



**CARLSON ENVIRONMENTAL CONSULTANTS, PC**

**LANDFILL GAS AND SOLID WASTE SPECIALISTS**

# **CONSTRUCTION CERTIFICATION REPORT**

For the:

## **2018 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION**

At the:

**VISTA LANDFILL  
APOPKA, FLORIDA**



Prepared for:

**WASTE MANAGEMENT INC. OF FLORIDA**

**Vista Landfill**

242 W. Keene Road

Apopka, FL 32703

(407) 886-2920

Prepared by:

**CARLSON ENVIRONMENTAL CONSULTANTS, PC**

305 South Main Street

Monroe, NC 28112

(704) 283-9765

July 2018



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS AND SOLID WASTE SPECIALISTS

July 12, 2018

Mr. Craig Pelton  
Waste Management Inc. of Florida  
242 W. Keene Road  
Apopka, FL 32703

Subject: Construction Certification Report  
Vista Landfill – Apopka, Florida

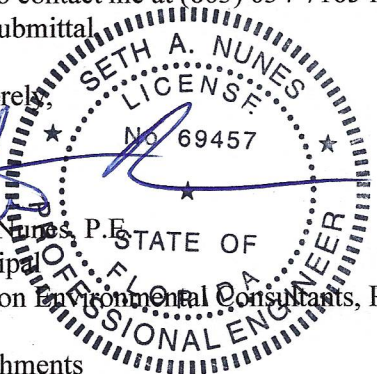

Dear Mr. Pelton:

Carlson Environmental Consultants, PC (CEC) is submitting this Construction Certification Report for the construction of 2018 System Expansion of the Landfill Gas Collection and Control System at Vista Landfill located in Apopka, FL. This certification report documents the construction activities from well drilling between September 29, 2017 and October 1, 2017, and the beginning of the landfill gas collection system expansion on March 12, 2018 through final completion of the construction project on April 26, 2018. The Construction Certification Report provides a project description, daily field reports, well logs, construction photographs, additional construction documentation, and updated site plan.

Based on the CEC's construction logs, photos, and on-site inspections, it is my professional opinion that the project was performed in accordance with permit conditions and the contract drawings and specifications.

CEC appreciate this opportunity to provide landfill gas engineering services to Vista Landfill. Please feel free to contact me at (863) 634-7185 if you have any questions or desire additional information concerning this submittal.

Sincerely,



Seth Nunes, P.E.  
Principal  
Carlson Environmental Consultants, PC

Attachments

cc: Deborah Perez, VLL  
Sheree Grant, VLL  
Brent Ross, P.E., CEC



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

### LANDFILL GAS AND SOLID WASTE SPECIALISTS

#### PROJECT SUMMARY

##### 2018 System Expansion

##### Vista Landfill

#### Project Timeframe:

Drilling Activities: September 29, 2017 through October 1, 2017

Piping Activities: March 12, 2018 through April 26, 2018

#### Parties Involved:

##### Site Owner:

Waste Management Inc. of Florida  
242 W. Keene Road  
Apopka, FL 32703  
Phone: (407) 886-2920

WMIF Gas Operations Manager: Craig Pelton

WMIF District Manager: Deborah Perez

WMIF Market Area Engineer: Sheree Grant

##### Contractor:

Carlson Environmental Consultants, PC (CEC)  
305 S. Main Street  
Monroe, North Carolina 28112  
Phone: (704) 283-9765  
CEC Construction Superintendent: Vince Coleman

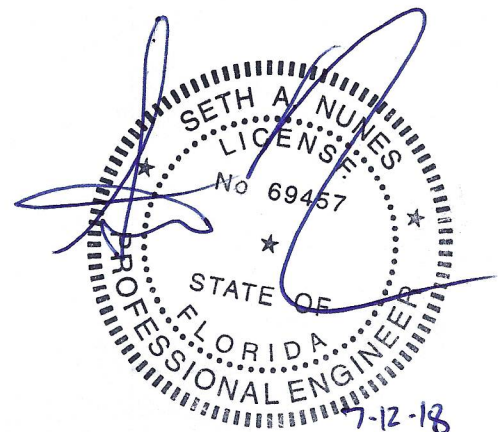
#### Project Description:

##### Drilling

Five (5) landfill gas extraction wells (EW-11, EW-12, EW-13, EW-15 and EW-16) were installed in Cell 4. Refer to Attachment F for a site plan depicting these well locations.

##### Piping

8" header, 2" air, and 2" forcemain pipe were installed around the north sides of Cells, 2, 3, and 4, the east side of cell 4, and the south sides of Cells 2, 3, and 4. CS-4 was installed on the southeast corner of Cell 4. 6" laterals were installed off of the 8" header for four (4) leachate cleanout connections and six (6) landfill gas extraction wells. Refer to Attachment F for a site plan depicting the piping locations.







# 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

## Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SO48-0165969-020 County: Orange

Name of Project: 2018 GCCS Expansion

Name of Owner: Waste Management Inc. of Florida

Name of Engineer: Seth A. Nunes, PE

Type of Project: Installation of 8" header, 2" air, and 2" forcemain along with 6" laterals to connect to landfill gas extraction wells and leachate cleanout connections. 5 extraction wells drilled.

Cost: Estimate \$ 400,000 Actual \$ 400,000

Site Design Quantity: 2,500 ton/day Site Acreage: 102 Acres

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

No substantial deviations from the Plans, see attached as-built drawings.

Address and Telephone No. of Site: 242 West Keene Road, Apopka, FL 32703

Telephone (407) 902-1469

Name(s) of Site Supervisor: Sheree Grant Cell Phone: (407) 902-1469

Date Site inspection is requested: As soon as possible if needed.

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.: SO48-0165969-020 Dated: July 12, 2018

Date: July 12, 2018

Seth A. Nunes  
Signature of Professional Engineer

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



**ATTACHMENT A**  
**CONSTRUCTION DRAWINGS**

12345678

A

# CONSTRUCTION DRAWINGS

## LANDFILL GAS COLLECTION AND CONTROL SYSTEM

### 2018 SYSTEM EXPANSION

### VISTA LANDFILL - APOPKA, FL

B



OWNER:

**VISTA LANDFILL LLC**  
**VISTA LANDFILL**  
**242 W. KEENE ROAD**  
**APOPKA, FLORIDA 31537**  
**(866) 909-4458**

OWNER REPRESENTATIVE:

**CRAIG PELTON**  
**(954) 984-2000**


ENGINEER:

**CARLSON ENVIRONMENTAL CONSULTANTS, PC**  
**305 SOUTH MAIN STREET**  
**MONROE, NORTH CAROLINA 28112**  
**(704) 283-9765**

**CEC JOB NO. 101.07.48**

**FEBRUARY 2018**

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PROPOSED LFG SITE PLAN
3	DETAILS - 1
4	DETAILS - 2
5	PIPING & INSTRUMENTATION DIAGRAMS

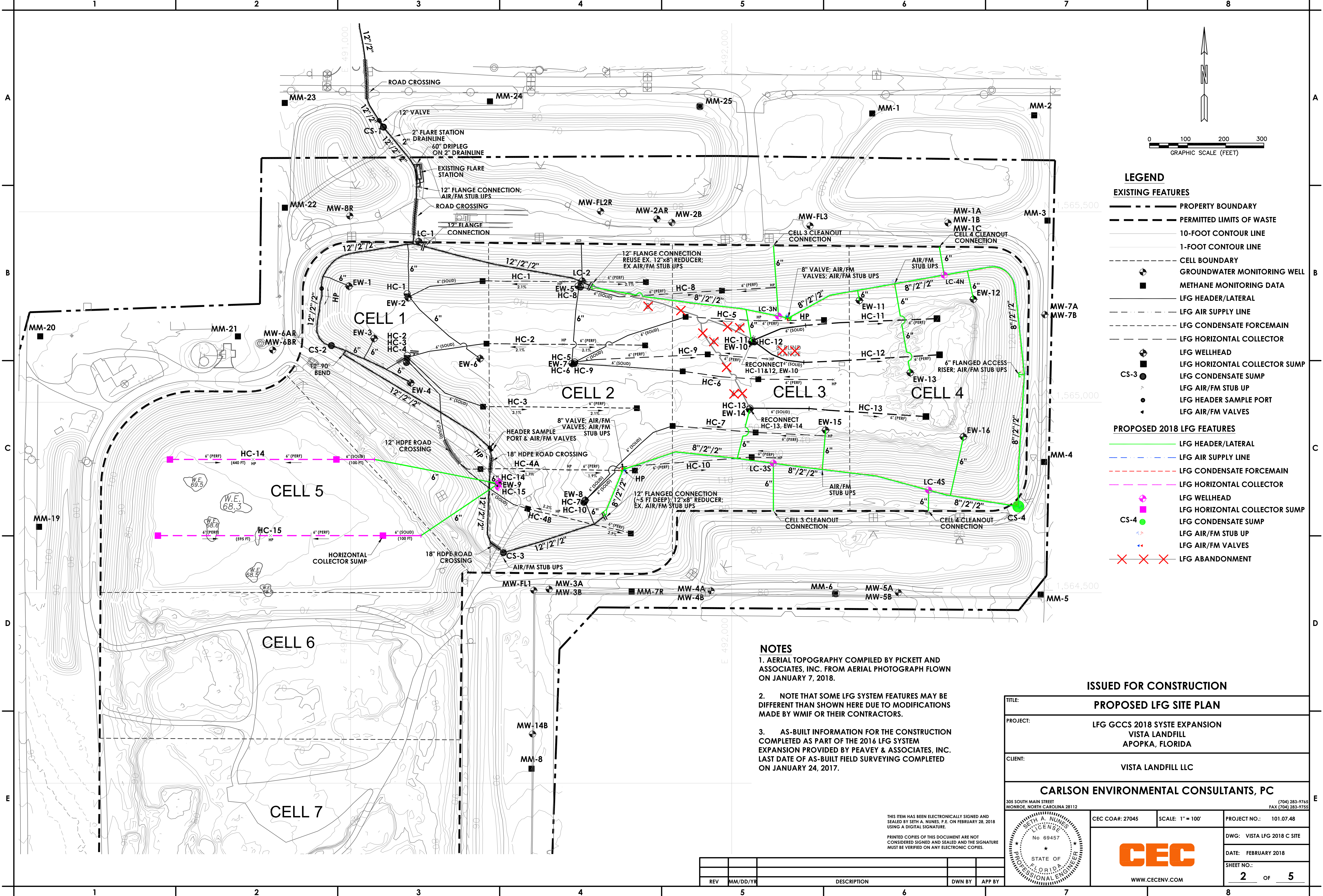
ISSUED FOR CONSTRUCTION					
TITLE:		TITLE SHEET			
PROJECT:		LFG GCCS 2018 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA			
CLIENT:		VISTA LANDFILL LLC.			
CARLSON ENVIRONMENTAL CONSULTANTS, PC					
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112					
CEC COA#: 27045		SCALE: NTS	PROJECT NO.: 101.07.48		
		 WWW.CECENV.COM			
				DWG: VISTA LFG 2018 C COVER	
				DATE: FEBRUARY 2018	
REV		MM/DD/YR	DESCRIPTION	DWN BY	APP BY
1		2	3	4	5
1		OF		5	

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SETH A. NUNES, P.E. ON FEBRUARY 28, 2018 USING A DIGITAL SIGNATURE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

(704) 283-9765  
FAX (704) 283-9755





**LEGEND**

**EXISTING FEATURES**

- PROPERTY BOUNDARY
- PERMITTED LIMITS OF WASTE
- 10-FOOT CONTOUR LINE
- 1-FOOT CONTOUR LINE
- CELL BOUNDARY
- GROUNDWATER MONITORING WELL
- METHANE MONITORING DATA
- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- LFG HORIZONTAL COLLECTOR
- LFG WELLHEAD
- LFG HORIZONTAL COLLECTOR SUMP
- LFG CONDENSATE SUMP
- LFG AIR/FM STUB UP
- LFG HEADER SAMPLE PORT
- LFG AIR/FM VALVES

**PROPOSED 2018 LFG FEATURES**

- LFG HEADER/LATERAL
- LFG AIR SUPPLY LINE
- LFG CONDENSATE FORCEMAIN
- LFG HORIZONTAL COLLECTOR
- LFG WELLHEAD
- LFG HORIZONTAL COLLECTOR SUMP
- LFG CONDENSATE SUMP
- LFG AIR/FM STUB UP
- LFG AIR/FM VALVES
- LFG ABANDONMENT

**NOTES**

1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 7, 2018.

2. NOTE THAT SOME LFG SYSTEM FEATURES MAY BE DIFFERENT THAN SHOWN HERE DUE TO MODIFICATIONS MADE BY WMIF OR THEIR CONTRACTORS.

3. AS-BUILT INFORMATION FOR THE CONSTRUCTION COMPLETED AS PART OF THE 2016 LFG SYSTEM EXPANSION PROVIDED BY PEAVEY & ASSOCIATES, INC. LAST DATE OF AS-BUILT FIELD SURVEYING COMPLETED ON JANUARY 24, 2017.

ISSUED FOR CONSTRUCTION

TITLE: PROPOSED LFG SITE PLAN			
PROJECT: LFG GCCS 2018 SYSTE EXPANSION VISTA LANDFILL APOPKA, FLORIDA			
CLIENT: VISTA LANDFILL LLC			
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112 (704) 283-9765 FAX (704) 283-9755			
CEC COA#: 27045	SCALE: 1" = 100'	PROJECT NO.: 101.07.48	
		DWG: VISTA LFG 2018 C SITE	
		DATE: FEBRUARY 2018	
		SHEET NO.: 2 OF 5	

REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

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A

B

C

D

E

NOTES FOR WELLHEADS:

1. WMIF TO SUPPLY WASTE MANAGEMENT-STYLE WELLHEADS (WM2 AND WM3) AS FABRICATED BY SHAW/LFG SPECIALTIES (419-424-4999) (OR EQUAL), TO INCLUDE WELLHEAD, 5 FEET OF HOSE, TWO CLAMPS, AND 6"x2" WELL CASING CONNECTION.

NOTES FOR HORIZONTAL COLLECTORS:

1. CONTRACTOR TO SLOPE ALL HORIZONTAL COLLECTORS FROM THE CENTER AT AN APPROXIMATE 2.0% SLOPE (MIN).

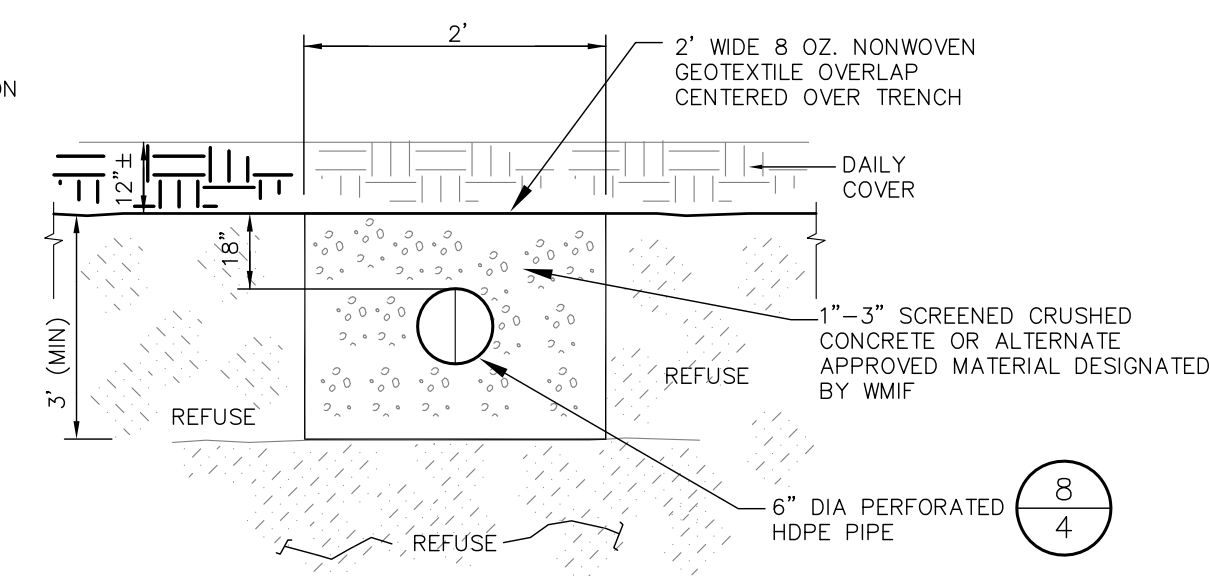
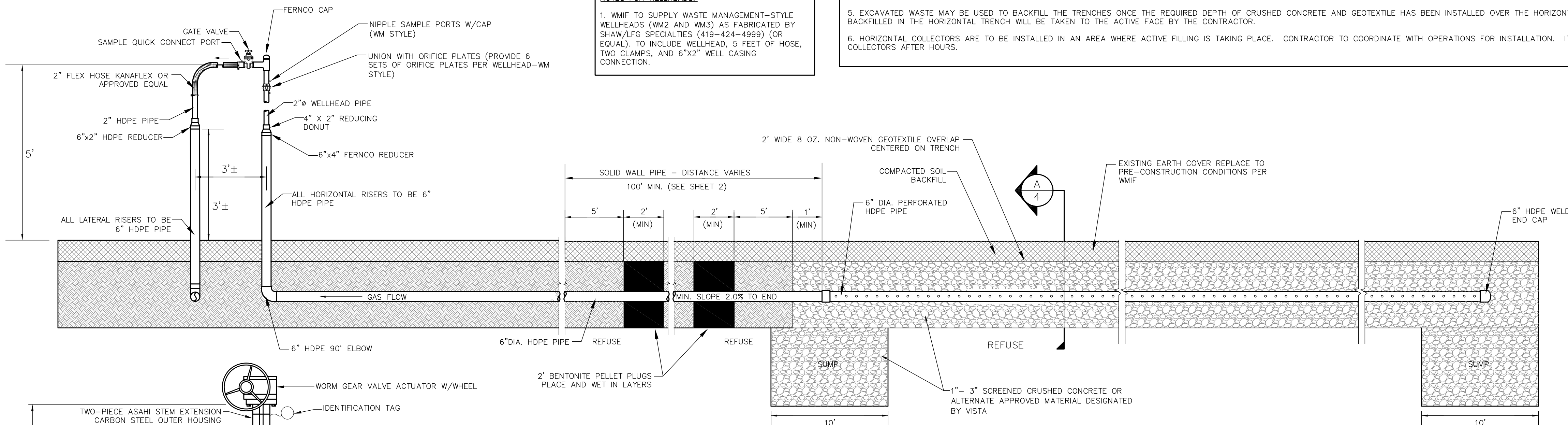
2. AT THE SOLID PIPE/PERFORATED PIPE TRANSITION AND AT THE WESTERN LOW POINT, CONTRACTOR TO INSTALL DRAINAGE SUMPS. DRAINAGE SUMPS CONSISTS OF AN OVEREXCAVATION OF APPROXIMATELY 7-8' (OR TO THE TOP OF PROTECTIVE COVER) BY 10' SQUARE (ALONG THE TRENCH BOTTOM) BACKFILLED WITH CRUSHED CONCRETE (OR APPROVED EQUIVALENT) FOR CONDENSATE DRAINAGE.

