



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS AND SOLID WASTE SPECIALISTS

CERTIFICATION REPORT

For the:

2020 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION - PHASE II

At the:

**VISTA LANDFILL
APOPKA, FLORIDA**



Prepared for:

VISTA LANDFILL, LLC

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

August 2020



8-25-2020



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS AND SOLID WASTE SPECIALISTS

August 25, 2020

Mr. Craig Pelton
Vista Landfill, LLC
242 W. Keene Road
Apopka, FL 32703

Subject: Certification Report – 2020 Phase II GCCS Expansion
Vista Landfill – Apopka, Florida

Dear Mr. Pelton:

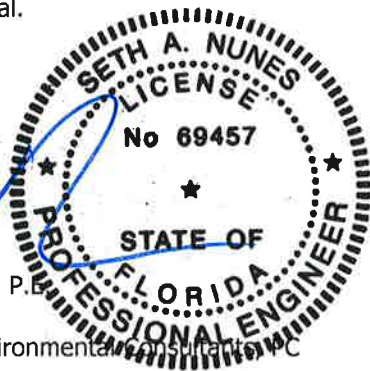
Carlson Environmental Consultants, PC (CEC) is submitting this Certification Report for the construction of 2020 System Expansion – Phase II of the Landfill Gas Collection and Control System at Vista Landfill located in Apopka, FL. This certification report documents the construction activities from the beginning of construction of the landfill gas collection system expansion on July 6, 2020 through final completion of the construction project on July 9, 2020. The Certification Report provides a project description, daily field reports, 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 construction 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: Anthony Roman, VLL
Sheree Grant, VLL
Amy Nunes, P.E., CEC

PROJECT SUMMARY
2020 GCCS Expansion – Phase II
Vista Landfill

Project Timeframe:

Piping Activities: July 6, 2020 through July 9, 2020

Parties Involved:

Site Owner: Vista Landfill, LLC
242 W. Keene Road
Apopka, FL 32703
Phone: (407) 886-2920

VLL Gas Operations Manager: Craig Pelton
VLL District Manager: Anthony Roman
VLL 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: Tom Gravel

Surveyor: Peavy & Associates Surveying & Mapping, PA
9399 North Lake Buffum Road
Ft. Meade, Florida 33841
Phone: (863) 738-4960
Peavey Record Surveyor: Deborah Peavey, P.S.M.

Project Description:

Construction Drawings: Vista Landfill Phase I Construction Drawings
Vista Landfill – Apopka, FL
Sheets 1-7
Dated January 2020
Prepared by Carlson Environmental Consultants, PC

Piping

This piping installation was originally planned to be part of the Phase 1 2020 LFG Expansion project, but given the current fill elevations in Cell 6 it was not able to be completed.

Three horizontal collectors were install in Cells 5 and 6 running north to south; HC-18, HC-19, and HC-20. HC-18 was installed on the west end of these cells with 200' of 6" pipe on the north end, 295' of 6" perforated pipe, and 1 aggregate sump at the low point. HC-19 was installed toward the center of these cells with 250' of 6" pipe on the north end, 360' of 6" perforated pipe, 1 aggregate sump at the low point, and 50' of 6" pipe on the south end with a vertical riser. HC-20 was installed on the east end of Cells 5 and 6 with 360' of 6" pipe on the north end, 390' of 6" perforated pipe, 1 aggregate sump at the low point, and 50' of 6" pipe on the south end with a vertical riser. HC-18 connects to the existing GCCS with a wellhead (HC-18N) in Cell 5 adjacent to EW-20. HC-19 and HC-20 connect to the existing GCCS with wellheads (HC-19N and HC-20N respectively) in Cell 5 adjacent to EW-19. HC-19 and HC-20 have vertical risers on their south ends for future connections.



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: 0165969-030-SO County: Orange

Name of Project: 2020 GCCS Expansion Phase II

Name of Owner: Waste Management Inc. of Florida

Name of Engineer: Seth A. Nunes, PE

Type of Project: Installation of 6" horizontal collectors

Cost: Estimate \$ 68,000 Actual \$ 58,000

Site Design Quantity: 2500 ton/day Site Acreage: 102 Acres

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

No vertical riser on the south end of HC-18. Extended HC-19 and HC-20 north to vacuum source.

