184	624131.0306	147.73	148.54
15114	TOP 6"	1746485.6449	624131.0345	146.79	147.79
15115	TOP 6"	1746545.6104	624131.3947	145.62	146.89
15123	TOP WELL CASING	1746599.8142	624119.7761	148.24	144.75
15124	TOP 6"x8" REDUCER	1746607.2755	624123.3407	143.30	145.25
15125	8" FLANGE	1746608.0201	624123.1577	143.47	145.25
15126	TOP 8"	1746613.4351	624122.6259	143.34	145.42
15127	6"x4" TEE TOP OF RISER	1746600.9329	624123.7340	149.57	145.07
15128	TOP 8"	1746641.3740	624108.1462	140.52	144.11
15129	AP-15	1746649.1187	624103.6976	139.22	143.50
15130	TOP 8"/AIR/FM	1746695.0388	624072.6163	127.47	131.98
15133	TOP 8"/AIR/FM	1746737.7151	624049.7646	114.35	119.37
15134	TOP 8"/AIR/FM	1746780.3584	624029.1399	104.24	106.70
15138	TOP 8"X4" TEE	1746804.5502	624019.3849	99.67	103.58
15139	TOP WELL CASING	1746802.7592	624017.8325	106.50	103.99
15140	TOP 8"/AIR/FM	1746851.7744	624007.5252	85.07	88.79
15143	FM VERT 90° BEND	1746897.9334	624003.5820	75.10	X
15144	FM VERT 90° BEND	1746901.2130	624003.4046	74.86	X
15145	FM VALVE	1746899.5833	624003.6438	75.36	X
15146	VACUUM VALVE 8"	1746910.2977	624004.2765	63.05	X
15147	2'R GUARD WELL	1746910.9838	624004.2712	62.67	X
15148	16"X8" TEE	1746914.6047	624004.1261	60.27	X
15151	2" AIR & FM	1746917.3668	624003.7714	61.69	X
15162	TOP 4" AIR & FM	1746925.6801	624053.2728	63.73	66.79
15163	TOP 4" AIR & FM TEES	1746937.9695	624115.1102	62.15	66.73
15164	WE-69 TOP CASING	1746939.0605	624113.9399	70.62	66.15
15165	16"X4" TEE	1746942.1628	624109.9717	58.65	65.54
15170	TOP 4"FM/2"AIR	1746947.9308	624170.6973	61.53	64.27
15171	TOP 4"FM/2"AIR	1746960.9132	624222.7015	57.23	60.93
15178	VERT 90°	1746973.4294	624309.3383	59.04	56.86
15179	VERT 90°	1746976.0942	624308.9296	58.98	53.59
15180	FM VALVE	1746974.5834	624309.0798	59.39	X
15181	8" VALVE	1746984.7241	624307.6224	45.85	X
15182	2'R GUARD WELL	1746985.1995	624307.6800	45.60	X
15183	16"X8" TEE	1746989.9694	624308.0359	42.31	49.50
15185	TOP 4"FM/2"AIR	1746987.0095	624304.8646	45.54	50.19
15186	AP-1	1746988.55761	624299.7665	43.98	50.79
15187	8"X4" TEE	1746909.1978	624325.0762	70.62	74.00
15188	TOP WE-19 CASING	1746909.0137	624327.6203	79.53	74.04
15193	8"X4" TEE	1746747.1101	624335.2181	111.47	115.63
15194	TOP WELL CASING	1746743.7986	624331.0879	119.38	116.13
15198	TOP 8"	1746657.9507	624350.617	136.26	138.81
15199	AP-12	1746639.9128	624354.0185	140.79	142.38
15202	TOP 6"	1746591.7083	624355.6975	143.52	142.86
15203	6"x4" TEE	1746558.0129	624356.2665	144.54	143.92
15205	EW-21	1746558.4587	624358.4005	147.33	143.03
15208	TOP 6"	1746516.9637	624356.6312	145.50	145.01
15209	TOP 6"	1746467.0495	624358.9709	146.48	146.03
15212	TOP 6"	1746417.0547	624361.1368	147.06	146.41
15213	TOP 6"	1746367.1340	624363.0796	147.66	147.10
15214	TOP 6"x4" TEE	1746360.0186	624362.7201	147.81	147.23
15237	EW-22	1746360.4963	624366.9957	144.85	X
15238	6" FLANGE	1746338.7023	624363.0068	148.71	147.81
15239	TOP 6"	1746317.7745	624364.0872	148.18	147.62
15240	TOP 6"	1746273.3181	624363.6403	147.62	149.55
15241	TOP CMP 18"	1746273.1784	624363.6332	148.49	147.37
15242	TOP CMP 18"	1746232.9632	624361.8182	148.19	146.80
15243	TOP 6"	1746233.0434	624361.8845	147.23	X
15244	TOP 6"	1746218.4377	624360.9124	147.07	146.51
15245	TOP 6"	1746168.6417	624360.2103	146.70	146.02
15246	TOP 6"x4" TEE/RISER	1746171.9067	624360.1375	146.77	146.06
15247	EW-23	1746171.6097	624364.0678	144.61	X
15248	TOP 6"	1746118.6091	624359.8651	145.50	144.95
15249	TOP 6"	1746095.5551	624360.3244	145.10	144.87
15250	TOP CMP 18"	1746095.5568	624360.1630	146.07	144.87
15251	TOP CMP 18"	1746054.9450	624360.3198	144.68	X
15252	TOP 6"	1746054.9235	624360.1498	143.77	143.78
15253	TOP 8"x6" REDUCER	1746042.9425	624359.9409	143.09	143.23
15254	TOP 8" FLANGE	1746041.9769	624359.9948	143.09	143.23
15255	AP-13	1746034.0739	624360.2065	141.95	143.02
15256	TOP 8" AIR/FM	1746019.6149	624360.8553	139.34	142.24
15257	TOP 8" AIR/FM	1745971.0704	624361.7559	128.22	131.84
15260	TOP 8" AIR/FM	1745922.1304	624364.2275	113.16	117.64
15261	TOP 8" AIR/FM	1745874.1545	624364.9670	101.93	104.68
15264	TOP 8" AIR/FM	1745826.3100	624366.4533	88.42	91.80