3. WELLHEADS WILL BE PLACED AT THE EASTERN END OF THE HORIZONTAL COLLECTORS.

4. VISTA TO PROVIDE BENTONITE FOR BENTONITE PLUGS AND CRUSHED CONCRETE TO BE USED IN THE TRENCHES. VISTA WILL ALSO PROVIDE ALL WELLHEADS, HDPE PIPE, AND HDPE PIPE FITTINGS. CONTRACTOR TO SUPPLY GEOTEXTILE FABRIC.

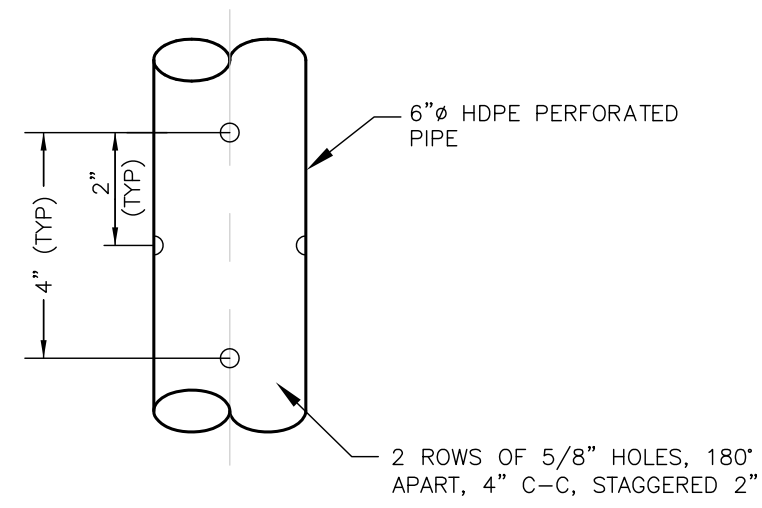
5. EXCAVATED WASTE MAY BE USED TO BACKFILL THE TRENCHES ONCE THE REQUIRED DEPTH OF CRUSHED CONCRETE AND GEOTEXTILE HAS BEEN INSTALLED OVER THE HORIZONTAL PIPE. ANY EXCAVATED WASTE THAT CANNOT BE BACKFILLED IN THE HORIZONTAL TRENCH WILL BE TAKEN TO THE ACTIVE FACE BY THE CONTRACTOR.

6. HORIZONTAL COLLECTORS ARE TO BE INSTALLED IN AN AREA WHERE ACTIVE FILLING IS TAKING PLACE. CONTRACTOR TO COORDINATE WITH OPERATIONS FOR INSTALLATION. IT MAY BE NECESSARY TO INSTALL THE HORIZONTAL COLLECTORS AFTER HOURS.

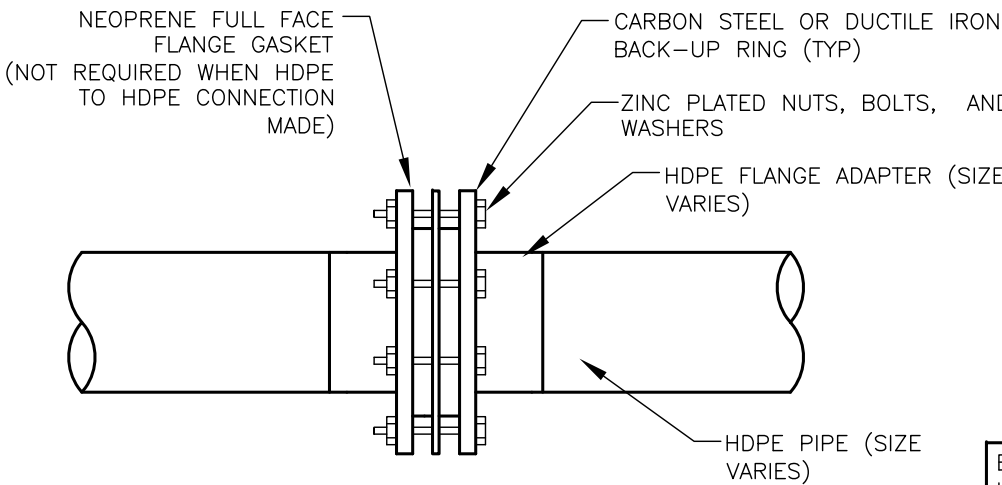


HORIZONTAL COLLECTOR SECTION A/4  
NOT TO SCALE

HORIZONTAL COLLECTORS 7/4  
NOT TO SCALE



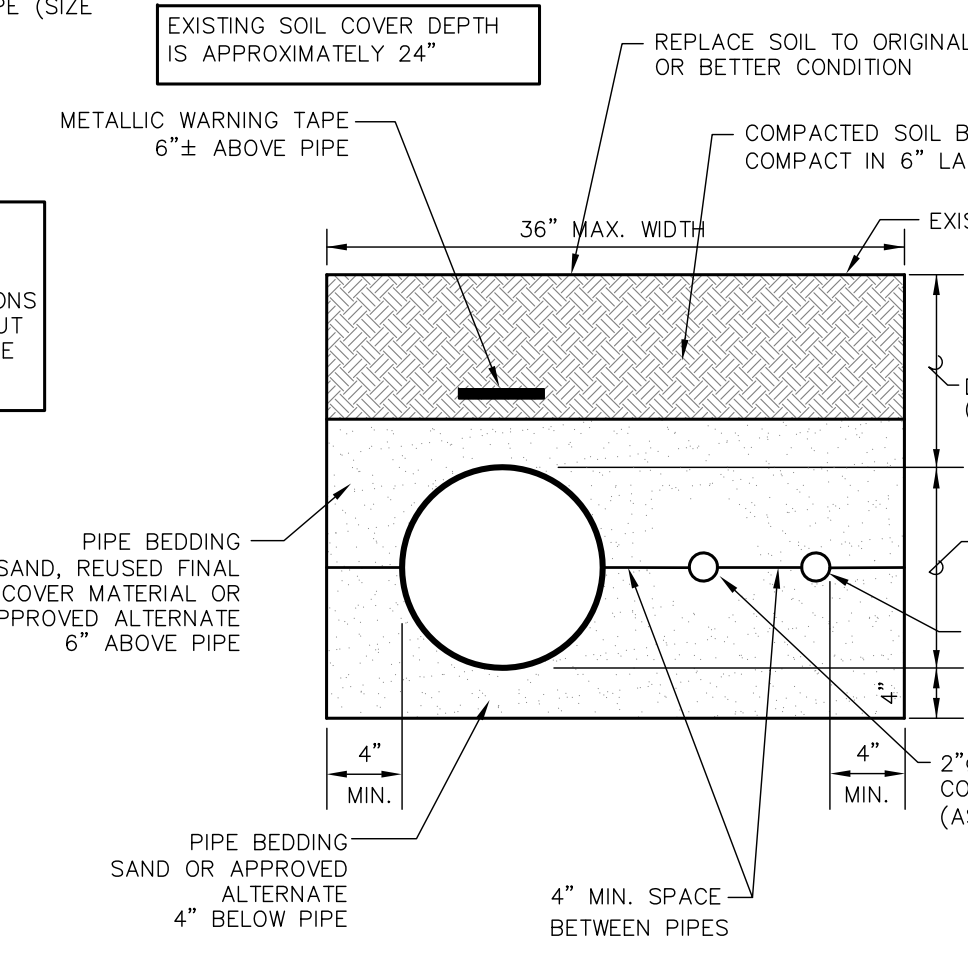
PERFORATED PIPE FOR HORIZONTAL COLLECTORS DETAIL 8/4  
NOT TO SCALE



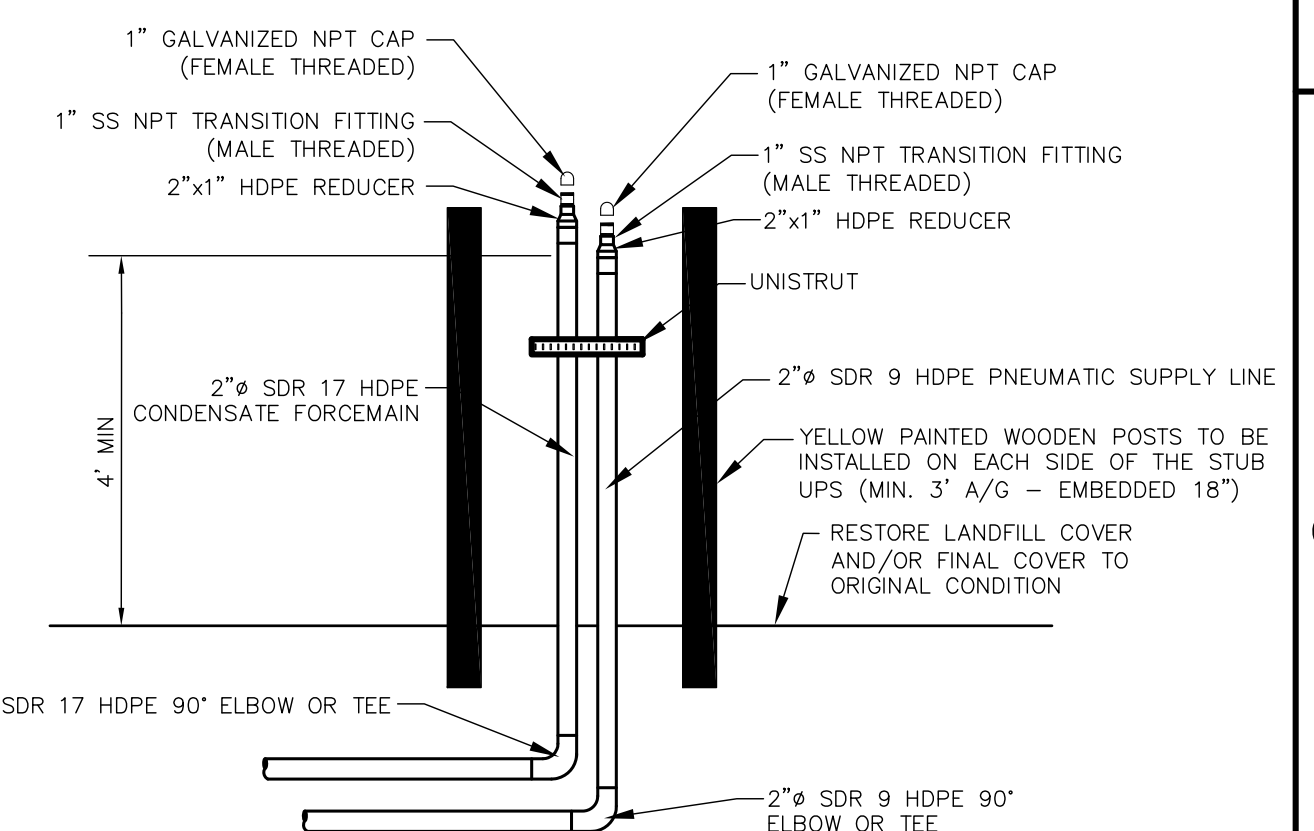
FLANGE CONNECTION 10/4  
NOT TO SCALE

NOTES FOR FLANGE CONNECTIONS:

1. CONTRACTOR TO WRAP ALL BURIED FLANGE CONNECTIONS IN 5-MIL PLASTIC SHEETING AND DUCT TAPE TO SEAL OUT DIRT, WATER, AND DEBRIS. CONTRACTOR TO PROVIDE THE PLASTIC SHEETING AND DUCT TAPE NEEDED.



HEADER TRENCH W/ AIR/FORCEMAIN 11/4  
NOT TO SCALE



AIR/FORCEMAIN STUB UPS 12/4  
NO SCALE

NOTES FOR AIR/FORCEMAIN STUB UPS:

1. ALL AIR/FORCEMAIN STUB UPS TO BE TERMINATED ABOVE GRADE AND ARE TO BE INSTALLED STRAIGHT AND PLUMB.

2. STUBS ARE TO BE INSTALLED WITHIN 2 FEET OF THE WELL OR TEE LOCATION TO ALLOW FOR PUMP HOSES TO REACH THE WELL. NOT ALL STUB UP SETS WILL HAVE SPARE AIR STUB UP - SEE SITE PLAN.

3. COILED PIPE FOR STUB UPS IS NOT PERMITTED. STUB UPS SHOULD BE SAME STRIPE AS THE TRENCH PIPE (AS APPLICABLE).

4. STUBS ARE TO BE LABELED BY THE CONTRACTOR WITH A GREASE PENCIL (AT MINIMUM).

5. UNISTRUT TO BE PROVIDED BY CONTRACTOR. UNISTRUT TO BE PLACED ON AIR AND FORCEMAIN (TOGETHER) TO KEEP STRAIGHT AND PLUMB.

6. WOODEN POSTS ARE TO BE PAINTED YELLOW, DOCKED AND EMBEDDED 18" INTO SURFACE AND MAINTAIN A 6" SEPARATION BETWEEN BOTTOM OF POST AND TOP OF GEOSYNTHETICS.

LFG COLLECTION SYSTEM BUTTERFLY VALVE 5/4  
NOT TO SCALE

NOTES FOR HEADER VALVES:

1. CONTRACTOR TO WRAP ALL BURIED VALVES IN 5-MIL PLASTIC SHEETING AND DUCT TAPE TO SEAL OUT DIRT, WATER, AND DEBRIS.

2. CONTRACTOR TO INSTALL ALL VALVES STRAIGHT AND PLUMB.

NOTES FOR ALL TRENCHES:

1. CONTRACTOR TO RESTORE GRADE TO CONDITION PRIOR TO CONSTRUCTION (I.E., REGRADING, REVEGETATING, ETC.)

2. BEDDING MATERIAL MUST BE SUITABLE TO PROVIDE A STABLE FOUNDATION FOR PIPE GRADE AND IS TO BE FREE OF ROCKS (>2"), WASTE, AND VEGETATIVE MATTER.

3. SAND OR APPROVED ALTERNATE MATERIAL REQUIRED FOR PIPE BEDDING, APPROXIMATELY 4" BELOW PIPE (EXCEPT ON FINAL COVER SLOPES - SEE NOTE 5) AND 6" ABOVE PIPE FOR ALL BURIED LFG PIPING. VISTA WILL SUPPLY PIPE BEDDING SOIL.

4. MULTIPLE PIPES MAY BE PLACED IN THE SAME TRENCH. SEE THE SITE PLANS FOR PIPES TO BE LOCATED IN EACH HEADER/LATERAL TRENCH.