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

Telephone: (407) 902-1469

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

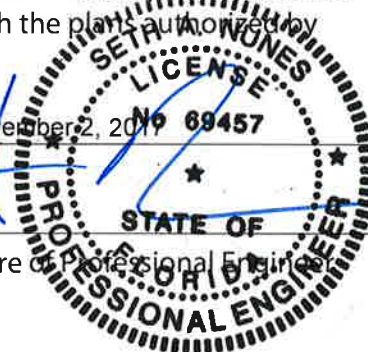
Date Site inspection is requested: As necessary

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.: 0165969-030-SO Dated: November 2, 2019

Date: 8-25-2020

Signature of Professional Engineer



ATTACHMENT A

FDEP NOTIFICATION & CONSTRUCTION DRAWINGS

FDEP NOTIFICATION

From: [Seth Nunes](#)
To: ["Stephen.Amirault@dep.state.fl.us"](#); ["GloriaJean.Depradine@dep.state.fl.us"](#); ["REarp@apopka.net"](#); ["dep_cd@dep.state.fl.us"](#)
Cc: ["Sheree Grant"](#); ["Craig Pelton"](#); ["Parker, Eric \(FL\)"](#); [Amy Nunes](#); [Jim Christiansen](#); ["Roman, Anthony"](#)
Subject: RE: Vista Landfill - Construction Notification Phase I 2020
Date: Monday, July 6, 2020 8:08:00 PM
Attachments: [VISTA PH1 2020 SITE FDEP NOTIFICATION 01-27-2019 - Sealed.pdf](#)

Mr. Amirault:

On behalf of Vista Landfill, LLC (Vista), Carlson Environmental Consultants, PC is submitting this notification for gas collection system expansion at Vista Landfill Class III. In accordance with the 2/26/13 Solid Waste Modification (SO48-0165969-020, which incorporates -18, -21, and -22), Vista is proposing to install the new horizontal consistent with the notification earlier this year.

Construction is scheduled to start this week. Upon completion of construction, Vista will submit a certification of completion to FDEP summarizing the construction. A copy of the updated site plan will be maintained on-site.

Best Regards,

Seth Nunes, P.E.
Principal
Carlson Environmental Consultants, PC
1511 Johnson Ferry Road, Suite 125
Marietta, GA 30062
Office: 678-388-0411
Cell: 863-634-7185

From: Seth Nunes <snunes@cecenv.com>
Sent: Monday, January 27, 2020 4:56 PM
To: Stephen.Amirault@dep.state.fl.us; GloriaJean.Depradine@dep.state.fl.us; REarp@apopka.net; dep_cd@dep.state.fl.us
Cc: Sheree Grant <sgrant@wm.com>; Craig Pelton <cpelton@wm.com>; Parker, Eric (FL) <EParker1@wm.com>; Amy Nunes <anunes@cecenv.com>; Jim Christiansen <jchristi@cecenv.com>; Roman, Anthony <ARoman@wm.com>
Subject: Vista Landfill - Construction Notification Phase I 2020

Mr. Amirault:

On behalf of Vista Landfill, LLC (Vista), Carlson Environmental Consultants, PC is submitting this notification for gas collection system expansion at Vista Landfill Class III. In accordance with the 2/26/13 Solid Waste Modification (SO48-0165969-020, which incorporates -18, -21, and -22), Vista is proposing to install new vertical wells in Cell 5 and new horizontals in Cell 6.

Construction is scheduled to start on January 29, 2020. Upon completion of construction, Vista will submit a certification of completion to FDEP summarizing the construction. A copy of the updated site plan will be maintained on-site.

Best Regards,

Seth Nunes, P.E.