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
15265	TOP 8" AIR/FM	1745778.3812	624367.1123	72.11	75.33
15268	8"x6" WYE	1745680.9443	624368.3272	47.38	50.67
15269	8"x4" WYE	1745665.6206	624366.4725	43.10	46.44
15272	TOP 4" AIR/FM	1745696.9129	624329.0774	52.44	54.99
15273	TOP 4" AIR/FM	1745722.3495	624285.5166	58.82	61.60
15276	TOP 4" AIR/FM	1745744.8306	624241.0098	64.17	66.69
15277	4" 90° BEND/RISER	1745767.0967	624206.0206	70.09	72.29
15279	EW-55	1745766.1332	624203.3024	71.69	71.76
15281	6"x4"TEE	1745726.1898	624417.3099	59.66	62.65
15284	EW-57	1745728.9365	624415.3293	63.24	63.27
15286	TOP 6"	1745784.6973	624463.8357	75.36	78.54
15287	6"x4" RISER	1745849.2152	624521.1820	96.20	99.60
15290	EW-25	1745852.3375	624520.5115	100.31	100.18
15292	TOP 8"	1745634.1463	624365.3202	33.98	37.79
15293	TOP 18"x 8" TEE	1745578.1072	624365.7783	25.66	30.28
15294	TOP 18" PVC	1745578.0143	624406.8798	24.64	31.21
15296	CS-16 (18"PVC E-W INV.=22.03)	1745579.7676	624453.0261	SUMP 22.03	30.16
15298	TOP 18" PVC	1745580.8136	624493.4927	23.27	30.54
15299	TOP 18" PVC	1745580.6591	624543.2882	24.79	31.05
15300	TOP 18" 45° BEND	1745579.0278	624605.6357	26.77	31.67
15301	TOP 18" 45° BEND	1745538.4408	624656.6375	28.27	29.94
15303	TOP 18"x10" TEE	1745539.4000	624669.1711	27.54	29.82
15306	AP-7	1745541.4138	624686.5162	33.82	29.49
15307	TOP OF 18" PVC	1745545.8640	624727.1087	25.94	29.83
15308	TOP OF 18" PVC	1745549.5469	624777.9607	24.71	29.49
15309	CS-15 (18"PVC E-W INV.=21.83)	1745552.4326	624839.5912	31.14	29.30
15310	AP-8	1745551.5571	624881.9877	23.03	29.47
15311	TOP OF 18" PVC	1745552.5315	624936.9421	24.35	29.14
15312	TOP OF 18" PVC	1745551.9849	624985.9860	25.61	28.91
15313	AP-9	1745551.7440	625017.1126	26.53	28.95
15314	18" BLIND FLANGE	1745552.6885	625030.2155	26.96	28.64
15315	TOP 18" PVC	1745577.6872	624306.8256	27.09	30.89
15316	AP-5	1745579.2642	624259.5648	34.83	30.87
15317	TOP 18" PVC	1745578.1777	624205.8697	26.76	30.72
15318	TOP 18" PVC	1745578.6378	624157.1204	24.91	30.92
15321	CS-17 (18"PVC E-W INV.=22.13)	1745579.7427	624058.2979	SUMP 22.09	30.60
15322	TOP 18" PVC	1745581.0268	624000.2592	24.17	30.67
15323	18"x8" TEE	1745583.5576	623935.2521	26.48	30.81
15324	4" 90° BEND	1745585.8643	623933.9502	32.37	X
15325	4" 90° BEND	1745588.2755	623933.7853	32.17	X
15326	VALVE	1745586.8886	623933.9769	32.64	X
15327	2" VALVE	1745586.5621	623935.3880	32.63	X
15328	2" 90° BEND	1745587.5502	623935.0990	32.41	X
15329	2" 90° BEND	1745585.6484	623935.5495	32.45	X
15330	TOP 18" PVC	1745581.2366	623901.6394	27.25	31.57
15331	AP-4	1745579.8318	623852.5310	27.61	31.28
15332	TOP 18" PVC	1745578.7205	623801.3197	27.39	31.67
15333	TOP 18" PVC	1745577.4669	623752.9467	21.01	31.04
15334	TOP 18" PVC	1745575.8301	623715.5017	24.51	30.84
15335	TOP 18" INV	1745570.0120	623655.7326	22.65	X
15336	TOP 18" INV	1745569.8679	623652.6966	22.61	X
15337	CS-18 (18"PVC E-W INV.=22.63)	1745569.7841	623654.2121	SUMP 22.58	30.04
15338	TOP 18" PVC	1745568.3892	623606.5931	23.73	30.49
15339	TOP 18" PVC	1745567.9003	623556.4905	24.86	30.21
15340	TOP 18" PVC	1745569.0491	623504.7346	26.06	30.58
15341	2" 90° BEND	1745571.3706	623471.7881	32.35	X
15342	2" 90° BEND	1745571.4684	623469.7190	32.19	X
15343	2" VALVE	1745571.4565	623470.7231	32.50	X
15344	4" 90° BEND	1745573.2965	623472.3692	32.63	X
15345	4" 90° BEND	1745573.3161	623469.7168	32.52	X
15346	4" VALVE	1745573.5233	623471.5264	32.84	X
15347	18" VALVE	1745573.1870	623463.7067	28.13	X
15348	TOP 18" PVC	1745573.1653	623464.7250	27.18	X
15349	18"x18" TEE	1745574.5432	623457.3683	27.56	X
15367	18" INV	1745552.2784	624838.2850	21.84	X
15368	18" INV	1745552.5141	624841.1958	21.83	X
15369	AP-6	1745538.7671	624659.9254	28.11	29.94
15370	TOP AP-5	1745579.2878	624260.2427	28.41	X
15371	TOP 8" VALVE	1745591.7719	623934.5563	28.20	X
15372	TOP 8"	1745591.0460	623934.4157	27.47	X
15373	TOP 8"	1745630.5042	623936.7877	36.46	38.97
15376	TOP 8"	1745677.7506	623937.9748	47.39	51.14
15377	TOP 8"x4" TEE	1745714.9755	623936.4355	57.04	60.96
15378	EW-56	1745715.0643	623933.5811	60.63	60.89
15382	TOP 8"	1745726.6197	623937.9435	59.14	63.17
15383	TOP 8"	1745769.4876	623962.2477	67.01	70.24
15386	TOP 8"	1745806.7007	623988.4544	78.99	81.99
15387	TOP 8"	1745845.4728	624017.0390	92.48	91.34
15389	TOP 8"x4" TEE	1745908.6926	624058.9480	115.05	112.18
15390	EW-14R	1745908.8413	624062.3183	111.41	111.89
15394	TOP 8"	1745955.0000	624078.1475	121.70	125.67
15395	TOP 18" CMP	1745990.5558	624090.7209	132.49	136.58
15399	6"x4" TEE	1746601.4635	624124.3912	143.39	145.07
15400	AP-12	1746639.1972	624353.7700	140.82	X
15402	TOP 16"	1747005.7497	624369.8716	41.52	45.43
15406	HC-1A TRAP/6"x6"TEE	1747023.6387	624466.5396	37.34	41.97
15407	TOP 6"	1747005.1389	624458.9010	41.29	46.83
15410	16"x4" TEE/AIR/FM	1747032.1358	624486.5701	33.94	39.61
15411	16"x4" TEE	1747033.9055	624500.5768	33.48	39.33
15414	TOP 4"	1746984.8552	624492.0279	49.23	52.25
15417	TOP 6"	1746972.8966	624481.1332	50.02	55.86
15419	TOP 4" 90° BEND	1746931.9660	624492.1521	63.35	66.78
15420	EW-70	1746931.9170	624494.8812	65.28	X
15421	16"x4" TEE	1747028.0985	624465.3184	34.13	40.56
15422	HC-4A 6"x6" TEE	1747031.3065	624499.9720	35.75	40.24
15423	HC-2A TRAP/6"x6" TEE	1747037.4503	624538.8596	35.26	40.28
15427	16"x4" TEE	1747042.3710	624545.9026	32.01	38.16
15428	HC-5A TRAP/6"x6" TEE	1747037.8325	624551.6518	34.30	37.89
15429	TOP 6"	1747000.3877	624537.2586	43.04	47.63
15432	TOP 6"	1747003.9604	624565.5539	42.10	45.76