5. ALL PIPE INSTALLED TO HAVE A MINIMUM OF 12" OF COVER OVER THE TOP OF THE PIPE. PLACEMENT OF A SOIL BERM OVER THE PIPE WILL NOT BE ACCEPTABLE. NEWLY INSTALLED PIPE MUST NOT IMPEDE OR CHANGE STORMWATER DRAINAGE PATTERNS.

6. ANY DAMAGES MADE TO THE PROTECTIVE COVER, LINER OR ANCHOR TRENCH DURING TRENCHING WILL BE REPAIRED BY THE CONTRACTOR TO THE LINER CERTIFICATION REQUIREMENTS.

7. THE MINIMUM SLOPE FOR ALL BURIED LFG PIPING INSIDE THE LIMITS OF WASTE IS 5.0% AND OUTSIDE THE LIMITS OF WASTE IS 0.5% (UNLESS OTHERWISE APPROVED BY VISTA).

NOTES FOR HDPE PIPE PRESSURE TESTING:

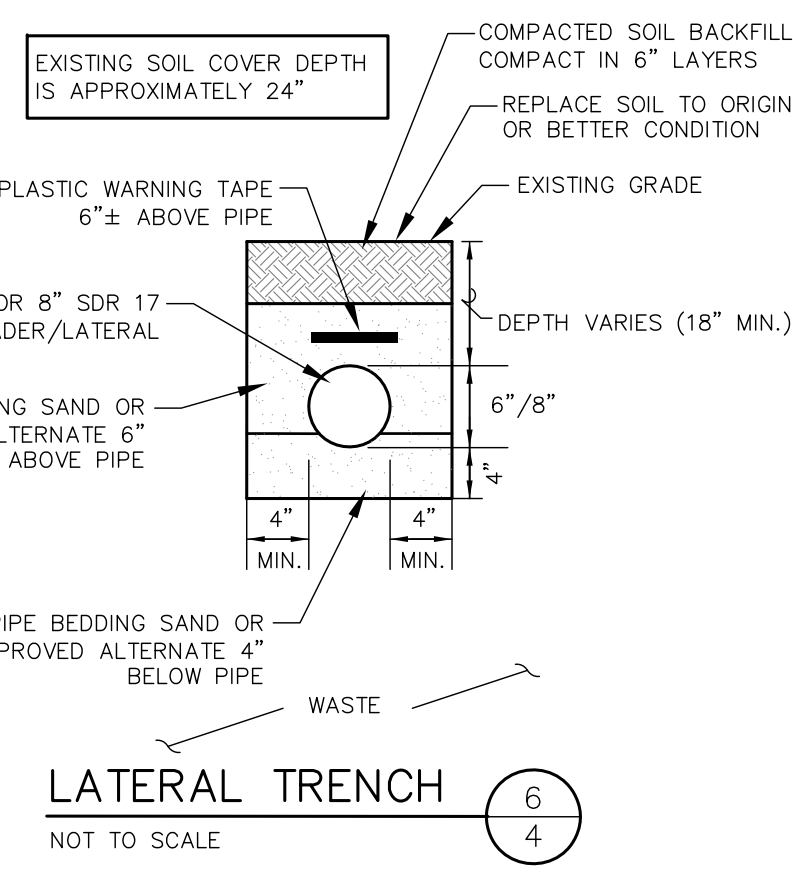
1. ONLY BELOW GRADE PIPING IS TO BE AIR TESTED.

2. HEADER/LATERAL PIPING IS TO BE AIR TESTED AT 5 PSI AND MAINTAINED WITHIN 1 PSI FOR A 1-HOUR PERIOD.

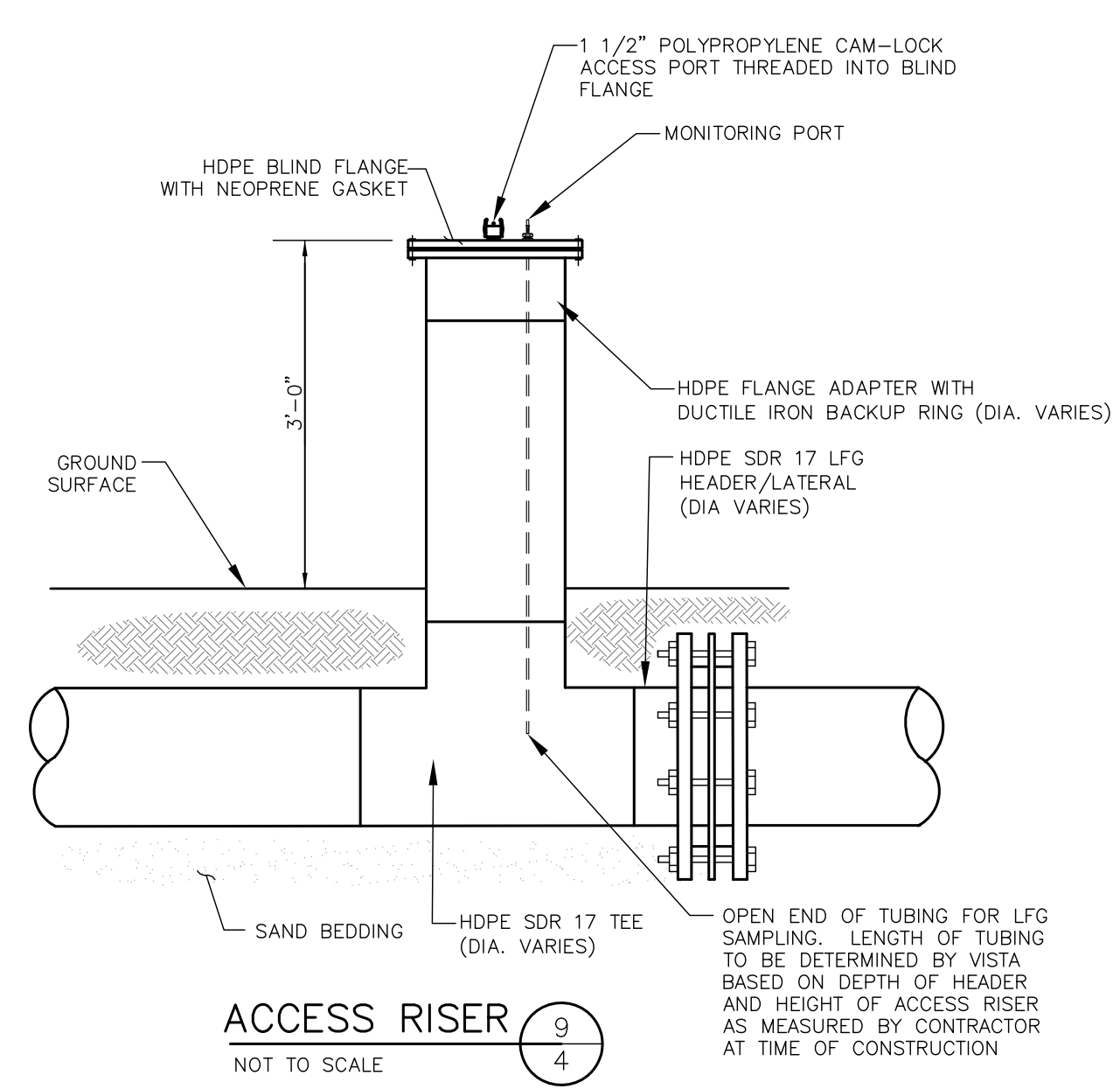
3. CONDENSATE FORCEMAIN PIPING IS TO BE AIR TESTED AT 20 PSI AND MAINTAINED WITHIN 1 PSI FOR A 1-HOUR PERIOD. OUTER PIPING OF DUAL-CONTAINED FORCEMAIN PIPING TO BE AIR TESTED AT 5 PSI AND MAINTAINED WITHIN 1 PSI FOR A 1-HOUR PERIOD.

4. AIR SUPPLY PIPING IS TO BE AIR TESTED AT 50 PSI AND MAINTAINED WITHIN 1 PSI FOR A 1-HOUR PERIOD.

5. ALL PIPE PRESSURE TESTING IS TO BE VERIFIED BY OWNER OR OWNER'S REPRESENTATIVE AT BEGINNING OF TEST AND END OF 1-HOUR PERIOD.



LATERAL TRENCH 6/4  
NOT TO SCALE



ACCESS RISER 9/4  
NOT TO SCALE

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REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

ISSUED FOR CONSTRUCTION

TITLE:

LFG DETAILS - 2

PROJECT:

LFG GCCS 2018 SYSTEM EXPANSION  
VISTA LANDFILL  
APOPKA, FLORIDA

CLIENT:

VISTA LANDFILL LLC.

CARLSON ENVIRONMENTAL CONSULTANTS, PC

305 SOUTH MAIN STREET  
MONROE, NORTH CAROLINA 28112

(704) 283-9765  
FAX (704) 283-9755

CEC COA#: 27045

SCALE: NTS

PROJECT NO.: 101.07.48

DWG: VISTA LFG 2018 C DET

DATE: FEBRUARY 2018

SHEET NO.: 4 OF 5

WWW.CECENV.COM

CEC

STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
No 69457







**ATTACHMENT B**

**WELL LOGS**

**DRILLING SUMMARY**  
**2017 LFG COLLECTION SYSTEM EXPANSION**  
**VISTA LANDFILL - APOPKA, FLORIDA**

Well No	Northing	Easting	Actual Surface Grade Elevation (El.)	Proposed Drill Depth (ft)	Final Drill Depth (ft)	Length of Solid Pipe Installed B/G (ft)	Stone	Pipe	Bench Built (Y/N)	Date(s) Drilled	Location (Cell)	Comments
EW-11	1,565,267.2	492,334.9	133	37	37	17	Granite	8" PVC	Y	9/29/17	Cell 4	
EW-12	1,565,270.3	492,634.4	136	40	40	17	Granite	8" PVC	N	9/29/17	Cell 4	
EW-13	1,565,077.5	492,468.5	149	57	57	17	Granite	8" PVC	N	9/30/17	Cell 4	
EW-15	1,564,926.9	492,246.4	140	64	64	17	Granite	8" PVC	Y	9/30/17	Cell 3	
EW-16	1,564,909.3	492,608.2	147	57	57	17	Granite	8" PVC	Y	10/1/17	Cell 4	
<b>Totals</b>				<b>255</b>	<b>255</b>							

DRILLING LOG						
Record Prepared By: EDDIE DERNAR		Site ID: (e.g. S04567)		Well ID: EW-11		
Site: VISTA LANDFILL		S06654		Driller Name: VINCE COLEMAN - CEC		
Date: 9/29/2017				Bench (Y/N) Y		
Northing: 1,565,267.20				Weather: SCATTERED RAIN		
Easting: 492,334.90				Start Drill Time: 12:30PM		
Surface Elevation: 133				End Drill Time: 2:00PM		
Liner Elevation: 86						
Well Pipe Size: (In.) 8				Well Seal Type: Foam		
Well Material: SCH 80 PVC						
Solid Pipe: (Ft.) 17 (reference from top of ground surface)				Latitude:		
Perforated Pipe: (Ft.) 19				Longitude:		
Boring depth: (Ft.) 37						
Starting Depth	Ending Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture	Comments
0	10	wood, paper, other	110.0	none to little	dry	other = concrete
10	20	wood, paper, plastic	119.0	none to little	dry	
20	30	wood, plastic, other	133.0	none to little	dry	other = cloth
30	37	wood, plastic, other	111.0	moderate	moist	other = cloth, capret, construction debris
37	40					
40	50					
50	60					
60	70					
70	80					
80	90					
90	100					
100	110					
110	120					
120	130					
130	140					
140	150					
150	160					
160	170					
170	180					
180	190					
Comments:						
Well drilled to scheduled depth.						



**LGMS ID**

VLF-W011

**Alias**

EW-11

**Site Name:**

VISTA LANDFILL

**Site ID: (e.g.S04567)**

S06654

**Date Installed:** 9/29/2017**City:** APOPKA**State:** FL**Installation Contractor:**

CEC

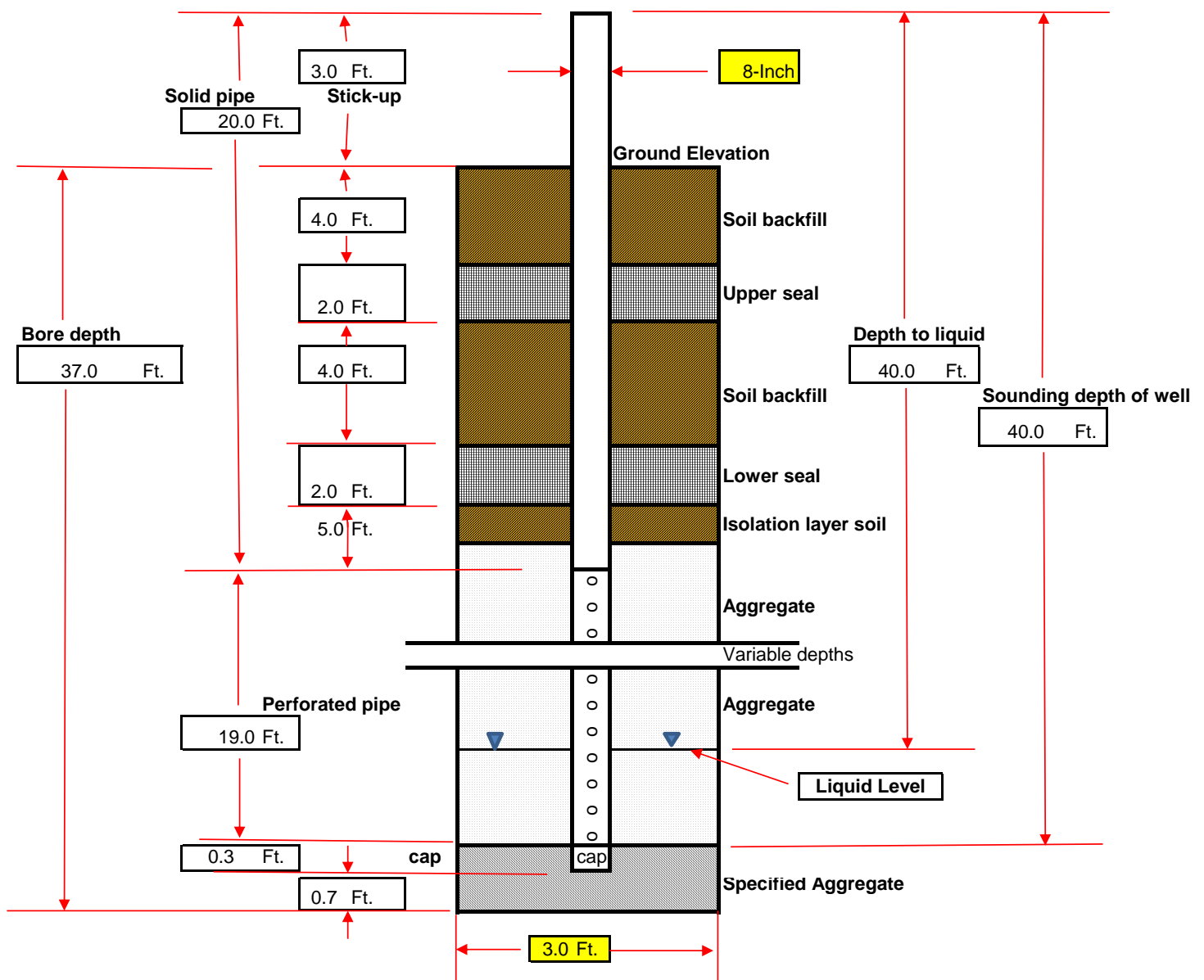
**General Comments:**Coordinates :

Northing: 1,565,267.20

Easting: 492,334.90

Ground Elevation (MSL): 133.0

Notes: Foam well seals. Well drilled to scheduled depth.

**Pipe Material:** Schedule 80 PVC Std.

DRILLING LOG						
Record Prepared By: EDDIE DERNAR		Site ID: (e.g. S04567)		Well ID: EW-12		
Site: VISTA LANDFILL		S06654		Driller Name: VINCE COLEMAN - CEC		
Date: 9/29/2017				Bench (Y/N): N		
Northing: 1,565,270.30				Weather: SCATTERED RAIN		
Easting: 492,634.40				Start Drill Time: 2:30PM		
Surface Elevation: 136				End Drill Time: 5:30PM		
Liner Elevation: 86						
Well Pipe Size: (In.) 8				Well Seal Type: Foam		
Well Material: SCH 80 PVC				Latitude:		
Solid Pipe: (Ft.) 17 (reference from top of ground surface)				Longitude:		
Perforated Pipe: (Ft.) 22						
Boring depth: (Ft.) 40						
Starting Depth	Ending Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture	Comments
0	10	wood, plastic , metal	100.0	none to little	dry	
10	20	wood, plastic , metal	98.0	none to little	dry	
20	30	wood, other	95.0	moderate	moist	other = cloth
30	40	wood, plastic , metal	95.0	moderate	moist	
40	50					
50	60					
60	70					
70	80					
80	90					
90	100					
100	110					
110	120					
120	130					
130	140					
140	150					
150	160					
160	170					
170	180					
180	190					
190	200					
Comments: Well drilled to scheduled depth.						