Principal

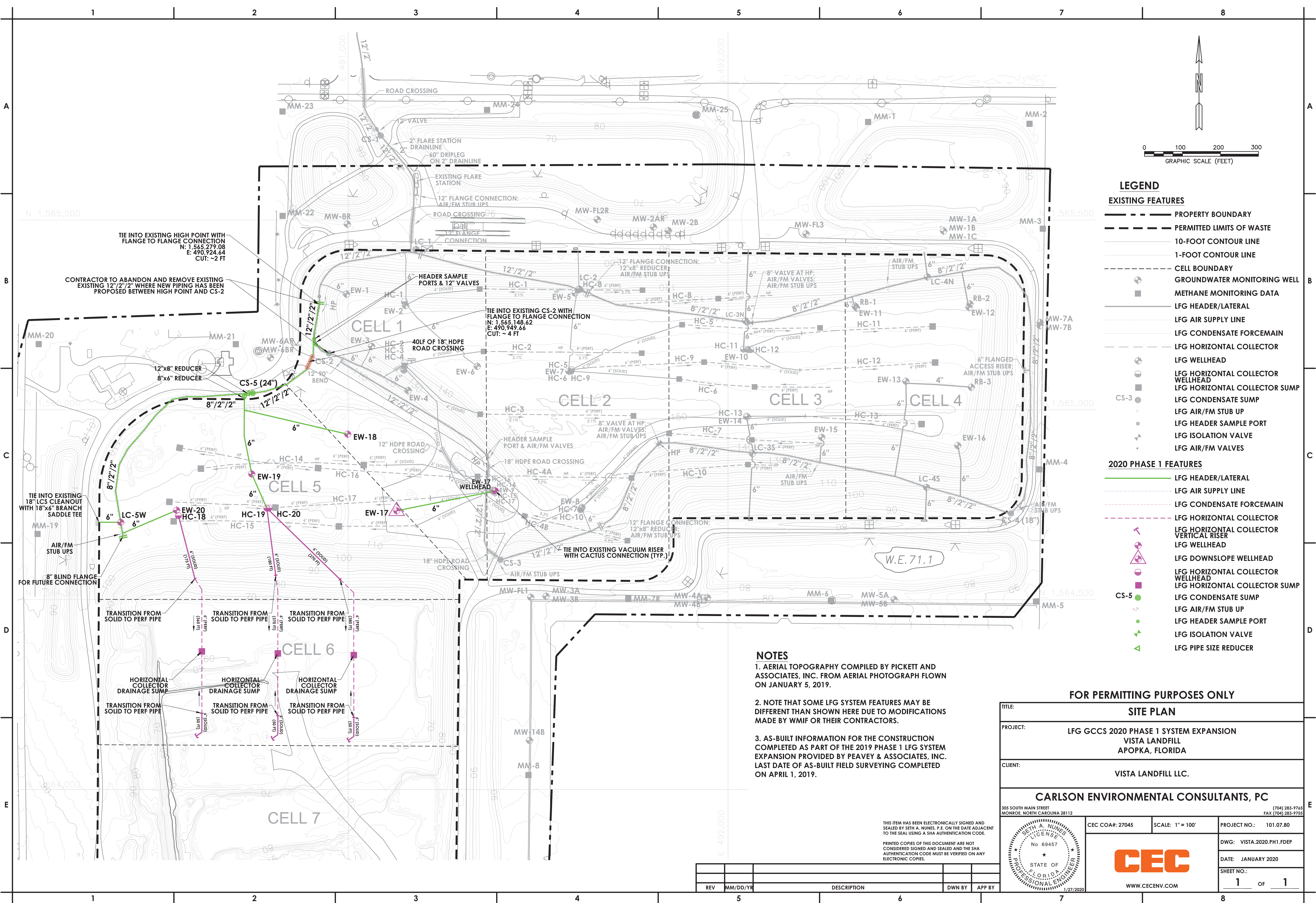
Carlson Environmental Consultants, PC

1511 Johnson Ferry Road, Suite 125

Marietta, GA 30062

Office: 678-388-0411

Cell: 863-634-7185



NOTES

1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 5, 2019.

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 2019 PHASE 1 LFG SYSTEM EXPANSION PROVIDED BY PEAVEY & ASSOCIATES, INC. LAST DATE OF AS-BUILT FIELD SURVEYING COMPLETED ON APRIL 1, 2019.