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
15433	TOP 6"	1746960.1770	624579.3431	53.47	58.60
15436	16"x4" TEE	1747048.5313	624582.8107	30.70	35.15
15437	16" 45° BEND	1747051.0150	624586.8554	30.65	32.57
15439	8" VALVE	1745586.9833	624365.8348	27.39	X
15440	TOP 8"	1745586.0681	624365.7365	26.69	X
15441	PT VCL-20	1745436.5944	623213.6238	30.72	X
16217	LINER REPAIR	1747054.8275	624591.9632	25.79	X
16218	LINER REPAIR	1747052.8939	624596.1608	25.85	X
16219	LINER REPAIR	1747047.7408	624592.1188	25.64	X
16221	LINER REPAIR	1747049.9480	624589.5541	25.97	X
16222	16"x6" TEE	1747060.2864	624592.123	29.58	X
16223	6" FLANGE	1747058.5397	624594.8715	29.86	X
16224	16"x4" TEE	1747046.2763	624559.8955	31.51	37.05
16228	4" LINE	1746996.3732	624566.1188	44.49	48.21
16229	4" LINE	1746925.1216	624566.8355	63.90	67.60
16232	4" LINE	1746855.5811	624562.2540	83.77	88.63
16233	4" RISER	1746788.0785	624557.2298	103.06	105.88
16235	6" LINE	1746960.2411	624579.1109	53.28	58.34
16238	6" LINE	1746964.2273	624626.1609	52.84	56.16
16239	6" LINE	1746980.1911	624623.5737	45.68	51.35
16242	6" LINE	1747007.3293	624615.8349	41.77	45.20
16244	6" TEE/TRAP	1747027.7816	624596.7407	38.16	40.30
16246	6" TEE/TRAP	1747030.7059	624603.5031	37.80	39.49
16249	4" VACUUM RISER	1747029.1293	624600.6739	38.66	X
16250	4" VACUUM RISER	1747028.6010	624599.4123	38.61	39.83
16251	4" LINE	1747035.9437	624592.9946	36.59	X
16252	16"x4" TEE	1747049.0559	624582.1966	32.63	35.15
16253	6" LINE	1747044.6519	624613.7385	32.52	35.43
16256	6" LINE	1747008.3492	624677.6089	39.13	41.96
16258	6" LINE	1746969.8632	624740.8308	46.47	50.12
16261	6" 90° BEND	1746930.3105	624803.7432	54.36	57.12
16262	HC-7A VACUUM RISER	1746934.3701	624803.6492	60.59	56.17
16264	16" 45° BEND	1747087.3178	624610.3106	28.10	30.25
16266	16" LINE	1747087.2075	624642.3718	26.80	X
16267	2" TEE	1747090.9961	624644.9060	25.56	31.45
16268	16" FLANGE	1747087.0276	624652.4797	26.60	X
16269	16" VALVE	1747087.0533	624654.1064	27.34	X
16270	AP-10	1747087.1380	624679.5529	25.94	30.90
16272	16" LINE	1747086.7804	624726.1666	32.46	31.15
16275	16" LINE	1747084.7199	624775.2010	31.10	30.56
16276	16" LINE	1747084.3326	624808.9660	22.19	28.75
16277	AP-3	1746098.7915	623501.6527	40.10	X
16279	18"x6" TEE	1745574.9682	623714.8419	24.61	30.84
16280	6" LINE	1745643.0206	623715.8188	36.45	39.78
16283	6"x4" 90° BEND	1745723.1024	623713.6084	56.48	60.08
16285	EW-58	1745722.1850	623710.1064	63.55	60.01
16287	8"X4" WYE	1745843.7563	624366.0614	93.72	X
16289	4" LINE W/AIR/FM	1745896.8208	624316.1909	106.31	109.78
16291	EW-24	1745945.8579	624281.3814	128.04	124.20
16292	4" 90° BEND	1745944.4549	624278.4317	120.01	123.51
16294	8" FLANGE	1746637.3759	624354.1738	140.90	142.52
16295	8"X6" REDUCER	1746636.5609	624354.2913	141.04	142.52
16297	10" TEE	1745603.9962	624661.5353	29.59	34.26
16298	10" TEE	1745607.3841	624660.9027	30.01	35.23
16301	10" FLANGE	1745609.7180	624660.5579	30.33	35.65
16302	6" TEE	1745607.7497	624664.1679	30.86	35.47
16305	6" TEE	1745654.8433	624652.1399	42.37	45.06
16306	4" TEE/RISER	1745657.0162	624650.7697	42.77	45.74
16308	WELL HC-5B DRIP TRAP	1745660.7040	624650.8298	39.64	47.14
16309	HC-3B DRIP TRAP	1745662.0497	624665.7217	40.83	47.94
16310	HC-6B DRIP TRAP	1745663.0189	624669.2451	41.27	48.09
16311	4" TEE/RISER	1745660.1051	624666.9560	44.03	47.30
16312	4" 90° BEND	1745660.5731	624669.4314	43.72	47.08
16318	6" TEE/RISER	1745660.8713	624601.4230	42.84	X
16319	4" TEE/RISER	1745661.2612	624600.7427	42.81	45.41
16320	4" TEE/RISER	1745664.2040	624608.1227	43.53	46.24
16321	4" 90° RISER	1745665.4314	624610.1968	43.95	46.72
16328	6" TEE	1745611.8652	624623.1929	30.68	36.07
16329	6" 45° BEND	1745614.8798	624624.1503	32.14	36.57
16333	4" LINE/2" LINE/4" LINE	1745615.3114	624605.5593	30.95	36.26
16334	4" LINE/2" LINE/4" LINE	1745629.0797	624555.9873	32.97	37.17
16337	4" LINE/2" LINE/4" LINE	1745645.3554	624509.8136	36.10	39.81
16338	2" 90° RISER	1745660.1165	624463.7986	38.79	43.25
16339	4" 90° RISER	1745658.6822	624464.0764	39.76	42.83
16340	4" 90° RISER	1745657.6142	624463.9619	39.83	42.89
16345	4" LINE	1746056.5872	624359.4968	142.11	144.30
16346	6" LINE	1746056.6291	624359.9817	142.20	144.30
16347	2" LINE	1746056.6604	624360.3624	142.16	X
16348	2" LINE	1746099.0587	624360.8369	143.30	X
16349	6" LINE	1746098.9138	624360.4305	143.55	X
16350	4" LINE	1746098.8561	624359.9709	143.50	X
16352	TEMP RD XING WEST HEADER	1746150.4768	624138.4667	144.53	X
16353	TEMP RD XING WEST HEADER	1746192.1463	624139.9499	145.40	X
16354	2" VALVE	1746977.7821	624311.3343	57.33	53.64
16357	16"HEADERCONPT/8"FLANGE	1747014.6564	624403.5993	35.63	42.22
16358	16" HEADER	1747084.4453	624811.0061	20.53	X
16359	2" TEE RISER	1747086.2519	624813.0460	20.42	28.76
16360	4" TEE/4" TEE	1747082.4643	624812.4169	20.45	28.81
16364	4" 90° BEND/4" 90° BEND	1747072.7564	624809.1511	30.05	29.50
16365	4" 90° BEND/4" 90° BEND	1747060.7616	624808.7516	30.55	29.80
16366	4" 90° BEND/4" 90° BEND	1747060.3039	624808.7630	32.47	29.80
16369	16IN HEADER/2"/4"	1747082.8947	624852.3131	21.78	29.04
16372	16IN HEADER/2"/4"	1747081.4758	624900.1551	23.09	28.95
16373	AP-11 8"	1747080.8265	624961.1578	24.67	29.60
16374	4"	1747081.2873	624960.8176	24.82	29.60
16375	2"	1747082.7112	624960.7656	24.77	29.60
16377	16"/2"/4" TERMINATION	1747083.3129	624998.0212	26.09	28.83
16379	HC-1B DRIP TRAP	1745664.6888	624601.9045	32.84	46.14
16380	HC-2B DRIP TRAP	1745667.9821	624607.7491	35.66	47.28
16381	HC-4B DRIP TRAP	1745667.9348	624610.7089	37.39	47.44

N

SCALE IN FEET

100 50 0 100 200

LEGEND

- LIMITS OF LINER
- LIMITS OF CONSTRUCTION
- 1080 — EXISTING CONTOURS (MAJOR)
- EXISTING CONTOURS (MINOR)
- LFG PIPE TO BE ABANDONED
- LFG PIPE ABANDONED IN PLACE
- NEW HDPE SDR 17 LFG HEADER (SIZE VARIES)
- HP — DENOTES HIGH POINT IN HEADER
- NEW HDPE SDR 11 LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HEADER PIPE (SIZE VARIES)
- EXISTING LFG LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND LEACHATE FORCEMAIN
- LCR-1 — EXISTING LEACHATE CLEANOUT RISER
- HC-7B — EXISTING HORIZONTAL LFG WELLHEAD
- EW-1 — EXISTING LFG WELL
- LCRS — EXISTING LEACHATE RISER SUMP
- CS-2 — EXISTING CONDENSATE SUMP
- EXISTING HEADER ISOLATION VALVE
- ISOLATION VALVE
- CS-2 — CONDENSATE SUMP
- EW-1 — LFG WELL
- EW-24 — CONNECTION TO EXISTING VERTICAL WELLS
- EW-16AR — UPSLOPE WELLHEAD
- AP-2 — ACCESS POINTS
- 30.64 20 — SURVEY MONUMENTS
- CP-3 — CONNECTION POINTS TO EXISTING LFG SYSTEM

HDR

HDR Engineering, Inc.
200 W Forsyth St
Jacksonville, FL 32202
FLORIDA CA #00004213

ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	0000000000170244

Volusia County FLORIDA

CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA
NOT FOR CONSTRUCTION

PHASE III - PART A
LFG SYSTEM EXPANSION

0 1" 2"