**LGMS ID**

VLF-W012

**Alias**

EW-12

**Site Name:**

VISTA LANDFILL

**Site ID: (e.g.S04567)**

S06654

**Date Installed:** 9/29/2017**City:** APOPKA**State:** FL**Installation Contractor:**

CEC

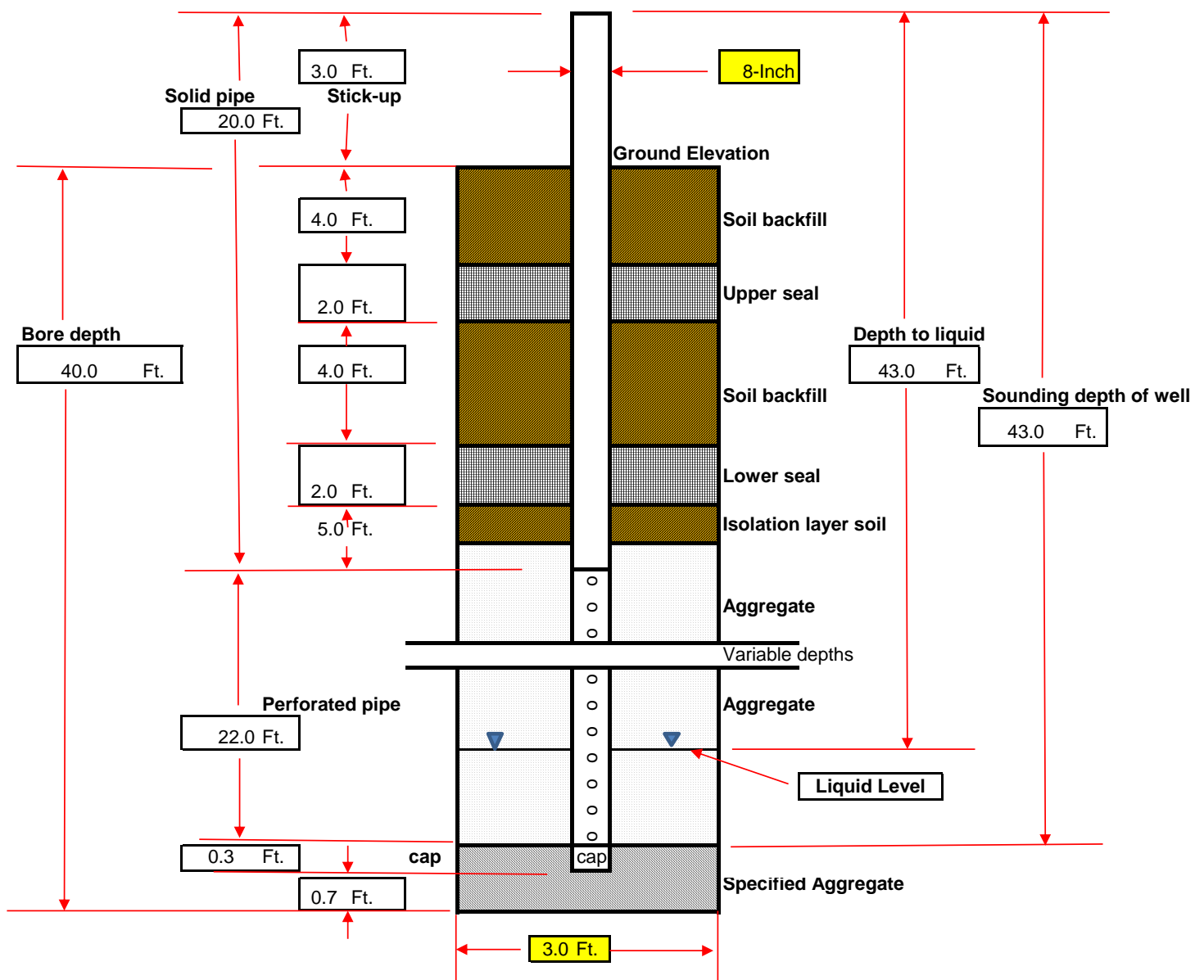
**General Comments:**Coordinates :

Northing: 1,565,270.30

Easting: 492,634.40

Ground Elevation (MSL): 136.0

Notes: Foam well seals. Well drilled to scheduled depth.

**Pipe Material:** Schedule 80 PVC Std.



DRILLING LOG						
Record Prepared By:	EDDIE DERNAR		Site ID: (e.g. S04567)	S06654	Well ID:	EW-15
Site:	VISTA LANDFILL				Driller Name:	VINCE COLEMAN - CEC
Date:	9/30/2017				Bench (Y/N)	Y
Northing:	1,564,926.90				Weather:	SUNNY
Easting:	492,246.40				Start Drill Time:	8:00AM
Surface Elevation:	140				End Drill Time:	12:30PM
Liner Elevation:	66					
Well Pipe Size: (In.)	8				Well Seal Type:	Foam
Well Material:	SCH 80 PVC					
Solid Pipe: (Ft.)	17 (reference from top of ground surface)				Latitude:	
Perforated Pipe: (Ft.)	46				Longitude:	
Boring depth: (Ft.)	64					

Starting Depth	Ending Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture	Comments
0	10	wood, paper, other	106.7	none to little	dry	other = gravel
10	20	wood, plastic, other	99.5	none to little	dry	other = gravel
20	30	wood, plastic, other	91.4	none to little	dry	other = gravel
30	40	wood, plastic, other	97.8	none to little	dry	other = gravel
40	50	wood, plastic, other	100.9	none to little	dry	other = gravel
50	60	wood, plastic, other	112.1	none to little	dry	other = gravel
60	64	wood, plastic, other	112.1	none to little	dry	other = gravel
64	70					
70	80					
80	90					
90	100					
100	110					
110	120					
120	130					
130	140					
140	150					
150	160					
160	170					
170	180					
180	190					

Comments:

Well drilled to scheduled depth.

**LGMS ID**

VLF-W015

**Alias**

EW-15

**Site Name:**

VISTA LANDFILL

**Site ID: (e.g.S04567)**

S06654

**Date Installed:** 9/30/2017

**City:** APOPKA

**State:** FL

**Installation Contractor:**

CEC

**General Comments:**

Coordinates :

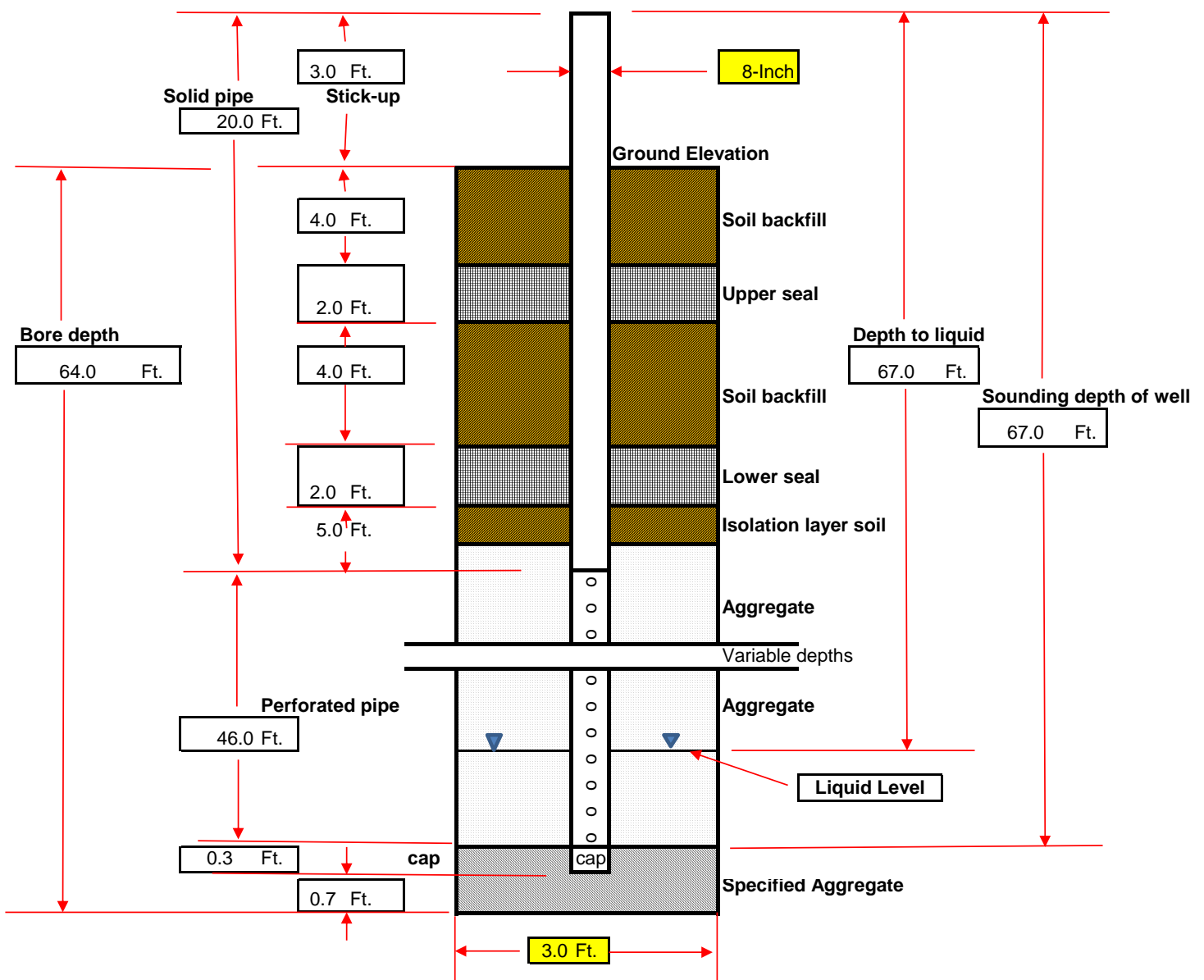
Northing: 1,564,926.90

Easting: 492,246.40

Ground Elevation (MSL): 140.0

Notes: Foam well seals. Well drilled to scheduled depth.

**Pipe Material:** Schedule 80 PVC Std.



DRILLING LOG						
Record Prepared By:	EDDIE DERNAR		Site ID: (e.g. S04567)	S06654	Well ID:	EW-13
Site:	VISTA LANDFILL				Driller Name:	VINCE COLEMAN - CEC
Date:	9/30/2017				Bench (Y/N)	N
Northing:	1,565,077.50				Weather:	SUNNY
Easting:	492,468.50				Start Drill Time:	1:00PM
Surface Elevation:	149				End Drill Time:	5:40PM
Liner Elevation:	82				Well Seal Type:	Foam
Well Pipe Size: (In.)	8				Latitude:	
Well Material:	SCH 80 PVC				Longitude:	
Solid Pipe: (Ft.)	17 (reference from top of ground surface)					
Perforated Pipe: (Ft.)	39					
Boring depth: (Ft.)	57					

Starting Depth	Ending Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture	Comments
0	10	wood, paper, plastic , soil, metal	123.0	none to little	dry	
10	20	wood, paper, plastic , soil, metal	109.2	none to little	dry	
20	30	wood, paper, plastic , soil, metal, other	113.8	none to little	dry	other = fabric
30	40	wood, paper, plastic , soil, metal, other	137.5	none to little	dry	other = fabric
40	50	wood, paper, plastic , soil, metal, other	127.9	none to little	dry	other = fabric
50	57	wood, paper, plastic , soil, metal, other	127.9	none to little	dry	other = fabric
57	60					
60	70					
70	80					
80	90					
90	100					
100	110					
110	120					
120	130					
130	140					
140	150					
150	160					
160	170					
170	180					
180	190					

Comments:  
Well drilled to scheduled depth.

**LGMS ID**

VLF-W013

**Alias**

EW-13

**Site Name:**

VISTA LANDFILL

**Site ID: (e.g.S04567)**

S06654

**Date Installed:** 9/30/2017

**City:** APOPKA

**State:** FL

**Installation Contractor:**

CEC

**General Comments:**

Coordinates :

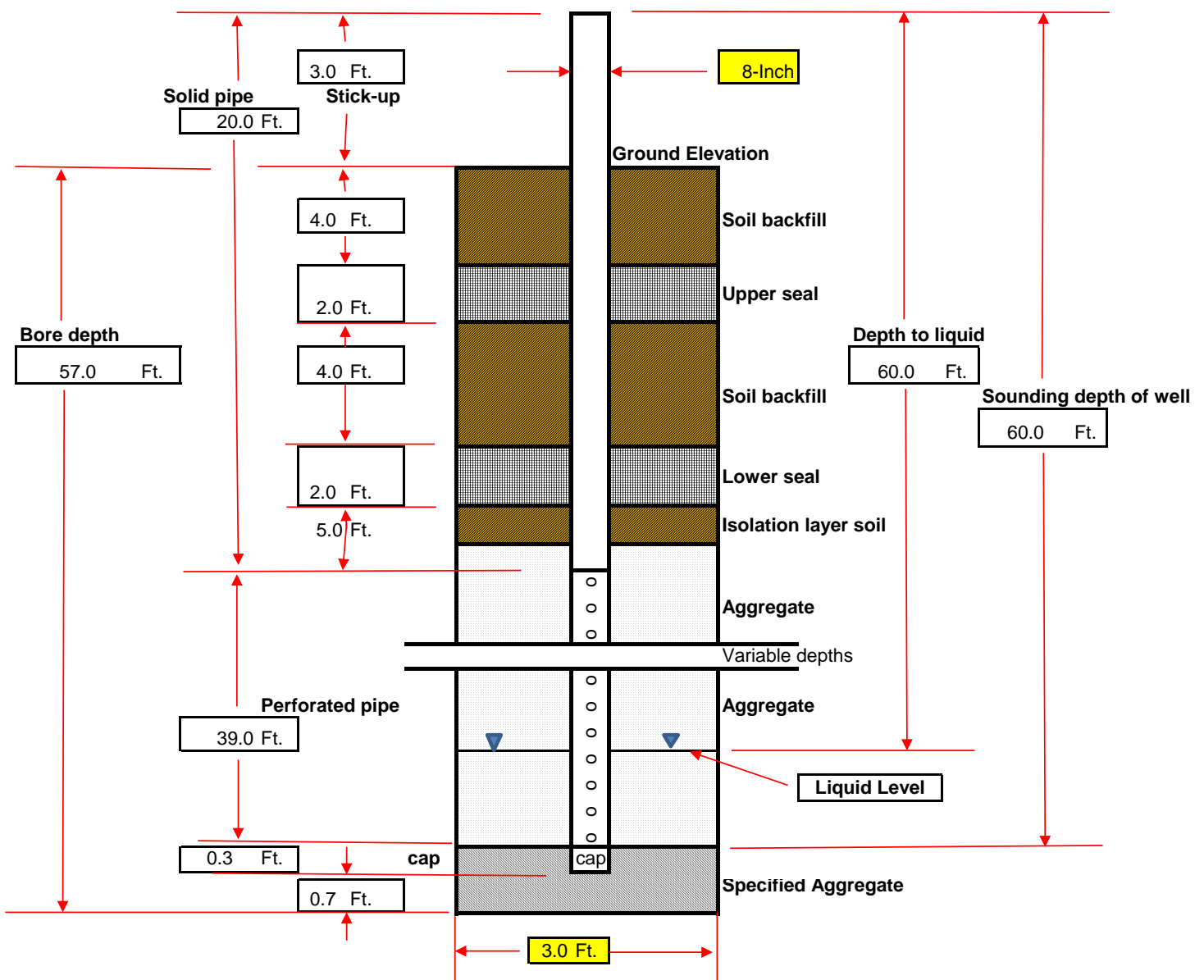
Northing: 1,565,077.50

Easting: 492,468.50

Ground Elevation (MSL): 149.0

Notes: Foam well seals. Well drilled to scheduled depth.