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SETH A. NUNES, P.E. ON THE DATE ADJACENT TO THE SEAL USING A SHA AUTHENTICATION CODE.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

FOR PERMITTING PURPOSES ONLY

TITLE: SITE PLAN			
PROJECT: LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA			
CLIENT: VISTA LANDFILL LLC.			
CARLSON ENVIRONMENTAL CONSULTANTS, PC <small>305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112 (704) 283-9765 FAX (704) 283-9755</small>			
CEC COA#: 27045	SCALE: 1" = 100'	PROJECT NO.: 101.07.80	
		DWG: VISTA.2020.PH1.FDEP	
		DATE: JANUARY 2020	
		SHEET NO.: 1 OF 1	
		WWW.CECENV.COM	

CONSTRUCTION DRAWINGS

12345678

A

CONSTRUCTION DRAWINGS

LANDFILL GAS COLLECTION AND CONTROL SYSTEM

2020 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. 101.07.80

JANUARY 2020

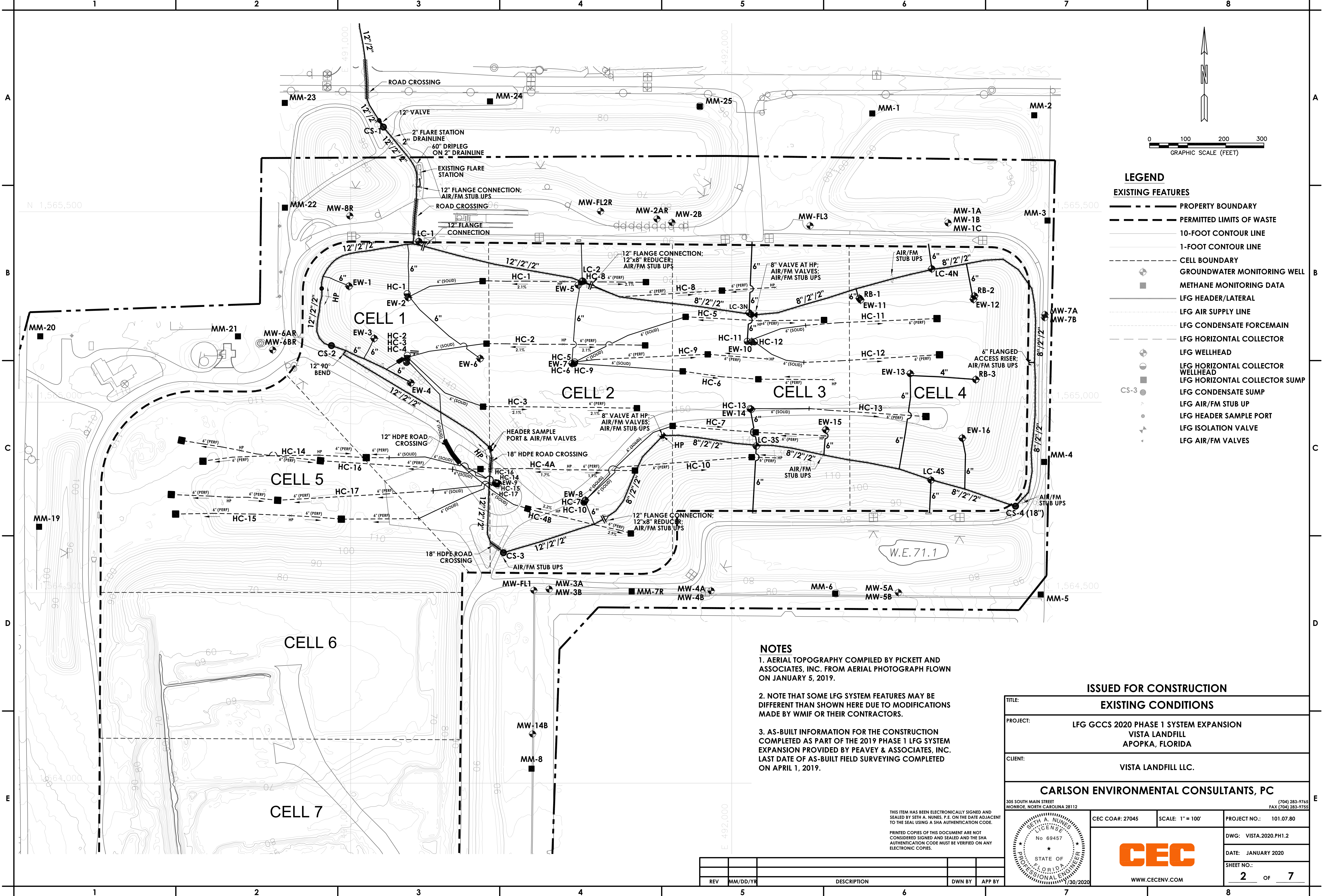
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS
3	SITE PLAN
4	DETAILS - 1
5	DETAILS - 2
6	DETAILS - 3
7	DETAILS - 4