FILENAME 00LFG-01.dwg

SCALE AS SHOWN

SHEET **00LFG-01-1**

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
1040	AP-15	1746628.2376	624111.0705	136.09	X
1041	AP-14	1746630.9372	624326.4010	135.38	X
1042	AP-14	1746079.8544	624123.6905	135.29	X
1043	AP-13	1746039.8911	624315.9466	135.73	X
1044	XING	1746061.1877	624316.5989	135.55	X
1045	XING	1746096.6376	624317.6391	136.37	X
1046	XING	1746026.0906	624104.0238	134.96	X
1047	XING	1745993.0500	624091.2898	129.95	X
1048	2" 45' BEND	1747092.8318	624642.9107	27.46	31.45
1049	2" 45' BEND	1747101.4360	624620.4036	26.24	31.10
1050	2" LINE	1747100.4222	624584.5139	25.87	30.09
1051	2" LINE	1747097.2056	624488.8075	26.03	30.37
1052	2" LINE	1747095.8324	624372.0440	26.11	29.99
1053	ACCESS POINT	1747093.9647	624291.1874	25.84	30.30
1054	2" LINE	1747092.4538	624225.0844	25.63	30.19
1055	2" LINE	1747089.8033	624140.8365	25.49	30.08
1056	2" LINE	1747086.9149	624039.9627	25.63	29.76
1057	2" LINE	1747086.3081	623930.4965	25.89	29.51
1058	2" LINE	1747084.7924	623841.7176	25.87	29.70
1059	ACCESS POINT	1747085.8909	623777.4421	26.45	30.04
1060	2" LINE	1747088.3625	623692.9485	26.54	X
1061	2" LINE	1747086.7206	623643.4268	27.39	30.58
1062	2" LINE	1747084.8923	623541.5228	28.80	31.46
1063	6" CROSSING	1747084.8307	623541.6560	28.79	31.46
1064	6" CROSSING	1747057.6326	623383.6773	23.91	30.82
1065	2" 90' BEND	1747049.3437	623360.7693	27.25	X
1066	2" TEE	1746975.5594	623359.2616	24.74	27.52
1067	2" 90' RISER	1746972.6128	623397.5919	26.74	X
1068	2" LINE	1746865.5541	623358.1584	24.28	26.88
1069	2" TEE	1746782.3755	623360.8244	24.62	27.33
1070	2" 90' RISER	1746785.7617	623403.9615	26.92	X
1071	ACCESS POINT	1746718.2229	623365.6749	24.68	27.66
1072	2" LINE	1746683.3856	623366.8652	24.49	27.36
1073	2" LINE	1746573.0811	623370.1827	24.92	27.86
1074	2" LINE	1746486.9572	623371.6328	24.47	27.75
1075	2" LINE	1746388.1081	623374.2938	25.26	27.88
1076	2" LINE	1746310.2052	623373.7307	25.62	28.13
1077	2" TEE	1746218.7831	623374.0407	126.44	28.70
1078	90' RISER	1746220.6299	623400.0185	27.40	X
1079	AP-17	1746160.1631	623374.9163	25.11	28.72
1080	2" LINE	1746048.4328	623377.7155	25.60	28.57
1081	2" LINE	1745965.0115	623378.5932	26.74	29.15
1082	2" LINE	1745881.5038	623379.6089	26.15	X
1083	2" LINE	1745759.5525	623382.5666	25.72	28.64
1084	AP-16	1745680.9505	623389.2360	27.28	29.58
1085	LINE 2" TEE	1745661.5747	623390.4559	27.22	29.47
1086	2" 90' RISER	1745663.333	623412.7164	27.50	X
1087	FM 4" 90'	1745645.8817	623415.0125	28.01	X
1088	FM 4" 90'	1745646.0948	623415.4673	31.80	X
1089	FM TIE IN	1745656.1545	623415.8867	23.69	X
1090	LINE 2"/4"	1745600.9810	623399.2625	26.64	29.50
1091	LINE 2"/4" 90' BEND	1745581.4171	623399.9130	25.89	29.69
1092	LINE 2"/4"/2" VALVE	1745578.3581	623452.0153	26.28	29.20
1093	18"x18" TEE	1745574.3706	623456.8201	19.66	X
1094	18" VALVE	1745573.3670	623463.5039	28.07	X
1095	2" 90' RISER	1745640.5917	623463.0688	37.01	31.54
1096	2" LINE	1745683.1262	623457.2264	30.08	32.33
1097	2"x18" TEE	1745740.6109	623462.6168	31.93	X
1098	2"/4" LINE	1745735.9133	623510.5708	43.46	47.01
1099	2"/4" 90' RISER	1745736.3561	623557.5759	56.18	58.29
1100	EW-59	1745739.2370	623558.3440	62.93	58.29
1101	EW-60	1745878.0167	623560.1340	65.42	60.77
1102	2"/4" 90' RISER	1745875.1917	623559.3384	57.23	60.77
1103	LINE 2"/4"	1745874.5002	623521.7423	45.97	49.13
1104	18"x18" TEE	1745877.1907	623475.7177	33.28	37.54
1105	18"x18" TEE	1746070.9187	623498.2294	38.08	43.23
1106	EW-61	1746055.1926	623556.6987	65.70	62.14
1107	4"/2" 90' RISER	1746058.2887	623556.7702	58.35	62.14
1108	EW-62	1746229.8642	623552.7487	65.91	61.99
1109	2"/4" 90' RISER	1746232.7551	623551.4740	58.74	61.99
1110	18"x18" TEE	1746235.6346	623509.5775	44.35	48.54
1111	16"x4" TEE	1746427.5540	623525.0070	49.49	53.00
1112	2"/4" 90' RISER	1746421.7353	623551.7146	58.46	61.44
1113	EW-63	1746423.5334	623553.5981	66.29	61.43
1114	16"x4" TEE	1746626.7963	623539.7417	54.40	58.74
1115	18" CMP CASING	1746625.5978	623582.0344	61.52	67.05
1116	18" CMP CASING	1746625.3066	623621.2205	72.54	76.76
1117	2"/4" 90' RISER	1746629.1084	623633.0058	74.33	78.18
1118	EW-64	1746631.6584	623632.8600	81.68	78.18
1119	16"x4" TEE	1746811.2922	623574.4142	61.94	66.00
1120	2"/4" 90' RISER	1746805.9453	623620.2117	73.54	76.49
1121	EW-65	1746803.9547	623620.7375	81.85	76.49
1122	16"x6" TEE /RISER	1746887.3263	623614.9069	74.73	70.87
1123	4" RISER & REMOTE	1746890.3089	623612.0274	73.79	69.65
1124	EW-66	1746929.5765	623580.7679	59.01	61.11
1125	EW-67	1746904.5276	623762.6455	65.00	69.18
1126	16"x6" TEE /RISER	1746884.2903	623765.0659	70.51	75.05
1127	4" 90' BEND & REMOTE	1746886.0559	623762.7705	70.01	75.05
1128	EW-68	1746904.6993	623945.1768	67.15	70.60
1130	16"x6" TEE /RISER	1746907.5222	623944.3777	63.41	70.60
1131	2" OLD/NEW	1746907.1759	623944.3305	67.81	70.60
1132	FM 2"/4" 90' RISER	1746902.9999	623947.1684	68.21	70.98
1133	FM 4"/2" VALVE	1746911.2890	623977.3040	65.63	68.54
1134	16"x8" TEE	1746915.8564	624004.1541	60.70	67.50
1135	FM 2"x4" TEE	1746917.4481	624004.1138	61.98	67.56
1136	8" VALVE	1746910.9007	624004.5541	63.25	X
1137	FM 8"	1746899.7603	624003.1075	59.84	71.04
1138	FM 4" VALVE	1746899.7128	624003.2541	59.62	71.04
7001	GA	1745606.5449	624302.0470	25.80	X
7002	GA	1745601.6979	624036.0893	26.30	X