**Pipe Material:** Schedule 80 PVC Std.



DRILLING LOG						
Record Prepared By: EDDIE DERNAR		Site ID: (e.g. S04567)		Well ID: EW-16		
Site: VISTA LANDFILL		S06654		Driller Name: VINCE COLEMAN - CEC		
Date: 10/1/2017				Bench (Y/N) Y		
Northing: 1,564,909.30				Weather: SUNNY		
Easting: 492,608.20				Start Drill Time: 7:00AM		
Surface Elevation: 147				End Drill Time: 11:30AM		
Liner Elevation: 80						
Well Pipe Size: (In.) 8				Well Seal Type: Foam		
Well Material: SCH 80 PVC						
Solid Pipe: (Ft.) 17 (reference from top of ground surface)				Latitude:		
Perforated Pipe: (Ft.) 39				Longitude:		
Boring depth: (Ft.) 57						
Starting Depth	Ending Depth	Composition	Temp (F)	Degree of Decomposition	Amount of Moisture	Comments
0	10	wood, plastic , other	90.6	none to little	dry	other = gravel
10	20	wood, plastic , soil, other	101.1	none to little	dry	other = gravel, foam, fabric
20	30	wood, plastic , soil, other	107.9	none to little	dry	other = gravel, foam, fabric
30	40	wood, plastic , soil, other	122.8	none to little	dry	other = gravel, foam, fabric
40	50	wood, plastic , soil, other	123.5	none to little	dry	other = gravel, foam, fabric
50	57	wood, plastic , soil, other	123.5	none to little	dry	other = gravel, foam, fabric
57	60					
60	70					
70	80					
80	90					
90	100					
100	110					
110	120					
120	130					
130	140					
140	150					
150	160					
160	170					
170	180					
180	190					
Comments: Well drilled to scheduled depth.						

**LGMS ID**

VLF-W016

**Alias**

EW-16

**Site Name:**

VISTA LANDFILL

**Site ID: (e.g.S04567)**

S06654

**Date Installed:** 10/1/2017**City:** APOPKA**State:** FL**Installation Contractor:**

CEC

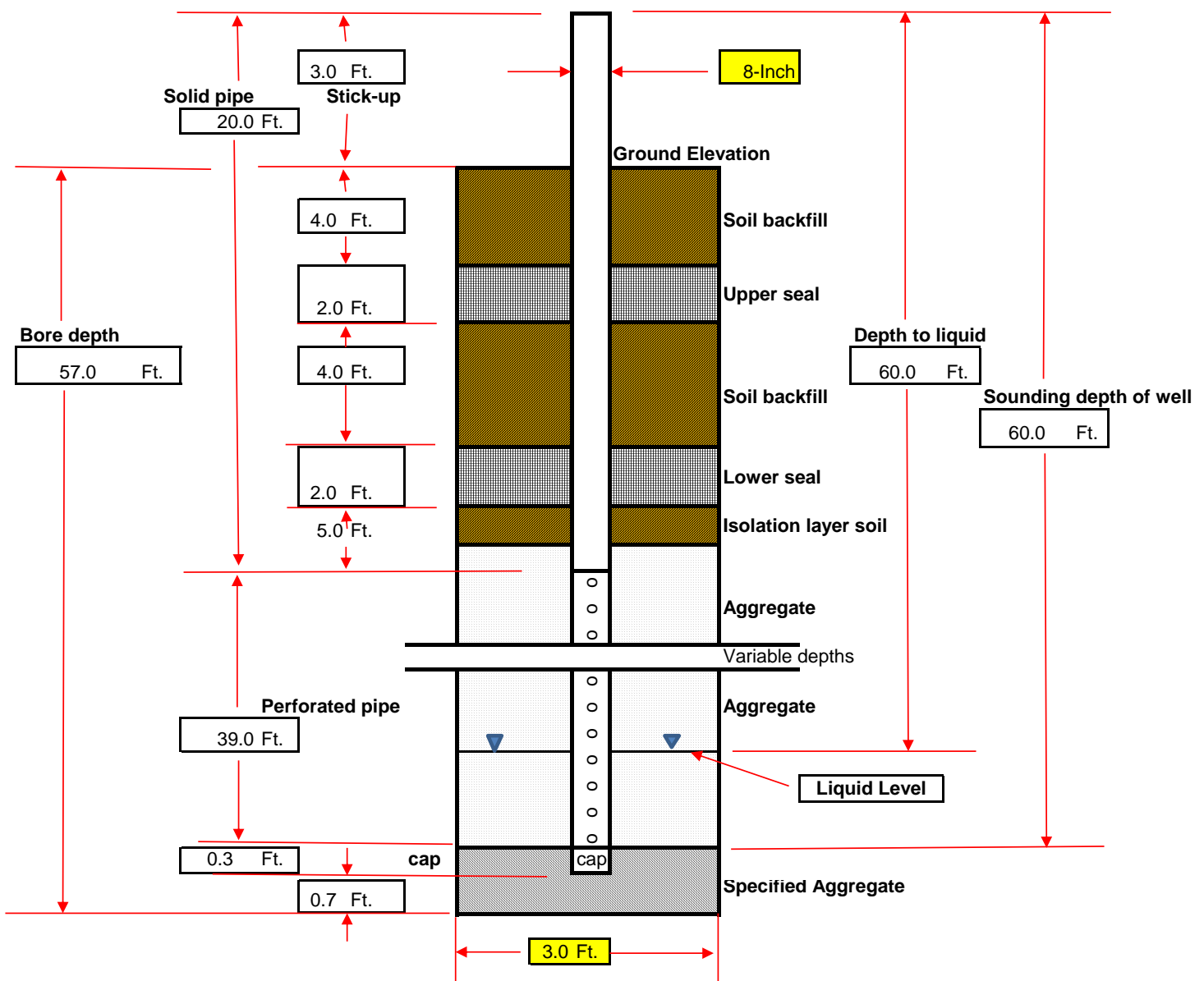
**General Comments:**Coordinates :

Northing: 1,564,909.30

Easting: 492,608.20

Ground Elevation (MSL): 147.0

Notes: Foam well seals. Well drilled to scheduled depth.

**Pipe Material:** Schedule 80 PVC Std.



**ATTACHMENT C**  
**PRESSURE TEST LOGS**



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

### BELOW GROUND HDPE PIPE PRESSURE TEST REPORT

Site: Vista Landfill

Contractor: CEC

Test Performed By: Rachael Hinson

Date: 3-30-18

Time: 9:37

Description & Location of Test Segment: EW14 - Southside

Diameter & SDR of Test Segment: 8" Header & 6" Laterals

Length: 1695 ft.

Start Time: 9:37 AM

End Time: 11:21 AM

Start Temperature: 69° ° F

End Temperature: 69° ° F

Start Pressure: 10 psi

End Pressure: 10 psi

Pass/Fail: PASS

Retest (yes/no): NO

Comments:

Record Prepared By: Rachael Hinson

Date: 3-30-18



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

### BELOW GROUND HDPE PIPE PRESSURE TEST REPORT

Site: Vista Landfill

Contractor: CEC

Test Performed By: Rachael Hinson

Date: 4-2-18

Time: 10:00 AM

Description & Location of Test Segment: Tie-In Point On Southside

Diameter & SDR of Test Segment: 2" Air & 2" Force Main

Length: 1150 ft.

Start Time: 10:01 AM

End Time: 11:01 AM

Start Temperature: 73° °F

End Temperature: 75° °F

Start Pressure: 60 psi

End Pressure: 60 psi

Pass/Fail: PASS

Retest (yes/no): NO

Comments:

Record Prepared By: Rachael Hinson

Date: 4-2-18



**CARLSON ENVIRONMENTAL CONSULTANTS, PC**

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

**BELOW GROUND HDPE PIPE PRESSURE TEST REPORT**

Site: Vista Landfill

Contractor: CEC

Test Performed By: Rachael Hinson

Date: 4-5-18

Time: 3:40 PM

Description & Location of Test Segment: 8" Header & 6" Lateral On Northside

Diameter & SDR of Test Segment: 8" & 6"

Length: 564 ft.

Start Time: 3:41 PM

End Time: 4:41

Start Temperature: 75 ° F

End Temperature: 75 ° F

Start Pressure: 10 psi

End Pressure: 10 psi

Pass/Fail: PASS

Retest (yes/no): NO

Comments:

Record Prepared By: Rachael Hinson

Date: 4-5-18



**CARLSON ENVIRONMENTAL CONSULTANTS, PC**

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

**BELOW GROUND HDPE PIPE PRESSURE TEST REPORT**

Site: Vista Landfill

Contractor: CEC

Test Performed By: Rachael Hinson

Date: 4-6-18

Time: 10:20 AM

Description & Location of Test Segment: 2" Air & 2" Force Main on Northside

Diameter & SDR of Test Segment: 2"

Length: 486 ft.

Start Time: 10:21 AM End Time: 11:21 AM

Start Temperature: 71 ° F End Temperature: 76 ° F

Start Pressure: 60 psi End Pressure: 60 psi

Pass/Fail: PASS Retest (yes/no): NO

Comments:

Record Prepared By: Rachael Hinson Date: 4-6-18



**CARLSON ENVIRONMENTAL CONSULTANTS, PC**

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

**BELOW GROUND HDPE PIPE PRESSURE TEST REPORT**

Site: Vista Landfill

Contractor: CEC

Test Performed By: Rachael Hinson

Date: 4-25-18

Time: 1 PM

Description & Location of Test Segment: North & East Sides

Diameter & SDR of Test Segment: 8" Header & 6" laterals; 2" Air & 2" Force Main

Length: 1937 ft. 8" & 2"; 707 1/2 ft. 6"

Start Time: 2" 1 PM | 8" & 6" 2:15 PM End Time: 2" 2 PM | 8" & 6" 3:15 PM

Start Temperature: 79 °F End Temperature: 79 °F

Start Pressure: 2" 60 | 8" & 6" 10 psi End Pressure: 2" 60 | 8" & 6" 10 psi

Pass/Fail: PASS Retest (yes/no): NO

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Record Prepared By: Rachael Hinson Date: 4-25-18

**ATTACHMENT D**

**DAILY FIELD LOGS**





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

<b>Site:</b>	Vista	<b>Temperature:</b>	86	<b>Time Onsite:</b>	8:30 AM
<b>Date:</b>	9-29-2017	<b>Weather:</b>	Rain	<b>Time Leaving:</b>	6:00 PM

Labor – Employees	Hours		Labor	Hours	
Min Chun - R	1				
Min Chun - NR	8.5				

EQUIPMENT		EQUIPMENT	
Truck		GEM5000	
Hand tools			

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CO2 (%-VOL)	O2 (%-VOL)
Inst. Model	Serial Number			
GEM5000	G503193	50%	35%	20.9%
Cal Gas Manufacturer	Manufacture Date	Expiration Date	Lot / ID number	
Pine Environmental	NA	09/2019	4626499	

Work Performed – Description of Item (Example: Monitoring, SEM, Well Raise, etc)	
Routine	

### Notes:

Calibrated GEM 5000  
Read EW6 and CS2

Swapped flares. Vista to Keene.

Was trained on CQA by Vince Coleman. Put in EW11 and EW12.



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

<b>Site:</b>	Vista Landfill	<b>Temperature:</b>	87 Degrees	<b>Time Onsite:</b>	06:00
<b>Date:</b>	9/30/2017	<b>Weather:</b>	Partly Cloudy/Rain	<b>Time Leaving:</b>	17:45

Labor – Employees	Hours		Labor	Hours	
Kenneth Ward	11.75 CQA				

EQUIPMENT			EQUIPMENT		
Laser Heat Gun					
Digital Camera					
Dry-erase board/Notepad					

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CO2 (%-VOL)	O2 (%-VOL)
Inst. Model	Serial Number			
Cal Gas Manufacturer	Manufacture Date	Expiration Date	Lot / ID number	

Work Performed – Description of Item (Example: Monitoring, SEM, Well Raise, etc)	
CQA	

**Notes:**

Record data and photograph each stage of the well installation process for wells GW-15 & GW-13.



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

<b>Site:</b>	Vista Landfill	<b>Temperature:</b>	76 Degrees	<b>Time Onsite:</b>	06:30
<b>Date:</b>	10/01/2017	<b>Weather:</b>	Cloudy	<b>Time Leaving:</b>	12:00

Labor – Employees		Hours		Labor		Hours	
Kenneth Ward		5.5 CQA					
EQUIPMENT				EQUIPMENT			
Laser Heat Gun							
Digital Camera							
Dry-erase board/Notepad							
Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CO2 (%-VOL)	O2 (%-VOL)			
Inst. Model	Serial Number						
Cal Gas Manufacturer	Manufacture Date	Expiration Date	Lot / ID number				
Work Performed – Description of Item (Example: Monitoring, SEM, Well Raise, etc)							
CQA							

**Notes:**

Record data and photograph each stage of the well installation process for well EW-16.



## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	72°F	Time Onsite:	7:00
Date:	3-12-18	Weather:	Partly Cloudy	Time Leaving:	6:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +6	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck-	Link Belt Excavator - K62603
Komatsu PC 200 HD Excavator - 490933	Deere Dozer - 235443
Takeuchi Skid Steer - 1000825	

WORK PERFORMED – Description of Item	CONTRACTOR
Located Existing 12" Tie-In Point	CEC

### Notes:

6 Hrs. To Locate Existing Tie-In Point  
30ft. Depth





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	68°	Time Onsite:	7:00
Date:	3-13-18	Weather:	Sunny	Time Leaving:	6:00

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +6	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Komatsu Excavator - 4090933	Deere Dozer - 235443
Takeuchi Skid Steer - 1000825	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched 100 ft. & Installed 80 ft. 8", 2"A, 2"FM	CEC
Inventoried Materials	

Notes:

Trenched 100 ft. & Installed 80 ft. of 8", 2" Air, & 2" Force Main From Tie-In Point On Southside  
(Starting Depth: 30 ft.; 40 ft. Length, 18 ft. Depth; 80 ft. Length, 14 ft. Depth; 100 ft. Length, 5 ft. Depth)

Backfilled 60 ft., Left 25 ft. @ Tie-In Point Exposed

Inventoried Materials





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	69°	Time Onsite:	7:00
Date:	3-14-18	Weather:	Sunny	Time Leaving:	3:00

Labor - Employees	Hours	Labor - Employees	Hours
Verion Coleman +6	7 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4a90933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & installed 180 ft. 8", 2" A, 2" FM	CEC
Installed 8", 2" A, 2" FM Valves	

### Notes:

Trenched & Installed 180 ft. 8", 2" Air, 2" Force Main  
(starting @ 6 ft. Depth, 120 ft. Length; 120-160 ft. Length, 5 ft. Depth; 160-180 ft. Length,  
4 ft. Depth)  
Installed 8" Valve, 2" Air Valve, 2" Force Main Valve (Stub Ups)  
Backfilled 150 ft., Left 30 ft. @ Valves Exposed





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	69°	Time Onsite:	7:00
Date:	3-21-18	Weather:	Sunny	Time Leaving:	6:00

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +6			

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4a 90933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 220 ft. 8", 2" Air, 2" Force Main Backfilled	CEC

### Notes:

Trenched & Installed 220 ft. 8", 2" Air, & 2" Force Main  
(0-100 ft. Length, 5 ft. Depth; 100-175 ft. Length, 6 ft. Depth; 175-220 ft. Length,  
5 ft. Depth)  
Backfilled 170 ft., Left 20 ft. @ Valves Exposed





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	68°	Time Onsite:	7:00
Date:	3-22-18	Weather:	Sunny	Time Leaving:	7:00

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman + 4	11 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	LinkBelt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 150ft. 8", 2" A, & 2" FM	CEC
Installed 2 8" Tees w/ 8"x6" Reducer; Backfilled; Hauled Dirt	

### Notes:

Trenched & Installed 150ft. 8", 2" Air, & 2" Force Main (5ft. Depth);  
Installed 8" Tee w/ 8"x6" Reducer For EWI4  
Installed 8" Tee w/ 8"x6" Reducer For Cell 3 Cleanout Connection  
Backfilled  
Hauled Dirt

Verlon Picked Up Uhaul, 618 Machine & Extrusion Gun, & Returned Uhaul





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	73°	Time Onsite:	7:00
Date:	3-23-18	Weather:	Sunny	Time Leaving:	8:00

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	12 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	LinkBelt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 256ft. 8", 2" A. & 2" FM	CEC
Installed 8" Tee w/ 8"x6" Reducer; Backfilled	

Notes:

Trenched & Installed 256 ft. 8", 2" Air, & 2" Force Main (stub Up)  
(5ft. Depth)

Installed 8" Tee w/ 8"x6" Reducer For EW15  
Backfilled





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	80°	Time Onsite:	7:00
Date:	3-24-18	Weather:	Sunny	Time Leaving:	4:00

Labor - Employees	Hours	Labor - Employees	Hours
Rachael Hinson + 4	9		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 114 ft. 8", 2" A, & 2" FM	CEC
Installed 8" Tee w/ 8" x 6" Reducer; Backfilled	

Notes:

Trenched & Installed 114 ft. 8", 2" Air, & 2" Force Main  
(5 ft. Depth)

Installed 8" Tee w/ 8" x 6" Reducer For EWI 6

Installed 8" Tee w/ 8" x 6" Reducer For Cell 4 Cleanout Connection

Backfilled & Dressed Up Southside Slope





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	78°	Time Onsite:	7:00
Date:	3-26-18	Weather:	Rain	Time Leaving:	

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4a90933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched 199 ft. & Installed 150 ft. 8", 2" A, & 2" FM	CEC
Fabricated CS4; Backfilled	

Notes:

Trenched 199 ft. & Installed 150 ft. 8", 2" Air, & 2" Force Main (4 ft. Depth)  
Fabricated CS4  
Backfilled 75 ft.





## CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	79°	Time Onsite:	7:00
Date:	3-27-18	Weather:	Partly Cloudy	Time Leaving:	6:30

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman + 5	11		

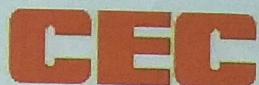
EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 6" For EW14 & EW15	CEC
Backfilled & Hauled Dirt	

Notes:

Trenched & Installed 80 ft. 6" (4 ft. Depth) For EW14  
Trenched & Installed 60 ft. 6" (4 ft. Depth) For EW15  
Backfilled & Hauled Dirt





# CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista Landfill	Temperature:	78°	Time Onsite:	7:00
Date:	3-28-18	Weather:	Partly Cloudy	Time Leaving:	7:00

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	11 1/2		
EQUIPMENT		EQUIPMENT	
Bell B25E Haul Truck		Link Belt Excavator - K62603	
Deere Dozer - 235443		Takeuchi Skidsteer - 1000825	
Komatsu Excavator - 4290933			
WORK PERFORMED - Description of Item		CONTRACTOR	
Trenched & Installed 251 ft. 6" For EW13		CEC	
Backfilled			

## Notes:

Trenched & Installed 251 ft. 6" For EW13  
Backfilled

(0-25 ft. Length, 5 ft. Depth; 25-50 ft. Length, 6 1/2 ft. Depth; 50-75 ft. Length, 8 ft. Depth; 75-100 ft. Length, 9 1/2 ft. Depth; 100-125 ft. Length, 8 1/2 ft. Depth; 125-150 ft. Length, 7 1/2 ft. Depth; 150-175 ft. Length, 5 ft. Depth; 175-251 ft. Length, 4 ft. Depth)





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	87°	Time Onsite:	7:00
Date:	3-29-18	Weather:	Sunny	Time Leaving:	6:30

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	
WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 148 ft. 6" For EWL6	CEC
Installed 90° Risers @ C3CC & C4CC ; Backfilled	

Trenched & Installed 148 ft. 6" (5 ft. Depth) For EWL6  
Installed 90° Riser @ Cell 3 Cleanout Connection  
Installed 90° Riser @ Cell 4 Cleanout Connection  
Backfilled

Verlon & Donnie: 7:00-5:30

Rachael, John, Tucker, & Josh: 7:00-6:30



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	85°	Time Onsite:	7:00
Date:	3-30-18	Weather:	Rain	Time Leaving:	6:30

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	11		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Air Test ; Backfill ; Dress up Southside	CEC

Air Test On 8" Header & 6" Laterals @EW14: Passed  
Backfilled & dressed up Southside





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	75°	Time Onsite:	7:00
Date:	3-31-18	Weather:	Cloudy	Time Leaving:	1:00

Labor – Employees	Hours	Labor - Employees	Hours
Rachael Hinson + 1			
EQUIPMENT		EQUIPMENT	
Bell B25E Haul Truck		Link Belt Excavator - K62603	
Deere Dozer - 235443		Takeuchi Skidsteer - 1000825	
Komatsu Excavator - 4090933			
WORK PERFORMED – Description of Item		CONTRACTOR	
Hauled Dirt ; Dressed Up Southside		CEC	

Hauled Dirt  
Dressed Up Southside





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	85°	Time Onsite:	7:00
Date:	4-2-18	Weather:	Partly Sunny w/ Afternoon Shower / Thunderstorm	Time Leaving:	5:30

Labor - Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	10		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
Tied In To Tie-In Point On Southside + A&FM Backfilled & Hauled Dirt ; Air Test	CEC

Tied Into Tie-In Point on Southside

Tied In 2" Air & 2" Force Main On Southside

Backfilled & Hauled Dirt

Air Tested 2" Air & 2" Force Main on Southside: Passed



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	87°	Time Onsite:	7:00
Date:	4-3-18	Weather:	Partly cloudy	Time Leaving:	7:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	11		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4a90933	

WORK PERFORMED – Description of Item	CONTRACTOR
Exposed Tie-In Point On Northside Trenched 80 ft. ; Made Barrier; Tarped Area	CEC

Exposed Tie-In Point On Northside (4 Hrs.) (17 ft. Depth)  
Trenched 80 ft.

Made Barrier Around Tie-In Point & Tarped off

(0-25 ft. Length, 16 ft. Depth; 25-50 ft. Length, 15 ft. Depth;  
50-80 ft. Length, 13½ ft. Depth)





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	86°	Time Onsite:	7:00
Date:	4-4-18	Weather:	Partly Sunny w / Afternoon Shower / Thunderstorm	Time Leaving:	7:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	11		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4a90933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched 255 ft. & Installed 335 ft 8", 2"A, & 2" FM CEC	
Backfilled	

Trenched 255 ft. & Installed 335 ft. 8", 2" Air, & 2" Force Main  
(0-100 ft. Length, 12 ft. Depth; 100-125 ft. Length, 10 1/2 ft. Depth;  
125-150 ft. Length, 9 ft. Depth; 150-175 ft. Length, 10 ft. Depth;  
175-200 ft. Length, 8 1/2 ft. Depth; 200-225 ft. Length, 10 ft.  
Depth; 225-250 ft. Length, 9 ft. Depth; 250-335 ft. Length,  
8 ft. Depth)

Backfilled 155 ft.



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	81°	Time Onsite:	7:00
Date:	4-5-18	Weather:	Partly Cloudy	Time Leaving:	5:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	9		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched 180 ft. & Installed 150 ft. 8", 2" A, & 2" FM 6" Lateral For EW10, HC11, & HC12; Air Test; Backfilled	CEC

Trenched 180 ft. & Installed 150 ft. 8", 2" Air, & 2" Force Main  
(0-20 ft. Length, 8 ft. Depth; 20-40 ft. Length, 7 ft. Depth; 40-60 ft. Length, 6 ft. Depth; 60-80 ft. Length, 5 ft. Depth; 80-180 ft. Length, 4 ft. Depth)  
Installed 8" Tee w/ 8"x6" Reducer & Trenched & Installed 73 ft. 6" For EW10, HC11, & HC12  
Installed 8" Tee w/ 8"x6" Reducer & 6 ft. 90° Riser For Cell 3 Cleanout Connection  
Air Test On 8" Header & 6" Lateral On Northside  
Backfilled



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	85°	Time Onsite:	7:00
Date:	4-6-18	Weather:	Sunny	Time Leaving:	1:00

Labor - Employees	Hours	Labor - Employees	Hours
Rachael Hinson +3	6		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4290933	

WORK PERFORMED - Description of Item	CONTRACTOR
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8" Tie-In & 2" Air & 2" Force Main On Northside	CEC
Installed A&FM Isolation Valves; Air Test; Backfilled	

8" Tie-In & 2" Air & 2" Force Main Tie-In On Northside	
Installed 2" Air & 2" Force Main Isolation Valves	
Air Test on 2" Air & 2" Force Main: Passed	
Backfilled	





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	85°	Time Onsite:	7:00
Date:	4-7-18	Weather:	Partly Cloudy w/ shower / Thunderstorm in Evening	Time Leaving:	8:30

Labor – Employees	Hours	Labor - Employees	Hours
Rachael Hinson +1	1 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 490933	
WORK PERFORMED – Description of Item	CONTRACTOR
Hauled Dirt	CEC



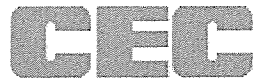


## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	84°	Time Onsite:	7:00
Date:	4-13-18	Weather:	Sunny	Time Leaving:	3:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +4	7 1/2		
EQUIPMENT		EQUIPMENT	
Bell B25E Haul Truck (2)		Link Belt Excavator - K62603	
Deere Dozer - 235443		Takeuchi Skidsteer - 1000825	
Kamatsu Excavator - 4090933			
WORK PERFORMED – Description of Item		CONTRACTOR	
Installed CS4		CEC	
Serviced 2018 Ford F-250			



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	88°	Time Onsite:	7:00
Date:	4-14-18	Weather:	Partly Cloudy	Time Leaving:	2:30

Labor – Employees	Hours	Labor - Employees	Hours
Rachael Hinson + 3	7 1/2		
EQUIPMENT		EQUIPMENT	
Bell B25E Haul Truck (2)		Link Belt Excavator - K62603	
Deere Dozer - 235443		Takeuchi Skidsteer - 1000825	
Kamatsu Excavator - 4a90933			
WORK PERFORMED – Description of Item		CONTRACTOR	
Hauled Dirt		CEC	



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	69°	Time Onsite:	7:00
Date:	4-16-18	Weather:	Sunny	Time Leaving:	5:30

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck (2)	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched & Installed 350ft. 8", 2" A, & 2" FM on Eastside; Backfilled 250ft.	CEC
Trenched & Installed 350ft. 8", 2" Air, & 2" Force Main On Eastside, Backfilled 250ft.	

Trenched & Installed 350ft. 8", 2" Air, & 2" Force Main On Eastside, Backfilled 250ft. starting a CS4





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	78°	Time Onsite:	7:00
Date:	4-17-18	Weather:	Sunny	Time Leaving:	7:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	11 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck (2)	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched & Installed 550 ft. 8", 2" Air, & 2" FM; Installed CEC	
6" Access Riser; Installed 8" Tee w/ 8"x6" Reducer For EW12; Backfilled	

Trenched & Installed 550 ft. 8", 2" Air, & 2" Force Main  
Installed 8" Tee w/ 8"x6" Reducer & 7 ft. 6" Access Riser  
(Installed 8" Tee w/ 8"x6" Reducer For EW12  
Backfilled  
Installed 2" Tees For 2" Air & 2" Force Main Stub Ups



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	88°	Time Onsite:	7:00
Date:	4-18-18	Weather:	Sunny	Time Leaving:	5:30

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	10		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched & Installed 250 ft. 8", 2" A & 2" FM.	CEC
Installed 8" Tee w/ 8"x6" Reducer & 6" 90° Riser; Backfilled	

Trenched & Installed 250 ft. 8", 2" Air, & 2" Force Main  
Installed 8" Tee w/ 8"x6" Reducer & 6" 90° Riser For Cell 4  
Cleanout Connection  
Backfilled



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	86°	Time Onsite:	7:00
Date:	4-19-18	Weather:	Partly Cloudy	Time Leaving:	4:30

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	8 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched & Installed 96ft. 6" w/ 90° Riser For EW12; Tied Into Cell 4 Cleanup Connection;	CEC

Trenched & Installed 96ft. 6" w/ 90° Riser For EW12  
Tied Into Cell 4 Cleanup Connection, Trenched & Installed  
56ft. 6" w/ 6" 90° Riser  
Backfilled





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	82°	Time Onsite:	7:00
Date:	4-20-18	Weather:	Sunny	Time Leaving:	12:30

Labor – Employees	Hours	Labor - Employees	Hours
Verion Coleman +4	5 1/2		
EQUIPMENT		EQUIPMENT	
Bell B25E Haul Truck		Link Belt Excavator - K62603	
Deere Dozer - 235443		Takeuchi Skidsteer - 1000825	
Kamatsu Excavator - 4090933			
WORK PERFORMED – Description of Item		CONTRACTOR	
Trenched & Installed 186 1/2 ft. 6" For Cell 3		CEC	
Cleanout Connection; Backfilled			



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista landfill	Temperature:	83°	Time Onsite:	7:00
Date:	4-23-18	Weather:	Thunderstorms	Time Leaving:	8:00

Labor – Employees	Hours	Labor - Employees	Hours
Verlon Coleman +5	12 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 4090933	

WORK PERFORMED – Description of Item	CONTRACTOR
Trenched & Installed 177 ft. 6" For C3CC; Trenched & Installed 87 ft. 6" For C4CC; Backfilled	CEC

Trenched & Installed 177 ft. 6" For Cell 3 Cleanout Connection  
Installed 6" EF Coupler To Tie In to Cell 3 Cleanout Connection  
Trenched & Installed 87 ft. 6" For Cell 4 Cleanout Connection  
Installed 6" EF Coupler To Tie In to Cell 4 Cleanout Connection  
Backfilled





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	82°	Time Onsite:	7:00
Date:	4-24-18	Weather:	Partly Cloudy	Time Leaving:	8:30

Labor - Employees	Hours	Labor - Employees	Hours
Verion Coleman +5	12 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 490933	

WORK PERFORMED - Description of Item	CONTRACTOR
Trenched & Installed 302 ft. 8", 2" A & 2" FM on Northside; Installed 32 ft. 6" For EMI; Backfilled	CEC

Trenched & Installed 302 ft. 8", 2" Air, & 2" Force Main On Northside  
Installed 8" Tee w/ 8"x6" Reducer, Trenched & Installed 32 ft.  
6" For EMI

Installed 2" Air & 2" Force Main Stub UPS  
Backfilled



## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	82°	Time Onsite:	7:00
Date:	4-25-18	Weather:	Sunny	Time Leaving:	6:45

Labor - Employees	Hours	Labor - Employees	Hours
Verion Coleman +5	10 3/4		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Kamatsu Excavator - 4090933	

WORK PERFORMED - Description of Item	CONTRACTOR
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Installed 8" Valve; Installed 2" A&2" FM valves (Stub CEC Ups); Installed 2" A&2" FM Isolation valves on Pump @ CS4; Air tests

Installed 8" valve On Northside w/ Valve Stem

Installed 2" Air & 2" Force Main valves (Stub Ups)

Backfilled

Installed 2" Air & 2" Force Main Isolation valves For Pump @ CS4

Dressed up Southside

Installed valve stem on 8" valve on southside

Air Test On 8" Header & 6" Laterals On North & East sides: Passed

Air Test On 2" Air & 2" Force Main On North & East sides: Passed





## Carlson Environmental Consultants, pc

Landfill Gas, Air Permitting, and Regulatory Compliance Services

Site:	Vista Landfill	Temperature:	84°	Time Onsite:	7:00
Date:	4-26-18	Weather:	Partly Cloudy	Time Leaving:	6:30

Labor – Employees	Hours	Labor - Employees	Hours
Verion Coleman +5	10 1/2		

EQUIPMENT	EQUIPMENT
Bell B25E Haul Truck	Link Belt Excavator - K62603
Deere Dozer - 235443	Takeuchi Skidsteer - 1000825
Komatsu Excavator - 490933	

WORK PERFORMED – Description of Item	CONTRACTOR
--------------------------------------	------------

Installed Pump On CS4; Installed Well Heads; Picked Up U-Haul; Installed sample Ports On Southside; Dressed Up Southside

Installed Pump On CS4

Installed Well Heads On EW10, EW11, EW12, EW13, EW14, EW15, EW16,  
Cell 3 Cleanout Connection on Southside, Cell 3 & 4 Cleanout Connections  
On Northside

Installed sample Ports On Southside

Dressed Up Southside

Picked Up U-Haul

**ATTACHMENT E**  
**CONSTRUCTION PHOTOGRAPHS**





(Photograph 1: Search for 12" tie in)



(Photograph 2: Search for 12" tie in)



(Photograph 3: Backfilling with tie in point exposed)



(Photograph 4: 12" pipe placing in trench)





(Photograph 5: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 6: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 7: 8" valve and 2" air and force main valves)



(Photograph 8: 8" header weld with 2" stub ups)





(Photograph 9: Valves under protection at end of day)



(Photograph 10: 8" valve and 2" air and force main valves)



(Photograph 11: 8" valve and 2" air and force main valves)



(Photograph 12: 8" header, 2" air, and 2" forcemain placed in same trench)





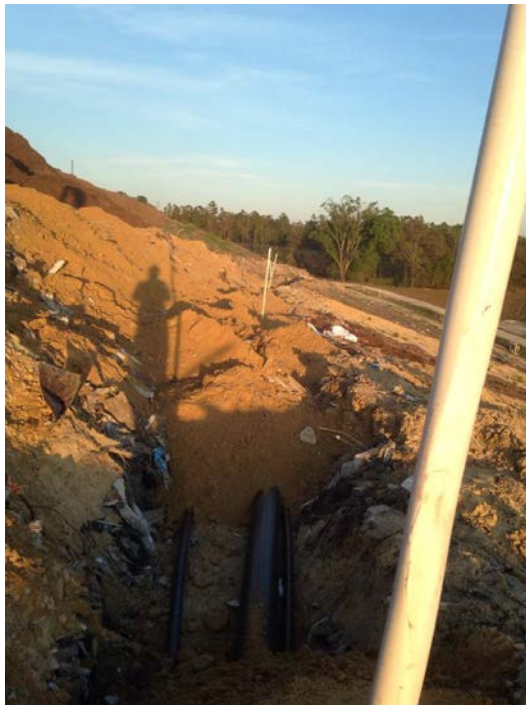
(Photograph 13: 8" tee with 8"x6" reducer for EW-14)