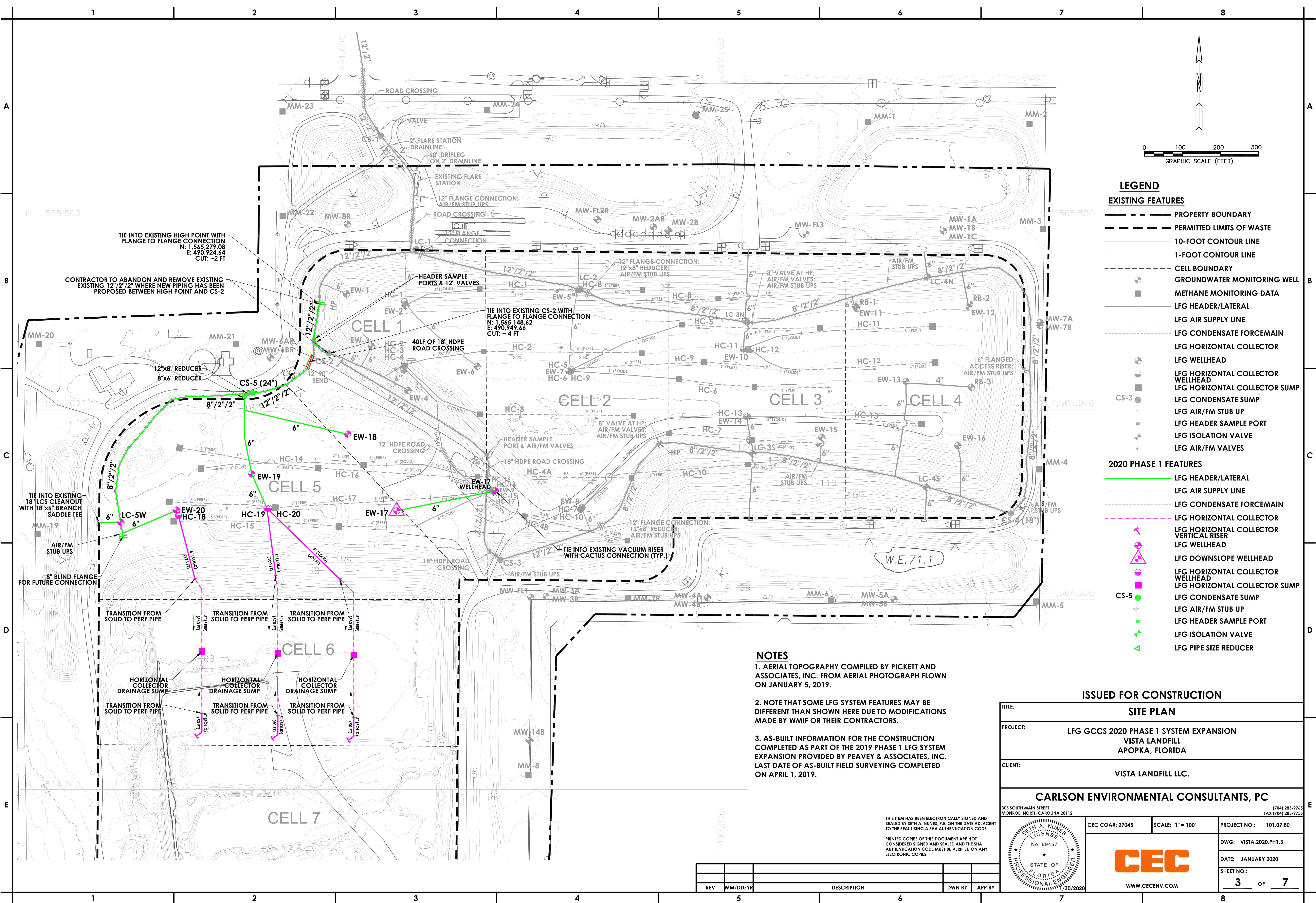
ISSUED FOR CONSTRUCTION			
TITLE:		TITLE SHEET	
PROJECT:		LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA	
CLIENT:		VISTA LANDFILL LLC.	
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112		(704) 283-9765 FAX (704) 283-9755	
CEC COA#: 27045	SCALE: NTS	PROJECT NO.: 101.07.80	
		DWG: VISTA.2020.PH1.1	
		DATE: JANUARY 2020	
		SHEET NO.: 1 OF 7	
		WWW.CECENV.COM	