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
7003	VENT	1745594.4088	624177.2169	34.24	X
7004	8"IPS	1745605.9025	624176.8575	27.56	X
7005	6"IPS	1745614.4579	624176.2358	23.05	X
7006	TO GAS LINE	1745608.3457	624176.7938	28.75	X
7007	TO TOE DRAIN	1745615.6853	624176.1744	24.19	X
7008	GA	1745606.3532	624177.7650	25.70	X
15022	18" CMP	1746029.2413	624106.2043	147.09	142.48
15024	AP-14	1746079.6160	624124.1161	142.62	144.09
15026	8" FLANGE	1746086.3066	624126.9828	143.22	144.55
15027	8"x6" REDUCER	1746087.5436	624127.3699	143.01	144.55
15085	6"X4" TEE	1746114.1452	624136.2214	144.35	145.85
15086	EW-15R	1746115.0411	624138.5547	150.31	145.85
15087	6" CMP TOP 6" VACUUM	1746147.0363	624138.0241	146.01	147.45
15089	18" CMP TOP	1746147.0853	624137.9098	147.08	147.45
15090	18" CMP END TOP 6"	1746187.3487	624139.6712	147.35	149.61
15092	6" VACUUM 6"x4" TEE	1746242.6522	624140.1034	148.41	149.73
15094	4"/6" RISER	1746242.3198	624136.9243	148.27	150.11
15097	4" VACUUM	1746243.3326	624091.7346	145.71	148.28
15098	4" VACUUM	1746243.3378	624040.0325	141.60	144.50
15101	6"x4" TEE & WE-71	1746244.9945	623992.3769	133.05	136.25
15102	TOP 6"/AIR/FM	1746291.0715	624136.1783	149.00	150.48
15104	6" FLANGE	1746343.1300	624134.5280	149.74	150.66
15105	6" FLANGE	1746343.5352	624134.7103	149.86	150.66
15109	TOP 6"x4" TEE	1746386.9382	624131.3267	148.31	148.27
15110	TOP WELL CASING	1746387.1742	624126.3874	151.45	148.10
15111	TOP 6"	1746432.4184	624131.0306	147.73	148.54
15114	TOP 6"	1746485.6449	624131.0345	146.79	147.79
15115	TOP 6"	1746545.6104	624131.3947	145.62	146.69
15123	TOP WELL CASING	1746599.8142	624119.7781	148.24	144.75
15124	TOP 6"x8" REDUCER	1746607.2755	624123.3407	143.30	145.25
15125	8" FLANGE	1746608.0201	624123.1577	143.47	145.25
15126	TOP 8"	1746613.4351	624122.6258	143.34	145.42
15127	6"x4" TEE TOP OF RISER	1746600.9329	624123.7340	149.57	145.07
15128	TOP 8"	1746641.3740	624108.1462	140.52	144.11
15129	AP-15	1746649.1187	624103.6976	139.22	143.50
15130	TOP 8"/AIR/FM	1746695.0388	624072.6183	127.47	131.98
15133	TOP 8"/AIR/FM	1746737.7151	624049.7646	114.35	119.37
15134	TOP 8"/AIR/FM	1746780.3584	624029.1399	104.24	106.70
15138	TOP 8"X4" TEE	1746804.5502	624019.3849	99.67	103.58
15139	TOP WELL CASING	1746802.7592	624017.8325	106.50	103.99
15140	TOP 8"/AIR/FM	1746851.7744	624007.5252	85.07	88.79
15143	FM VERT 90' BEND	1746897.9334	624003.5820	75.10	X
15144	FM VERT 90' BEND	1746901.2130	624003.4046	74.86	X
15145	FM VALVE	1746899.5833	624003.6438	75.36	X
15146	VACUUM VALVE 8"	1746910.2977	624004.2785	63.05	X
15147	2R GUARD WELL	1746910.9838	624004.2712	62.67	X
15148	16"X8" TEE	1746914.6047	624004.1261	60.27	X
15151	2" AIR & FM	1746917.3668	624003.7714	61.69	X
15162	TOP 4" AIR & FM	1746925.6801	624053.2728	63.73	66.79
15163	TOP 4" AIR & FM TEES	1746937.9695	624115.1102	62.15	66.73
15164	WE-69 TOP CASING	1746939.0605	624113.9399	70.62	66.15
15165	16"X4" TEE	1746942.1628	624109.9717	58.65	65.54
15170	TOP 4"FM/2"AIR	1746947.9508	624170.6973	61.53	64.27
15171	TOP 4"FM/2"AIR	1746960.9132	624222.7015	57.23	60.93
15178	VERT 90'	1746973.4294	624309.3383	59.04	56.88
15179	VERT 90'	1746976.0942	624308.9796	58.98	53.59
15180	FM VALVE	1746974.5834	624309.0798	59.39	X
15181	8" VALVE	1746984.7241	624307.6224	45.85	X
15182	2R GUARD WELL	1746985.1995	624307.6800	45.60	X
15183	16"X8" TEE	1746989.9694	624308.0359	47.31	49.50
15185	TOP 4"FM/2"AIR	1746987.0095	624304.8646	45.54	50.19
15186	AP-1	1746988.55761	624299.7665	43.98	50.79
15187	8"X4" TEE	1746909.1978	624325.0762	70.62	74.00
15188	TOP WE-19 CASING	1746909.0137	624327.6203	79.53	74.04
15193	8"X4" TEE	1746747.1101	624335.2181	111.47	115.63
15194	TOP WELL CASING	1746743.7986	624331.0879	119.38	116.13
15198	TOP 8"	1746657.9507	624350.517	136.26	138.81
15199	AP-12	1746639.9128	624354.0185	140.79	142.38
15202	TOP 6"	1746591.7083	624355.6975	143.52	142.86
15203	6"x4" TEE	1746558.0129	624358.2665	144.54	143.92
15205	EW-21	1746558.4587	624358.4005	147.33	143.03
15208	TOP 6"	1746516.9637	624356.6312	145.50	145.01
15209	TOP 6"	1746467.0495	624358.9709	146.48	146.03
15212	TOP 6"	1746417.0547	624361.1368	147.06	146.41
15213	TOP 6"	1746367.1340	624363.0796	147.66	147.10
15214	TOP 6"x4" TEE	1746360.0186	624362.7201	147.81	147.23
15237	EW-22	1746360.4963	624366.9957	144.85	X
15238	6" FLANGE	1746338.7023	624363.0068	148.71	147.81
15239	TOP 6"	1746317.7745	624364.0872	148.18	147.62
15240	TOP 6"	1746273.3181	624363.6403	147.62	149.55
15241	TOP CMP 18"	1746273.1784	624363.6332	148.49	147.37
15242	TOP CMP 18"	1746232.9632	624361.8182	148.19	146.80
15243	TOP 6"	1746233.0434	624361.8845	147.23	X
15244	TOP 6"	1746218.4377	624360.9124	147.07	146.51
15245	TOP 6"	1746168.6417	624360.2103	146.70	146.02
15246	TOP 6"x4" TEE/RISER	1746171.9067	624360.1375	146.77	146.06
15247	EW-23	1746171.6097	624364.0678	144.61	X
15248	TOP 6"	1746118.6091	624359.8651	145.50	144.95
15249	TOP 6"	1746095.5551	624360.3244	145.10	144.87
15250	TOP CMP 18"	1746095.5568	624360.1630	146.07	144.87
15251	TOP CMP 18"	1746054.9450	624360.3198	144.68	X
15252	TOP 6"	1746054.9235	624360.1498	143.77	143.78
15253	TOP 8"x6" REDUCER	1746042.9425	624359.9409	143.09	143.23
15254	TOP 8" FLANGE	1746041.9769	624359.9848	143.09	143.23
15255	AP-13	1746034.0739	624360.2065	141.95	143.02
15256	TOP 8" AIR/FM	1746019.6149	624360.8553	139.34	142.24
15257	TOP 8" AIR/FM	1745971.0704	624361.7559	128.22	131.84
15260	TOP 8" AIR/FM	1745922.1304	624364.2275	113.16	117.64
15261	TOP 8" AIR/FM	1745874.1545	624364.9670	101.93	104.68
15264	TOP 8" AIR/FM	1745828.3100	624366.4533	88.42	91.80