(Photograph 14: 8" tee with 8"x6" reducer for Cell 3 cleanout connection)



(Photograph 15: 8" header, 2" air, and 2" forcemain placed in same trench with 8" tee with 8"x6" reducer for EW-15)



(Photograph 16: Backfilling trench)





(Photograph 17: 8" tee with 8"x6" reducer for EW-15)



(Photograph 18: 8" tee with 8"x6" reducer for EW-16)



(Photograph 19: 8" tee with 8"x6" reducer for Cell 4 cleanout connection)



(Photograph 20: 8" tee with 8"x6" reducer for EW-16)





(Photograph 21: 6" lateral to EW-14)



(Photograph 22: 6" 90° elbow to EW-14)



(Photograph 23: 6" lateral to EW-15)



(Photograph 24: 6" riser for EW-16)





(Photograph 25: 6" lateral for EW-13)



(Photograph 26: 6" riser for EW-13)



(Photograph 27: 6" riser for Cell 3 cleanout connection)



(Photograph 28: 8" tee with 8"x6" reducer and 6" lateral to EW-16)





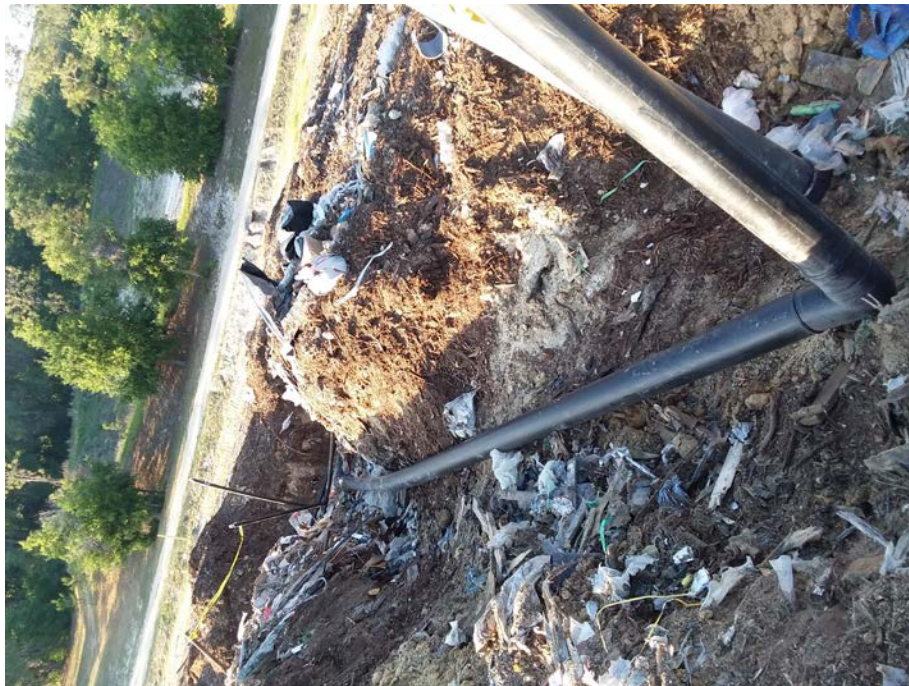
(Photograph 29: 6" riser for Cell 4 cleanout connection)



(Photograph 30: 6" riser trench backfill)

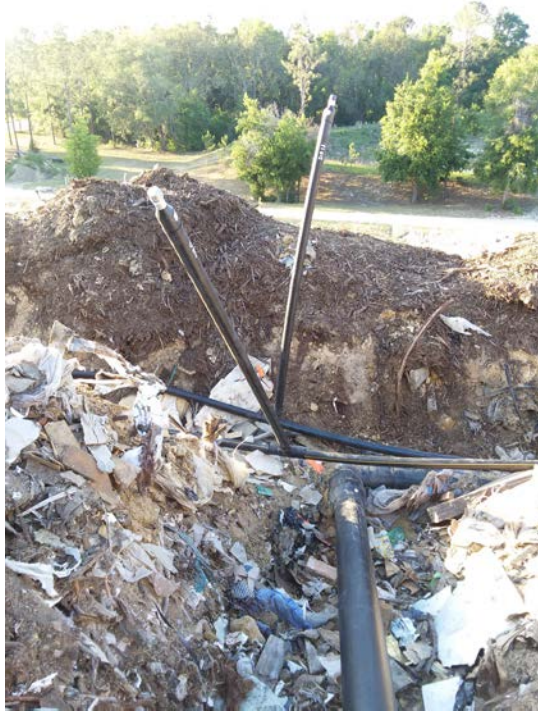


(Photograph 31: Passing air test for 8" header and 6" lateral)



(Photograph 32: 6" lateral and riser for EW-11)





(Photograph 33: 8" tee with 8"x6" reducer to EW-11)



(Photograph 34: 6" riser for EW-11)



(Photograph 35: Passing 2" air and forcemain air test)



(Photograph 36: 8" valve, 2" air and 2" forcemain valves on northside)





(Photograph 37: Passing 8" header and 6" laterals air test on northside and eastside)



(Photograph 38: Installing valve stem on CS-4)



(Photograph 39: 2" air and 2" force main stub ups at CS-4)



(Photograph 40: Backfilled valve location)





(Photograph 41: Southside tie in point)



(Photograph 42: Passing 2" air and 2" forcemain air test on southside)



(Photograph 43: 2" air and 2" forcemain tie in on southside)



(Photograph 44: Northside tie in point for 8" header)





(Photograph 45: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 46: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 47: Caution tape placed over pipe)



(Photograph 48: 8" tee with 8"x6" reducer and 6" riser for Cell 3 cleanout)





(Photograph 49: 8" tee with 8"x6" reducer to EW-10, HC11, and HC-12)



(Photograph 50: 6" lateral to EW-10, HC-11 and HC-12)



(Photograph 51: 8" tee with 8"x6" reducer and 6" riser for Cell 3 cleanout)



(Photograph 52: 8" header, 2" air, and 2" forcemain backfilling)





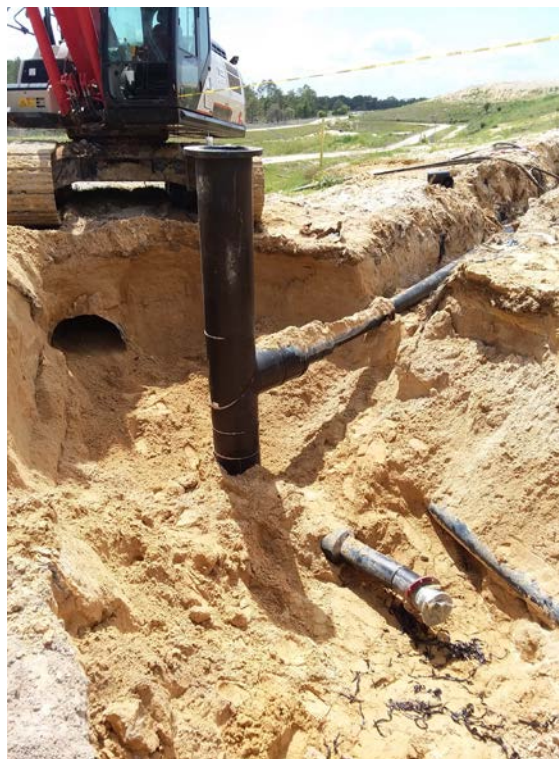
(Photograph 53: Caution tape placed over pipe)



(Photograph 54: Passing 8" header and 6" lateral air test on northside)



(Photograph 55: 6" tee to EW-10)



Photograph 56: Installing CS-4)





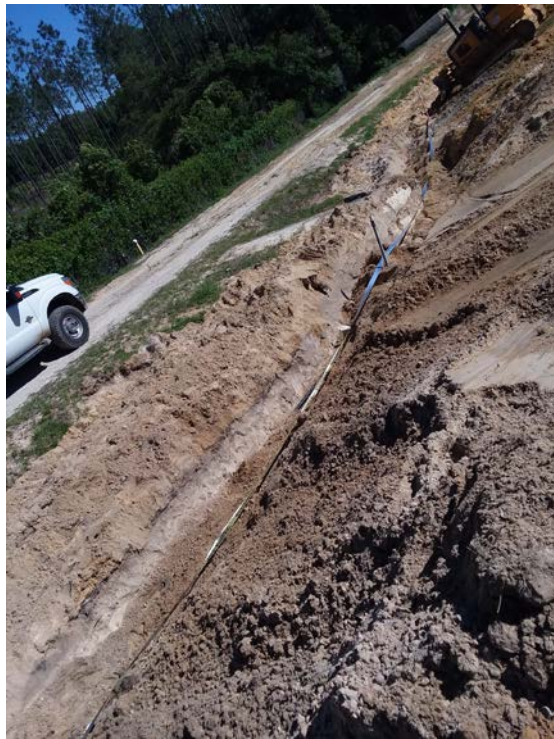
(Photograph 57: 8" header, 2" air, and 2" forcemain placed in same trench starting at CS-4)



(Photograph 58: 8" header, 2" air, and 2" forcemain backfilling and placing caution tape)



(Photograph 59: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 60: Caution tape placed over pipe)





(Photograph 61: 8" tee with 8"x6" reducer and access riser with 2" air and 2" forcemain stub ups)



(Photograph 62: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 63: 8" header, 2" air, and 2" forcemain placed in same trench)



(Photograph 64: 8" header, 2" air, and 2" forcemain placed in same trench)





(Photograph 65: 8" tee with 8"x6" reducer for Cell 4 cleanout connection)



(Photograph 66: 8" tee with 8"x6" reducer and 6" lateral to EW-12)



(Photograph 67: 6" lateral and 6" riser for EW-12)



(Photograph 68: 6" riser for Cell 4 cleanout connection)





(Photograph 69: 6" tie into Cell 4 cleanout connection)



(Photograph 70: 6" riser for Cell 3 cleanout connection)



(Photograph 71: 6" tie into Cell 4 cleanout connection)



(Photograph 72: 6" tie into Cell 3 cleanout connection)





(Photograph 73: 6" riser for Cell 3 cleanout connection)



(Photograph 74: W-11 Stake)



(Photograph 75: W-11 Refuse at 10')



(Photograph 76: W-11 Refuse at 20')





(Photograph 77: W-11 Refuse at 30')



(Photograph 78: W-11 Refuse at 37')



(Photograph 79: W-11 Pipe installation)



(Photograph 80: W-11 Stone backfill)





(Photograph 81: W-11 Foam plug)



(Photograph 82: W-11 Soil backfill)



(Photograph 83: W-11 Foam plug)



(Photograph 84: W-11 Final well placement)





(Photograph 85: W-12 Stake)



(Photograph 86: W-12 Refuse at 10')



(Photograph 87: W-12 Refuse at 20')



(Photograph 88: W-12 Refuse at 30')





(Photograph 89: W-12 Refuse at 40')



(Photograph 90: W-12 Pipe installation)



(Photograph 91: W-12 Stone backfill)



(Photograph 92: W-12 Foam plug)

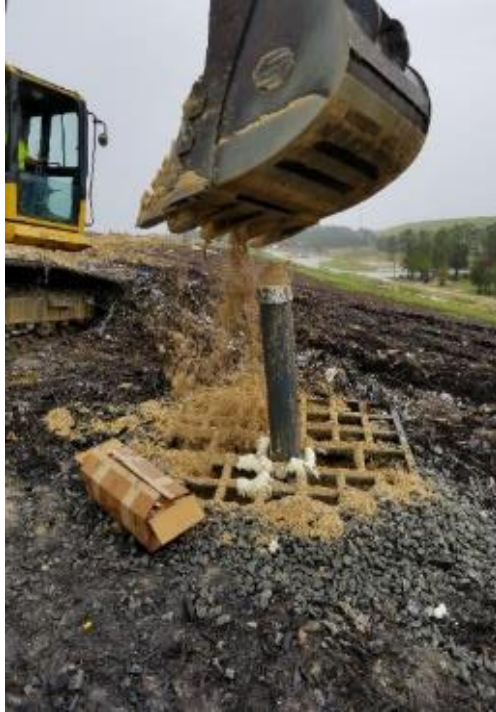




(Photograph 93: W-12 Soil backfill)



(Photograph 94: W-12 Foam Plug)



(Photograph 95: W-12 Soil backfill)



(Photograph 96: W-13 Stake)





(Photograph 97: W-13 Refuse at 10')



(Photograph 98: W-13 Refuse at 20')



(Photograph 99: W-13 Refuse at 30')



(Photograph 100: W-13 Refuse at 40')





(Photograph 101: W-13 Refuse at 50')



(Photograph 102: W-13 Pipe installation)



(Photograph 103: W-13 Stone backfill)



(Photograph 104: W-13 Foam plug)





(Photograph 105: W-13 Soil backfill)



(Photograph 106: W-13 Foam plug)



(Photograph 107: W-13 Soil backfill)



(Photograph 108: W-16 Stake)

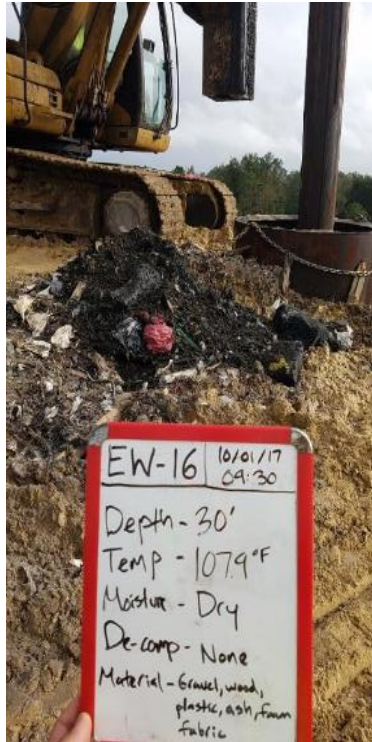




(Photograph 109: W-16 Refuse at 10')



(Photograph 110: W-16 Refuse at 20')



(Photograph 111: W-16 Refuse at 30')



(Photograph 112: W-16 Refuse at 40')





(Photograph 113: W-16 Refuse at 50')



(Photograph 114: W-16 Pipe installation)



(Photograph 115: W-16 Stone backfill)



Photograph 116: W-16 Foam plug)



(Photograph 117: W-16 Soil backfill)



(Photograph 118: W-16 Foam plug)





(Photograph 119: W-15 Stake)



(Photograph 120: W-15 Refuse at 10')



(Photograph 121: W-15 Refuse at 20')



(Photograph 122: W-15 Refuse at 30')



(Photograph 123: W-15 Refuse at 40')



(Photograph 124: W-15 Refuse at 50')





(Photograph 125: W-15 Refuse at 60')



(Photograph 126: W-15 Pipe installation)



(Photograph 127: W-15 Stone backfill)



(Photograph 128: W-15 Foam plug)



(Photograph 129: W-15 Soil backfill)



(Photograph 130: W-15 Foam plug)





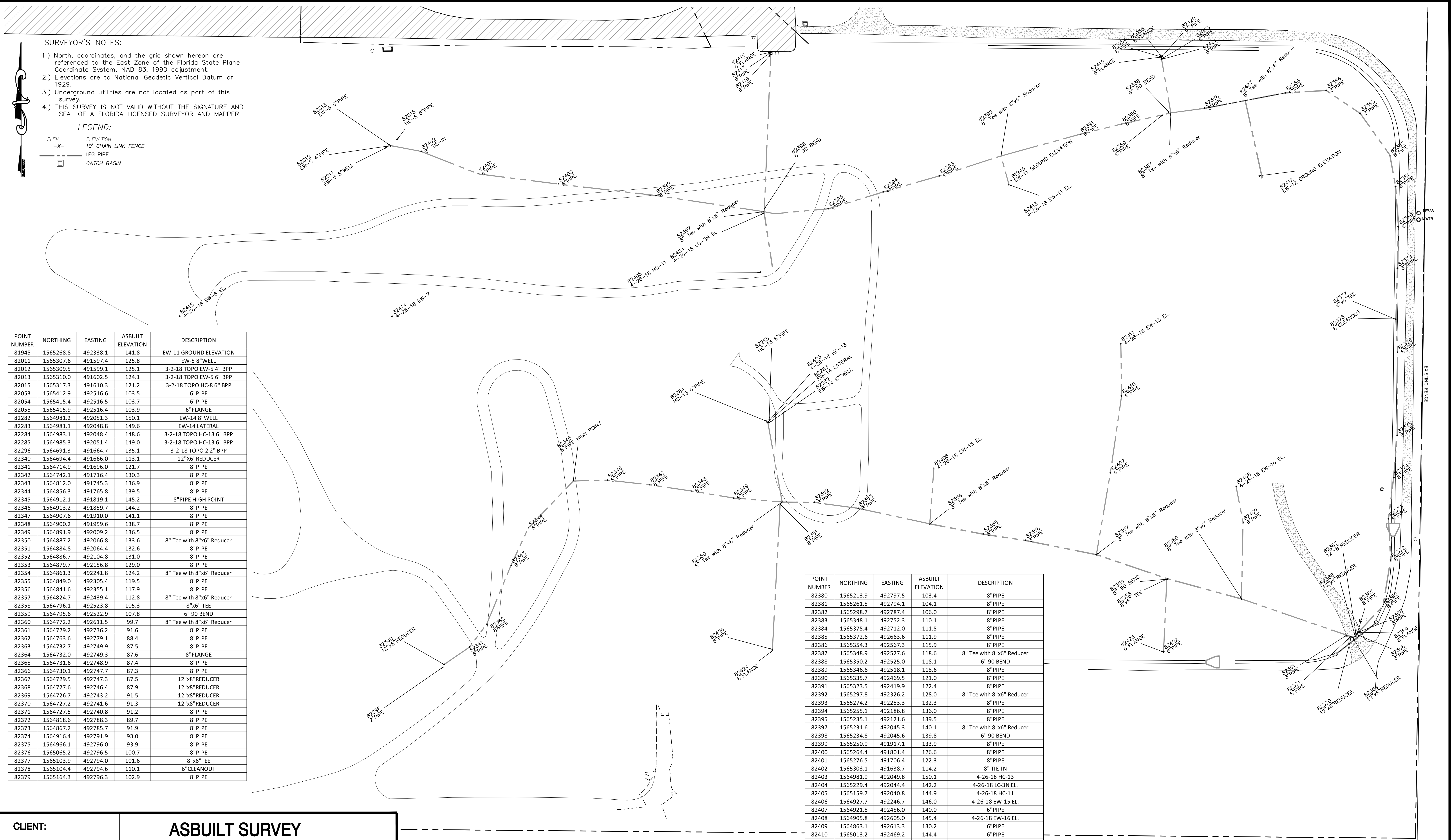
(Photograph 131: W-15 Soil backfill)