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REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY





TIE INTO EXISTING HIGH POINT WITH FLANGE TO FLANGE CONNECTION
N: 1,565,279.08
E: 490,924.64
CUT: ~2 FT

CONTRACTOR TO ABANDON AND REMOVE EXISTING 12"/2"/2" WHERE NEW PIPING HAS BEEN PROPOSED BETWEEN HIGH POINT AND CS-2

TIE INTO EXISTING CS-2 WITH FLANGE TO FLANGE CONNECTION
N: 1,565,148.62
E: 490,949.66
CUT: ~4 FT

TIE INTO EXISTING 18" LCS CLEANOUT WITH 18"x6" BRANCH SADDLE TEE

8" BLIND FLANGE FOR FUTURE CONNECTION

TIE INTO EXISTING VACUUM RISER WITH CACTUS CONNECTION (TYP.)

NOTES

1. AERIAL TOPOGRAPHY COMPILED BY PICKETT AND ASSOCIATES, INC. FROM AERIAL PHOTOGRAPH FLOWN ON JANUARY 5, 2019.

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 2019 PHASE 1 LFG SYSTEM EXPANSION PROVIDED BY PEAVEY & ASSOCIATES, INC. LAST DATE OF AS-BUILT FIELD SURVEYING COMPLETED ON APRIL 1, 2019.

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ISSUED FOR CONSTRUCTION

SITE PLAN

TITLE: LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION
PROJECT: 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

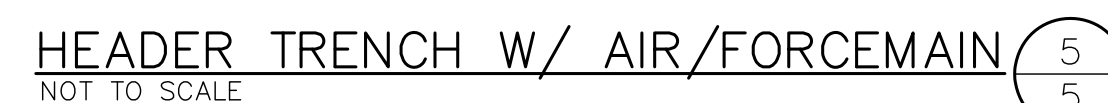
CEC COA#: 27045
SCALE: 1" = 100'
PROJECT NO.: 101.07.80
DWG: VISTA.2020.PH1.3
DATE: JANUARY 2020
SHEET NO.: 3 OF 7

WWW.CECENV.COM

REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

1. ONLY BELOW GRADE PIPING IS TO BE AIR TESTED.
2. HEADER/LATERAL PIPING IS TO BE AIR TESTED AT 4 PSI AND MAINTAINED WITHIN 1% PSI FOR A 1-HOUR PERIOD.
3. CONDENSATE FORCEMAIN PIPING IS TO BE AIR TESTED AT 10 PSI AND MAINTAINED WITHIN 1% PSI FOR A 1-HOUR PERIOD.
4. AIR SUPPLY PIPING IS TO BE AIR TESTED AT 100 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.
6. ALL PIPES MUST BE BACKFILLED PRIOR TO PRESSURE TESTING.

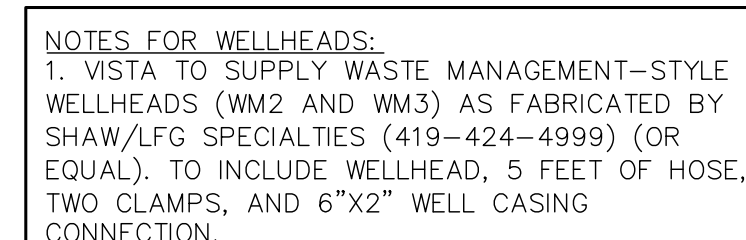
1. CONTRACTOR TO RESTORE GRADE TO CONDITION PRIOR TO CONSTRUCTION (I.E., REGRADING, REVEGETATING, ETC.)
2. ALL PIPE INSTALLED TO HAVE A MINIMUM OF 24" OF COVER OVER THE TOP OF THE PIPE. PLACEMENT OF A SOIL BERM OVER THE PIPE WILL NOT BE ACCEPTABLE. NEWLY INSTALLED PIPE MUST NOT IMPEDE OR CHANGE STORMWATER DRAINAGE PATTERNS.
3. ANY DAMAGES MADE TO THE PROTECTIVE COVER, LINER OR ANCHOR TRENCH DURING TRENCHING WILL BE REPAIRED BY THE CONTRACTOR TO THE LINER CERTIFICATION REQUIREMENTS.