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
15265	TOP 8" AIR/FM	1745778.3812	624367.1123	72.11	75.33
15268	8"x6" WYE	1745680.9443	624368.3272	47.38	50.67
15269	8"x6" WYE	1745665.5206	624366.4725	43.10	46.44
15272	TOP 4" AIR/FM	1745696.9129	624329.0774	52.44	54.99
15273	TOP 4" AIR/FM	1745722.3495	624285.5166	58.82	61.60
15276	TOP 4" AIR/FM	1745744.8306	624241.0098	64.17	66.69
15277	4" 90' BEND/RISER	1745767.0967	624206.0206	70.09	72.29
15279	EW-55	1745768.1332	624203.3024	71.69	71.76
15281	6"x4" TEE	1745726.1898	624417.3099	59.66	62.65
15284	EW-57	1745728.9365	624415.3293	63.24	63.27
15286	TOP 6"	1745784.6073	624463.8357	75.36	78.54
15287	6"x4" RISER	1745849.2152	624521.1820	96.20	99.60
15290	EW-25	1745852.3375	624520.5115	100.31	100.18
15292	TOP 8"	1745634.1463	624365.3202	33.98	37.79
15293	TOP 18"x 8" TEE	1745578.1072	624365.7783	25.66	30.28
15294	TOP 18" PVC	1745578.0143	624406.8798	24.64	31.21
15296	CS-16 (18"PVC E-W INV.=22.03)	1745579.7676	624453.0261	SUMP 22.03	30.16
15298	TOP 18" PVC	1745580.8136	624493.4927	23.27	30.54
15299	TOP 18" PVC	1745580.6591	624543.2882	24.79	31.05
15300	TOP 18" 45' BEND	1745579.0278	624605.6357	26.77	31.67
15301	TOP 18" 45' BEND	1745538.4408	624656.6375	28.27	29.94
15303	TOP 18"x10" TEE	1745539.4000	624669.1711	27.54	29.82
15306	AP-7	1745541.4138	624686.5162	33.82	29.49
15307	TOP OF 18" PVC	1745545.8640	624727.1087	25.94	29.83
15308	TOP OF 18" PVC	1745549.5469	624777.9607	24.71	29.49
15309	CS-15 (18"PVC E-W INV.=21.83)	1745552.4326	624839.5912	31.14	29.30
15310	AP-8	1745551.5571	624881.9877	23.03	29.47
15311	TOP OF 18" PVC	1745552.5315	624936.9421	24.35	29.14
15312	TOP OF 18" PVC	1745551.9849	624985.9860	25.61	28.91
15313	AP-9	1745551.7440	625017.1126	26.53	28.95
15314	18" BLIND FLANGE	1745552.6885	625030.2155	26.90	28.64
15315	TOP 18" PVC	1745577.6872	624306.8256	27.09	30.89
15316	AP-5	1745579.2642	624259.5648	34.83	30.87
15317	TOP 18" PVC	1745578.1777	624205.8697	26.76	30.72
15318	TOP 18" PVC	1745578.6378	624157.1204	24.91	30.92
15321	CS-17 (18"PVC E-W INV.=22.13)	1745579.7427	624058.2979	SUMP 22.09	30.60
15322	TOP 18" PVC	1745581.0268	624000.2592	24.17	30.67
15323	18"x8" TEE	1745583.5576	623935.2521	28.48	30.81
15324	4" 90' BEND	1745585.8843	623933.9502	32.37	X
15325	4" 90' BEND	1745588.2755	623933.7653	32.17	X
15326	VALVE	1745586.6886	623933.9769	32.64	X
15327	2" VALVE	1745586.5621	623935.3880	32.63	X
15328	2" 90' BEND	1745587.5502	623935.0990	32.41	X
15329	2" 90' BEND	1745585.6484	623935.5495	32.45	X
15330	TOP 18" PVC	1745581.2366	623901.6394	27.25	31.57
15331	AP-4	1745579.8318	623852.5310	27.61	31.28
15332	TOP 18" PVC	1745578.7205	623801.3197	27.39	31.67
15333	TOP 18" PVC	1745577.4669	623752.9467	21.01	31.04
15334	TOP 18" PVC	1745575.8301	623715.5017	24.51	30.84
15335	TOP 18" INV	1745570.0120	623655.7326	22.65	X
15336	TOP 18" INV	1745569.8679	623652.6988	22.61	X
15337	CS-18 (18"PVC E-W INV.=22.63)	1745569.7841	623654.2121	SUMP 22.58	30.04
15338	TOP 18" PVC	1745568.3892	623606.5931	23.73	30.49
15339	TOP 18" PVC	1745567.9003	623556.4905	24.86	30.21
15340	TOP 18" PVC	1745569.0491	623504.7346	26.06	30.58
15341	2" 90' BEND	1745571.3706	623471.7881	32.35	X
15342	2" 90' BEND	1745571.4684	623469.7190	32.19	X
15343	2" VALVE	1745571.4565	623470.7231	32.50	X
15344	4" 90' BEND	1745573.2965	623472.3692	32.63	X
15345	4" 90' BEND	1745573.3161	623469.7168	32.52	X
15346	4" VALVE	1745573.5233	623471.5264	32.84	X
15347	18" VALVE	1745573.1870	623463.7067	28.13	X
15348	TOP 18" PVC	1745573.1653	623464.7250	27.18	X
15349	18"x18" TEE	1745574.5432	623457.3683	27.56	X
15367	18" INV	1745552.2784	624838.2650	21.84	X
15368	18" INV	1745552.5141	624841.1958	21.83	X
15369	AP-6	1745538.7671	624659.9254	28.11	29.94
15370	TOP AP-5	1745579.2878	624260.2427	28.41	X
15371	TOP 8" VALVE	1745591.7719	623934.5563	28.20	X
15372	TOP 8"	1745591.0460	623934.4157	27.47	X
15373	TOP 8"	1745630.5042	623936.7877	36.46	38.97
15376	TOP 8"	1745677.7506	623937.9748	47.39	51.14
15377	TOP 8"x4" TEE	1745714.9755	623936.4355	57.04	60.96
15378	EW-56	1745715.0643	623933.5811	60.63	60.89
15382	TOP 8"	1745726.6197	623937.9435	59.14	63.17
15383	TOP 8"	1745769.4876	623962.2477	67.01	70.24
15386	TOP 8"	1745806.7007	623988.4544	78.99	81.99
15387	TOP 8"	1745845.4728	624017.0390	92.48	91.34
15389	TOP 8"x4" TEE	1745906.6926	624058.9480	115.05	112.18
15390	EW-14R	1745908.8413	624062.3183	111.41	111.89
15394	TOP 8"	1745955.0000	624078.1475	121.70	125.67
15395	TOP 18" CMP	1745990.5558	624090.7209	132.49	136.58
15399	6"x4" TEE	1746601.4635	624124.3912	143.39	145.07
15400	AP-12	1746639.1972	624353.7700	140.82	X
15402	TOP 16"	1747005.7497	624369.8716	41.52	45.43
15406	HC-1A TRAP/6"x6" TEE	1747023.6387	624466.5396	37.34	41.97
15407	TOP 6"	1747005.1389	624458.9010	41.29	46.83
15410	16"x4" TEE/AIR/FM	1747032.1358	624486.5701	33.94	39.61
15411	16"x4" TEE	1747033.9055	624500.5768	33.48	39.33
15414	TOP 4"	1746984.8552	624492.0279	49.23	52.25
15417	TOP 6"	1746972.8966	624481.1332	50.02	55.86
15419	TOP 4" 90' BEND	1746931.9660	624492.1521	63.35	66.78
15420	EW-70	1746931.9170	624494.8812	65.28	X
15421	16"x4" TEE	1747028.0985	624465.3184	34.13	40.56
15422	HC-4A 6"x6" TEE	1747031.3065	624499.9720	35.75	40.24
15423	HC-2A TRAP/6"x6" TEE	1747037.4503	624538.8596	35.26	40.28
15427	16"x4" TEE	1747042.3710	624545.9026	32.01	38.16
15428	HC-5A TRAP/6"x6" TEE	1747037.8325	624551.6518	34.30	37.89
15429	TOP 6"	1747000.3877	624537.2586	43.04	47.63
15432	TOP 6"	1747003.9604	624565.5539	42.10	45.76