**ATTACHMENT F**

**AS-BUILTS**

**SURVEYOR AS-BUILT**





POINT NUMBER	NORTHING	EASTING	ASBUILT ELEVATION	DESCRIPTION
82380	1565213.9	492797.5	103.4	8"PIPE
82381	1565261.5	492794.1	104.1	8"PIPE
82382	1565298.7	492787.4	106.0	8"PIPE
82383	1565348.1	492752.3	110.1	8"PIPE
82384	1565375.4	492712.0	111.5	8"PIPE
82385	1565372.6	492663.6	111.9	8"PIPE
82386	1565354.3	492567.3	115.9	8"PIPE
82387	1565348.9	492527.6	118.6	8" Tee with 8"x6" Reducer
82388	1565350.2	492525.0	118.1	6" 90 BEND
82389	1565346.6	492518.1	118.6	8"PIPE
82390	1565335.7	492469.5	121.0	8"PIPE
82391	1565323.5	492419.9	122.4	8"PIPE
82392	1565297.8	492326.2	128.0	8" Tee with 8"x6" Reducer
82393	1565274.2	492253.3	132.3	8"PIPE
82394	1565255.1	492186.8	136.0	8"PIPE
82395	1565235.1	492121.6	139.5	8"PIPE
82397	1565231.6	492045.3	140.1	8" Tee with 8"x6" Reducer
82398	1565234.8	492045.6	139.8	6" 90 BEND
82399	1565250.9	491917.1	133.9	8"PIPE
82400	1565264.4	491801.4	126.6	8"PIPE
82401	1565276.5	491706.4	122.3	8"PIPE
82402	1565303.1	491638.7	114.2	8" TIE-IN
82403	1564981.9	492049.8	150.1	4-26-18 HC-13
82404	1565229.4	492044.4	142.2	4-26-18 LC-3N EL.
82405	1565159.7	492040.8	144.9	4-26-18 HC-11
82406	1564927.7	492246.7	146.0	4-26-18 EW-15 EL.
82407	1564921.8	492456.0	140.0	6"PIPE
82408	1564905.8	492605.0	145.4	4-26-18 EW-16 EL.
82409	1564863.1	492613.3	130.2	6"PIPE
82410	1565013.2	492469.2	144.4	6"PIPE
82411	1565075.1	492468.4	148.8	4-26-18 EW-13 EL.
82412	1565274.3	492632.9	139.8	EW-12 GROUND ELEVATION
82413	1565263.6	492335.7	140.2	4-26-18 EW-11 EL.
82414	1565107.2	491604.5	147.0	4-26-18 EW-7
82415	1565107.7	491352.3	147.2	4-26-18 EW-6 EL.
82416	1565418.3	492053.3	95.4	6"PIPE
82417	1565420.4	492053.3	95.7	6"PIPE
82418	1565420.9	492053.3	96.0	6"FLANGE
82419	1565415.1	492515.9	104.9	6"FLANGE
82420	1565414.6	492516.2	104.7	6"PIPE
82421	1565412.4	492516.4	104.1	6"PIPE
82422	1564709.8	492519.0	87.3	6"PIPE
82423	1564709.2	492519.0	87.7	6"FLANGE
82424	1564710.5	492055.1	86.2	6"FLANGE
82426	1564712.4	492054.8	85.6	6"PIPE
82427	1565363.5	492615.9	113.9	8" Tee with 8"x6" Reducer

POINT NUMBER	NORTHING	EASTING	ASBUILT ELEVATION	DESCRIPTION
81945	1565268.8	492338.1	141.8	EW-11 GROUND ELEVATION
82011	1565307.6	491597.4	125.8	EW-5 8"WELL
82012	1565309.5	491599.1	125.1	3-2-18 TOPO EW-5 4" BPP
82013	1565310.0	491602.5	124.1	3-2-18 TOPO EW-5 6" BPP
82015	1565317.3	491610.3	121.2	3-2-18 TOPO HC-8 6" BPP
82053	1565412.9	492516.6	103.5	6"PIPE
82054	1565415.4	492516.5	103.7	6"PIPE
82055	1565415.9	492516.4	103.9	6"FLANGE
82282	1564981.2	492051.3	150.1	EW-14 8"WELL
82283	1564981.1	492048.8	149.6	EW-14 LATERAL
82284	1564983.1	492048.4	148.6	3-2-18 TOPO HC-13 6" BPP
82285	1564985.3	492051.4	149.0	3-2-18 TOPO HC-13 6" BPP
82296	1564691.3	491664.7	135.1	3-2-18 TOPO 2.2" BPP
82340	1564694.4	491666.0	113.1	12"x6"REDUCER
82341	1564714.9	491696.0	121.7	8"PIPE
82342	1564742.1	491716.4	130.3	8"PIPE
82343	1564812.0	491745.3	136.9	8"PIPE
82344	1564856.3	491765.8	139.5	8"PIPE
82345	1564912.1	491819.1	145.2	8"PIPE HIGH POINT
82346	1564913.2	491859.7	144.2	8"PIPE
82347	1564907.6	491910.0	141.1	8"PIPE
82348	1564900.2	491959.6	138.7	8"PIPE
82349	1564891.9	492009.2	136.5	8"PIPE
82350	1564887.2	492066.8	133.6	8" Tee with 8"x6" Reducer
82351	1564884.8	492064.4	132.6	8"PIPE
82352	1564886.7	492104.8	131.0	8"PIPE
82353	1564879.7	492156.8	129.0	8"PIPE
82354	1564861.3	492241.8	124.2	8" Tee with 8"x6" Reducer
82355	1564849.0	492305.4	119.5	8"PIPE
82356	1564841.6	492355.1	117.9	8"PIPE
82357	1564824.7	492439.4	112.8	8" Tee with 8"x6" Reducer
82358	1564796.1	492523.8	105.3	8"x6" TEE
82359	1564795.6	492522.9	107.8	6" 90 BEND
82360	1564772.2	492611.5	99.7	8" Tee with 8"x6" Reducer
82361	1564729.2	492736.2	91.6	8"PIPE
82362	1564763.6	492779.1	88.4	8"PIPE
82363	1564732.7	492749.9	87.5	8"PIPE
82364	1564732.0	492749.3	87.6	8"FLANGE
82365	1564731.6	492748.9	87.4	8"PIPE
82366	1564730.1	492747.7	87.3	8"PIPE
82367	1564729.5	492747.3	87.5	12"x8"REDUCER
82368	1564727.6	492746.4	87.9	12"x8"REDUCER
82369	1564726.7	492743.2	91.5	12"x8"REDUCER
82370	1564727.2	492741.6	91.3	12"x8"REDUCER
82371	1564727.5	492740.8	91.2	8"PIPE
82372	1564818.6	492788.3	89.7	8"PIPE
82373	1564867.2	492785.7	91.9	8"PIPE
82374	1564916.4	492791.9	93.0	8"PIPE
82375	1564966.1	492796.0	93.9	8"PIPE
82376	1565065.2	492796.5	100.7	8"PIPE
82377	1565103.9	492794.0	101.6	8"x6"TEE
82378	1565104.4	492794.6	110.1	6"CLEANOUT
82379	1565164.3	492796.3	102.9	8"PIPE

CLIENT:

WASTE MANAGEMENT  
242 WEST KEENE ROAD  
APOPKA, FL 32703

ASBUILT SURVEY  
GAS SYSTEM 2018  
VISTA CLASS III LANDFILL  
APOPKA, FLORIDA

FIELD BOOK  
WM1

PARTY CHIEF  
SP

FILE NAME:  
Visto gas 2018.dwg

SCALE  
1"=50'

PROJECT NO.  
301

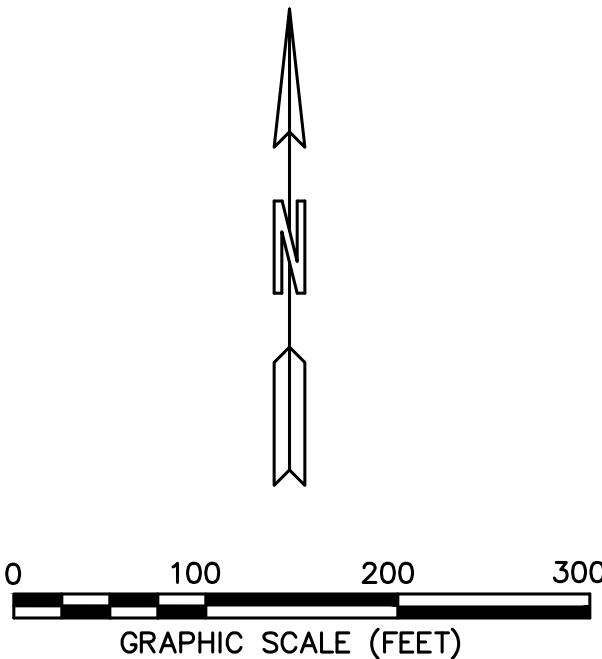
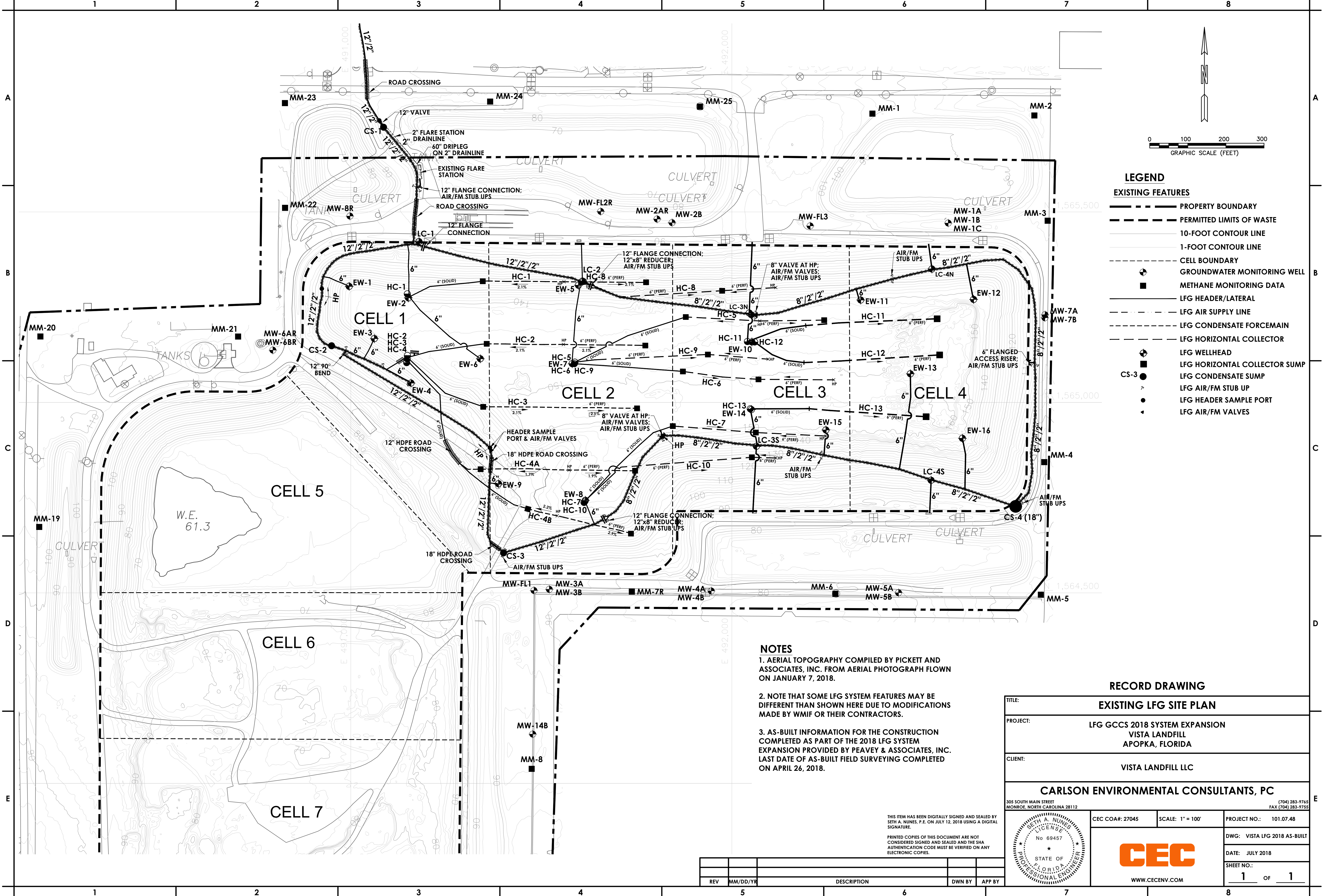
DEBORAH L. PEAVEY, P.S.M.  
FLORIDA REGISTRATION  
NUMBER 6345  
FLORIDA BUSINESS  
NUMBER 7779  
5/29/2018  
SURVEY DATE

DEBORAH L. PEAVEY  
LICENSE NUMBER  
No. 6345  
STATE OF  
FLORIDA  
PROFESSIONAL SURVEYOR & MAPPER

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

**CEC AS-BUILT**





- LEGEND**
- EXISTING FEATURES**
- PROPERTY BOUNDARY
  - PERMITTED LIMITS OF WASTE
  - 10-FOOT CONTOUR LINE
  - 1-FOOT CONTOUR LINE
  - CELL BOUNDARY
  - GROUNDWATER MONITORING WELL
  - METHANE MONITORING DATA
  - LFG HEADER/LATERAL
  - LFG AIR SUPPLY LINE
  - LFG CONDENSATE FORCEMAIN
  - LFG HORIZONTAL COLLECTOR
  - LFG WELLHEAD
  - LFG HORIZONTAL COLLECTOR SUMP
  - LFG CONDENSATE SUMP
  - LFG AIR/FM STUB UP
  - LFG HEADER SAMPLE PORT
  - LFG AIR/FM VALVES

- NOTES**
1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 7, 2018.
2. NOTE THAT SOME LFG SYSTEM FEATURES MAY BE DIFFERENT THAN SHOWN HERE DUE TO MODIFICATIONS MADE BY WMIF OR THEIR CONTRACTORS.
3. AS-BUILT INFORMATION FOR THE CONSTRUCTION COMPLETED AS PART OF THE 2018 LFG SYSTEM EXPANSION PROVIDED BY PEAVEY & ASSOCIATES, INC. LAST DATE OF AS-BUILT FIELD SURVEYING COMPLETED ON APRIL 26, 2018.

**RECORD DRAWING**

TITLE: <b>EXISTING LFG SITE PLAN</b>			
PROJECT: LFG GCCS 2018 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA			
CLIENT: VISTA LANDFILL LLC			
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112			
CEC COA#: 27045		SCALE: 1" = 100'	PROJECT NO.: 101.07.48
			DWG: VISTA LFG 2018 AS-BUILT
			DATE: JULY 2018
			SHEET NO.: 1 OF 1
WWW.CECENV.COM			

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY  
SETH A. NUNES, P.E. ON JULY 12, 2018 USING A DIGITAL  
SIGNATURE.

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