1. CONTRACTOR TO WRAP ALL BURIED BLIND FLANGES 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.



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.



NOTE: CONTRACTOR TO USE FACTORY PERFORATED. FIELD PERFORATING ALLOWED UPON VISTA APPROVAL ONLY.

1. CONTRACTOR TO SLOPE ALL HORIZONTAL COLLECTORS TO THE CENTER OF WELL DRAINS.
2. AT THE LOW POINTS, CONTRACTOR TO INSTALL DRAINAGE SUMPS. DRAINAGE SUMPS CONSIST OF AN OVEREXCAVATION OF APPROXIMATELY 7'-8" (OR TO THE TOP OF PROTECTIVE COVER) BY 10' SQUARE (ALONG THE TRENCH BOTTOM) WITH GRANITE (OR APPROVED EQUIVALENT) FOR CONDENSATE DRAINAGE.
3. WELLHEADS WILL BE PLACED AT THE NORTHERN ENDS OF THE HORIZONTAL COLLECTORS AS SHOWN ON THE SITE PLAN. THE HORIZONTALS ARE TO BE DAYLIGHTED USING A 6" SDR17 HDPE 90° FITTING AND 6" HDPE RISER EXTENDING ABOVE GRADE FOR CONNECTION OF WELLHEAD OR INSTALLATION OF VERTICAL RISER AS SHOWN ON THE SITE PLAN.
4. VISTA WILL PROVIDE BENTONITE FOR BENTONITE PLUGS AND CRUSHED CONCRETE (OR EQUIVALENT) TO BE USED IN THE TRENCHES. VISTA WILL PROVIDE ALL WELLHEADS, HDPE PIPE, AND HDPE PIPE FITTINGS. CONTRACTOR TO PROVIDE 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.

DETAILS - 2	
TITLE:	
PROJECT:	LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA
CLIENT:	VISTA LANDFILL LLC.
CARLSON ENVIRONMENTAL CONSULTANTS, PC	
<div style="display: flex; justify-content: space-between;"> <div> 305 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112 </div> <div style="text-align: right;"> (704) 283-9796 FAX (704) 283-9795 </div> </div>	