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION	GROUND ELEV.
15433	TOP 6"	1746960.1770	624579.3431	53.47	58.60
15436	16"x4" TEE	1747048.5313	624582.8107	30.70	35.15
15437	16" 45' BEND	1747051.0150	624586.8554	30.65	32.57
15439	8" VALVE	1745586.9833	624365.8348	27.39	X
15440	TOP 8"	1745586.0681	624365.7365	26.69	X
15441	PT VCL-20	1745436.5944	623213.6238	30.72	X
16217	LINER REPAIR	1747054.8275	624591.9632	25.79	X
16218	LINER REPAIR	1747052.8939	624596.1608	25.85	X
16219	LINER REPAIR	1747047.7408	624592.1188	25.64	X
16221	LINER REPAIR	1747049.9480	624589.5541	25.97	X
16222	16"x6" TEE	1747060.2864	624592.123	29.58	X
16223	6" FLANGE	1747058.5397	624594.8715	29.86	X
16224	16"x4" TEE	1747046.2763	624559.8955	31.51	37.05
16228	4" LINE	1746996.3732	624566.1188	44.49	48.21
16229	4" LINE	1746925.1216	624566.8355	63.90	67.60
16232	4" LINE	1746855.5811	624562.2540	83.77	88.63
16233	4" RISER	1746788.0785	624557.2298	103.06	105.88
16235	6" LINE	1746960.2411	624579.1109	53.28	58.34
16238	6" LINE	1746984.2273	624626.1609	52.84	56.16
16239	6" LINE	1746980.1911	624623.5737	45.68	51.35
16242	6" LINE	1747007.3293	624615.8349	41.77	45.20
16244	6" TEE/TRAP	1747027.7816	624596.7407	36.16	40.30
16246	6" TEE/TRAP	1747030.7059	624603.5031	37.80	39.49
16249	4" VACUUM RISER	1747029.1293	624600.6739	38.66	X
16250	4" VACUUM RISER	1747028.6010	624599.4123	38.61	39.83
16251	4" LINE	1747035.9437	624592.9946	36.59	X
16252	16"x4" TEE	1747049.0559	624582.1966	32.63	35.15
16253	6" LINE	1747044.6519	624613.7385	32.52	35.43
16256	6" LINE	1747008.3402	624677.6089	39.13	41.96
16258	6" LINE	1746969.8632	624740.8308	46.47	50.12
16261	6" 90' BEND	1746930.3105	624803.7432	54.36	57.12
16262	HC-7A VACUUM RISER	1746934.3701	624803.6492	60.59	56.17
16264	16" 45' BEND	1747087.3178	624610.3106	28.10	30.25
16266	16" LINE	1747087.2075	624642.3718	26.80	X
16267	2" TEE	1747090.9961	624644.9060	25.56	31.45
16268	16" FLANGE	1747087.0276	624652.4797	26.60	X
16269	16" VALVE	1747087.0533	624654.1064	27.34	X
16270	AP-10	1747087.1380	624679.5529	25.94	30.90
16272	16" LINE	1747088.7804	624726.1666	32.46	31.15
16275	16" LINE	1747084.7199	624775.2010	31.10	30.56
16276	16" LINE	1747084.3326	624808.9680	22.19	28.75
16277	AP-3	1746098.7915	623501.6527	40.10	X
16279	18"x6" TEE	1745574.9682	623714.8419	24.61	30.84
16280	6" LINE	1745643.0206	623715.8188	36.45	39.78
16283	6"x4" 90' BEND	1745723.1024	623713.6084	56.48	60.08
16285	EW-58	1745722.1850	623710.1064	63.55	60.01
16287	8"X4" WYE	1745843.7563	624366.0614	93.72	X
16289	4" LINE W/AIR/FM	1745896.8208	624316.1909	106.31	109.78
16291	EW-24	1745945.8579	624281.3814	128.04	124.20
16292	4" 90' BEND	1745944.4549	624278.4317	120.01	123.51
16294	8" FLANGE	1746637.3759	624354.1738	140.90	142.52
16295	8"X6" REDUCER	1746636.5609	624354.2913	141.04	142.52
16297	10" TEE	1745603.9962	624661.5353	29.59	34.26
16298	10" TEE	1745607.3841	624660.9027	30.01	35.23
16301	10" FLANGE	1745609.7180	624660.5579	30.33	35.65
16302	6" TEE	1745607.7497	624664.1679	30.86	35.47
16305	6" TEE	1745654.8433	624652.1399	42.37	45.06
16306	4" TEE/RISER	1745657.0162	624650.7697	42.77	45.74
16308	WELL HC-5B DRIP TRAP	1745660.7040	624650.8298	39.64	47.14
16309	HC-3B DRIP TRAP	1745662.0497	624665.7217	40.83	47.94
16310	HC-6B DRIP TRAP	1745663.0189	624669.2451	41.27	48.09
16311	4" TEE/RISER	1745660.1051	624666.9560	44.03	47.30
16312	4" 90' BEND	1745660.5731	624669.4314	43.72	47.08
16318	6" TEE/RISER	1745660.8713	624601.4230	42.84	X
16319	4" TEE/RISER	1745661.2612	624600.7427	42.81	45.41
16320	4" TEE/RISER	1745664.2040	624608.1227	43.53	46.24
16321	4" 90' RISER	1745665.4314	624610.1968	43.95	46.72
16328	6" TEE	1745611.8652	624623.1929	30.68	36.07
16329	6" 45' BEND	1745614.8798	624624.1503	32.14	36.57
16333	4" LINE/2" LINE/4" LINE	1745615.3114	624605.5593	30.95	36.26
16334	4" LINE/2" LINE/4" LINE	1745629.0797	624555.9873	32.97	37.17
16337	4" LINE/2" LINE/4" LINE	1745645.3554	624509.8136	36.10	39.81
16338	2" 90' RISER	1745660.1165	624463.7986	38.79	43.25
16339	4" 90' RISER	1745658.6822	624464.0764	39.76	42.83
16340	4" 90' RISER	1745657.6142	624463.9619	39.83	42.89
16345	4" LINE	1746056.5872	624359.4968	142.11	144.30
16346	6" LINE	1746056.6291	624359.9817	142.20	144.30
16347	2" LINE	1746056.6604	624360.3624	142.16	X
16348	2" LINE	1746099.0587	624360.8369	143.30	X
16349	6" LINE	1746098.9138	624360.4305	143.55	X
16350	4" LINE	1746098.6561	624359.9709	143.50	X
16352	TEMP RD XING WEST HEADER	1746150.4768	624138.4667	144.53	X
16353	TEMP RD XING WEST HEADER	1746192.1463	624139.9499	145.40	X
16354	2" VALVE	1746977.7821	624311.3343	57.33	53.64
16357	16"HEADERCONPT/8"FLANGE	1747014.6564	624403.5993	35.63	42.22
16358	16" HEADER	1747084.4453	624811.0061	20.53	X
16359	2" TEE RISER	1747086.2519	624813.0460	20.42	28.76
16360	4" TEE/4" TEE	1747082.4643	624812.4169	20.45	28.81
16364	4" 90' BEND/4" 90' BEND	1747072.7564	624809.1511	30.65	29.50
16365	4" 90' BEND/4" 90' BEND	1747060.7616	624808.7516	30.55	29.80
16366	4" 90' BEND/4" 90' BEND	1747060.3039	624808.7630	32.47	29.80
16369	16IN HEADER/2"/4"	1747082.8947	624852.3131	21.78	29.04
16372	16IN HEADER/2"/4"	1747081.4758	624900.1551	23.09	28.95
16373	AP-11 8"	1747080.8265	624961.1578	24.67	29.60
16374	4"	1747081.2873	624960.8176	24.82	29.60
16375	2"	1747082.7112	624960.7656	24.77	29.60
16377	16"/2"/4" TERMINATION	1747083.3129	624998.0212	26.09	28.83
16379	HC-1B DRIP TRAP	1745664.6888	624601.9045	32.84	46.14
16380	HC-2B DRIP TRAP	1745667.9821	624607.7491	35.66	47.28
16381	HC-4B DRIP TRAP	1745667.9348	624610.7089	37.39	47.44

N

SCALE IN FEET

100 50 0 100 200

LEGEND

Symbol	Description
	LIMITS OF LINER
	LIMITS OF CONSTRUCTION
1080	EXISTING CONTOURS (MAJOR)
	EXISTING CONTOURS (MINOR)
	LFG PIPE TO BE ABANDONED
	LFG PIPE ABANDONED IN PLACE
	NEW HDPE SDR 17 LFG HEADER (SIZE VARIES)
HP	DENOTES HIGH POINT IN HEADER
	NEW HDPE SDR 11 LATERAL PIPE (SIZE VARIES)
	EXISTING LFG HEADER PIPE (SIZE VARIES)
	EXISTING LFG LATERAL PIPE (SIZE VARIES)
	EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)
	EXISTING UNDERGROUND ELECTRIC
	EXISTING UNDERGROUND LEACHATE FORCEMAIN
LCR-1	EXISTING LEACHATE CLEANOUT RISER
HC-7B	EXISTING HORIZONTAL LFG WELLHEAD
EW-1	EXISTING LFG WELL
LCRS	EXISTING LEACHATE RISER SUMP
CS-2	EXISTING CONDENSATE SUMP
	EXISTING HEADER ISOLATION VALVE
	ISOLATION VALVE
CS-2	CONDENSATE SUMP
EW-1	LFG WELL
EW-24	CONNECTION TO EXISTING VERTICAL WELLS
EW-16AR	UPSLOPE WELLHEAD
AP-2	ACCESS POINTS
30.64 20	SURVEY MONUMENTS
CP-3	CONNECTION POINTS TO EXISTING LFG SYSTEM

CLIFFORD G. KOENIG
LICENSE
No. 64078
STATE OF FLORIDA
PROFESSIONAL ENGINEER

9-10-2012

HDR
HDR Engineering, Inc.
200 W Forsyth St
Jacksonville, FL 32202
FLORIDA CA 00004213

ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	0000000000170244

Volusia County
FLORIDA

CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA
NOT FOR CONSTRUCTION

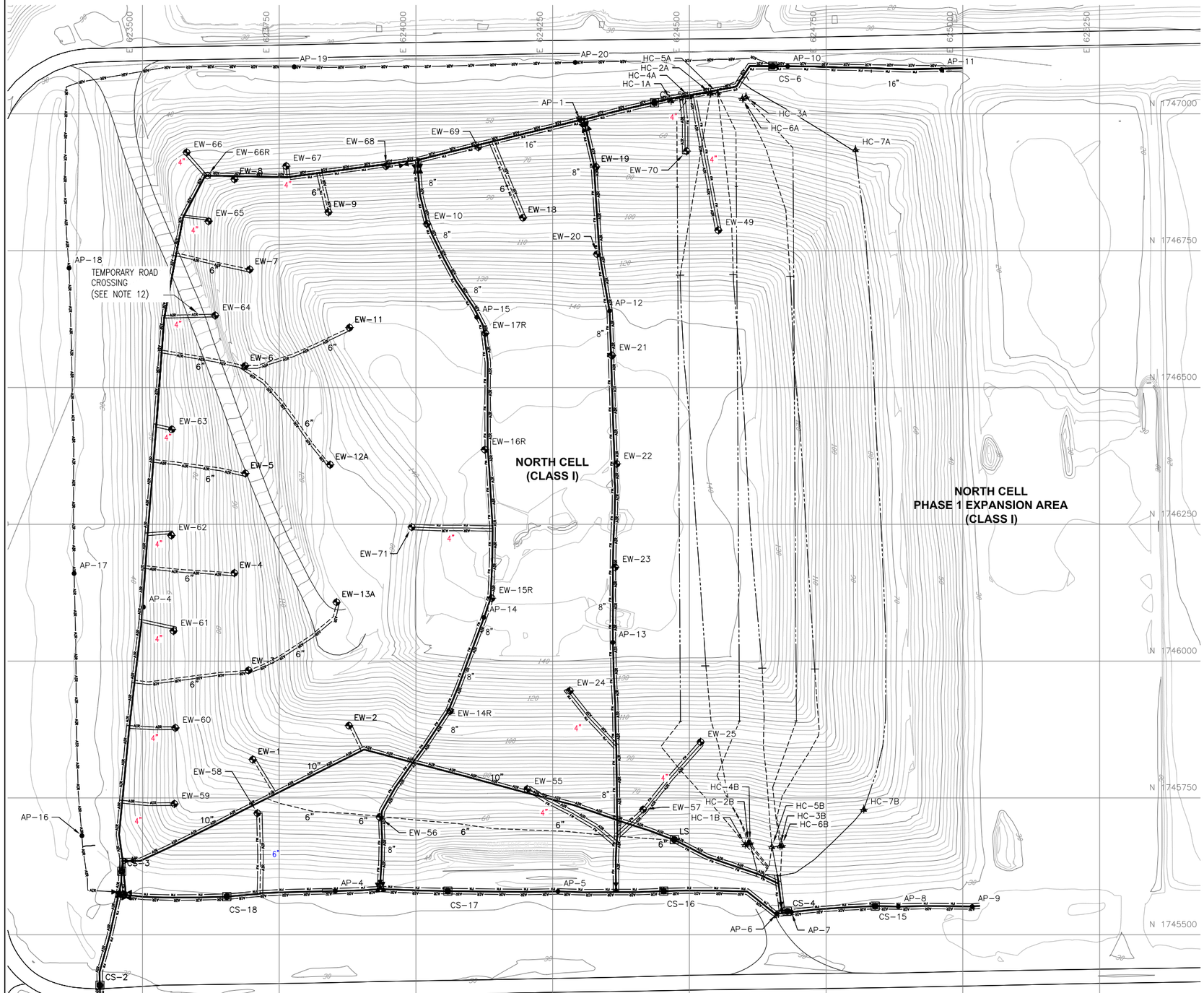
PHASE III - PART A
LFG SYSTEM EXPANSION

0 1" 2"

FILENAME	00LFG-01.dwg
SCALE	AS SHOWN

SHEET
00LFG-01-1

K:\CONST\Tomoka Landfill\NorthCellGasPipes-HDR12-1-11\Asbuilt\AS900 FC-01.dwg, 2 of 2, 6/12/2012 6:51:33 AM, DWG To PDF.pc3, D-I



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SCALE IN FEET

100 50 0 100 200

LEGEND

- 140 — EXISTING CONTOURS (MAJOR)
- EXISTING CONTOURS (MINOR)
- HDPE SDR 17 LFG HEADER (SIZE VARIES)
- HDPE SDR 11 LATERAL PIPE (SIZE VARIES)
- UGE — UNDERGROUND ELECTRIC
- L L — UNDERGROUND LEACHATE FORCEMAIN
- HC-7B — HORIZONTAL LFG WELLHEAD
- ISOLATION VALVE
- CS-2 — CONDENSATE SUMP
- EW-1 — LFG WELL
- EW-16AR — UPSLOPE WELLHEAD
- AP-2 — ACCESS POINTS

NOTES:

1. AERIAL TOPOGRAPHY WAS TAKEN FROM AERIAL SURVEY PERFORMED BY AERIAL CARTOGRAPHICS OF AMERICA ON APRIL 27, 2012.
2. LIMITS OF LINER OBTAINED FROM THE TOMOKA LANDFILL LINER AS-BUILT DRAWING BY MAPTECH, INC. ON OCTOBER 4, 2005 AND FROM THE CLASS I CELL FILL SEQUENCING PLAN DRAWING PREPARED BY SCS ENGINEERS AND SUBMITTED TO FDEP ON AUGUST 14, 2009.
3. UTILITY INFORMATION OBTAINED FROM THE SPECIFIC PURPOSE SURVEY GAS LINE AS-BUILTS TOMOKA FARMS ROAD LANDFILL PREPARED BY SLIGER & ASSOCIATES, INC. ON MARCH 1, 2010.

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Volusia County FLORIDA

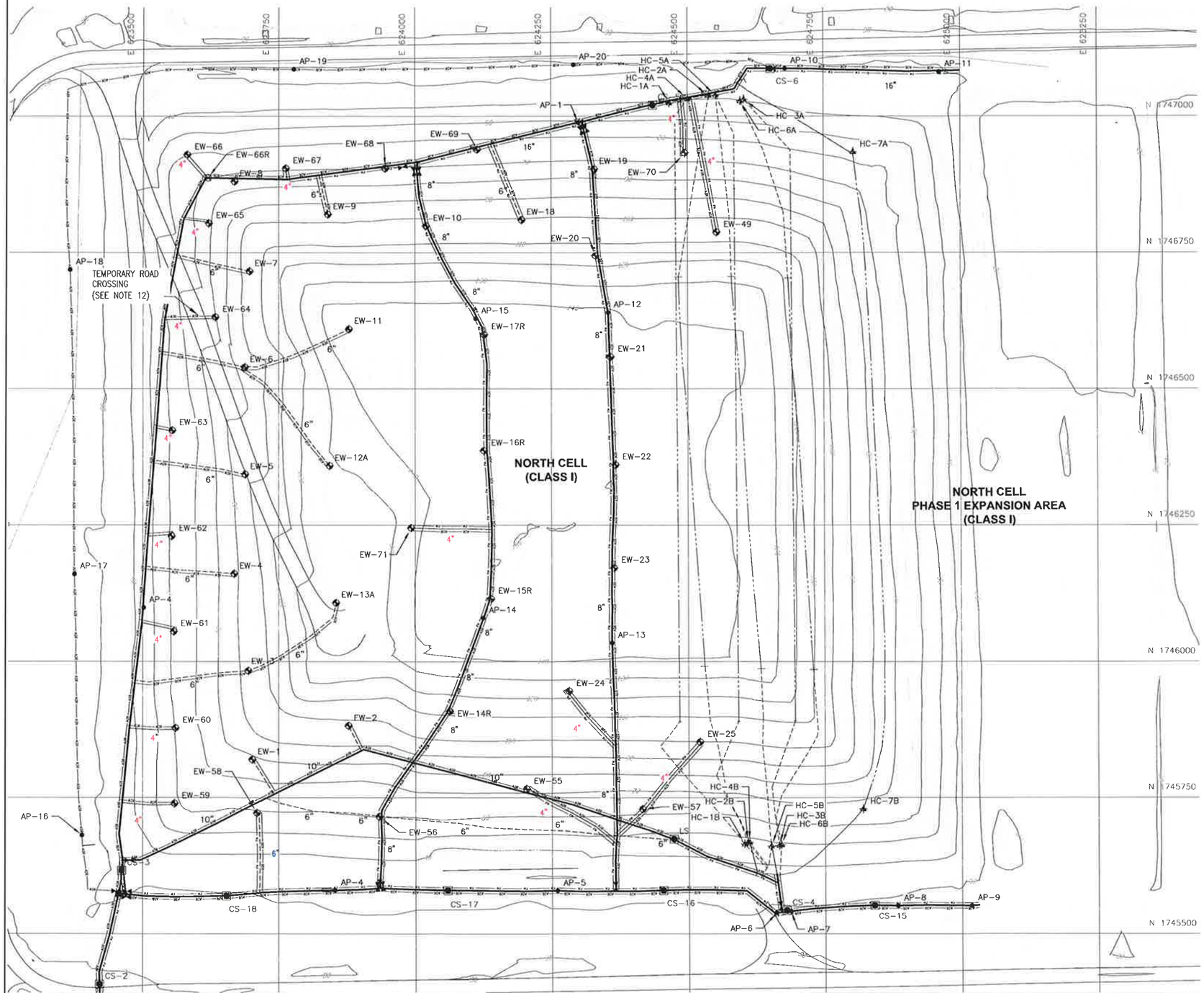
CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA

PHASE III - PART A
RECORD DRAWING LFG SYSTEM

0 1" 2"

FILENAME	00LFG-01-2.dwg
SCALE	AS SHOWN

SHEET
00LFG-01-2



N

SCALE IN FEET

100 50 0 100 200

LEGEND

- 140 — EXISTING CONTOURS (MAJOR)
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- HDPE SDR 17 LFG HEADER (SIZE VARIES)
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VOLUSIA COUNTY, FLORIDA

PHASE III - PART A
RECORD DRAWING LFG SYSTEM

0 1" 2"

FILENAME	00LFG-01-2.dwg
SCALE	AS SHOWN

SHEET 00LFG-01-2