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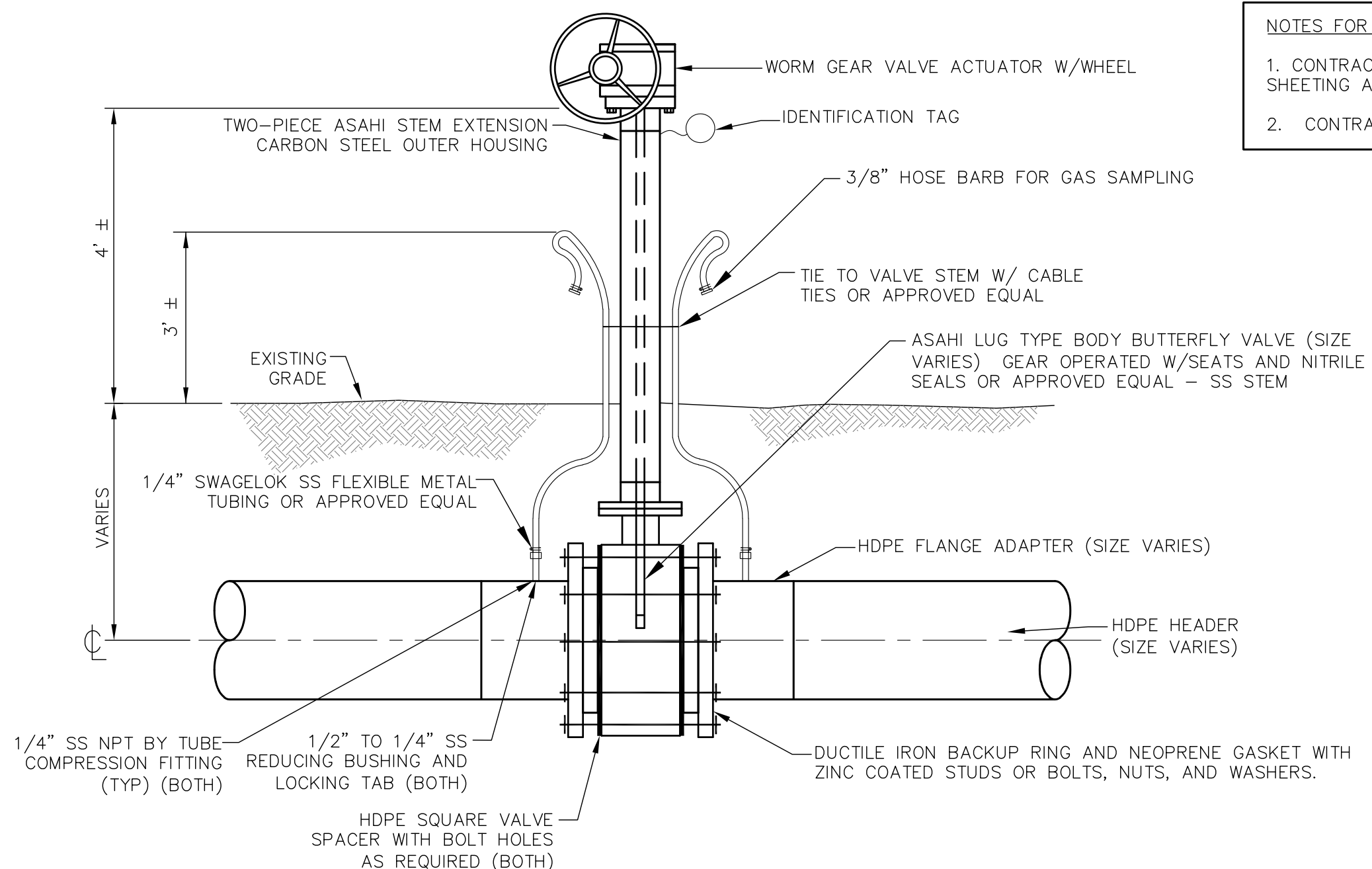
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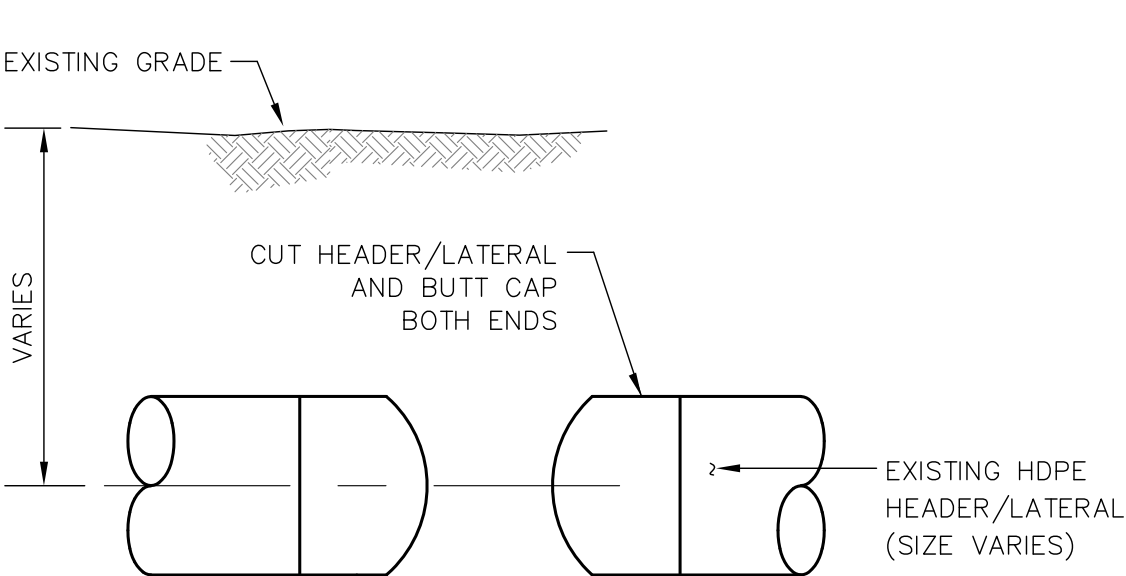
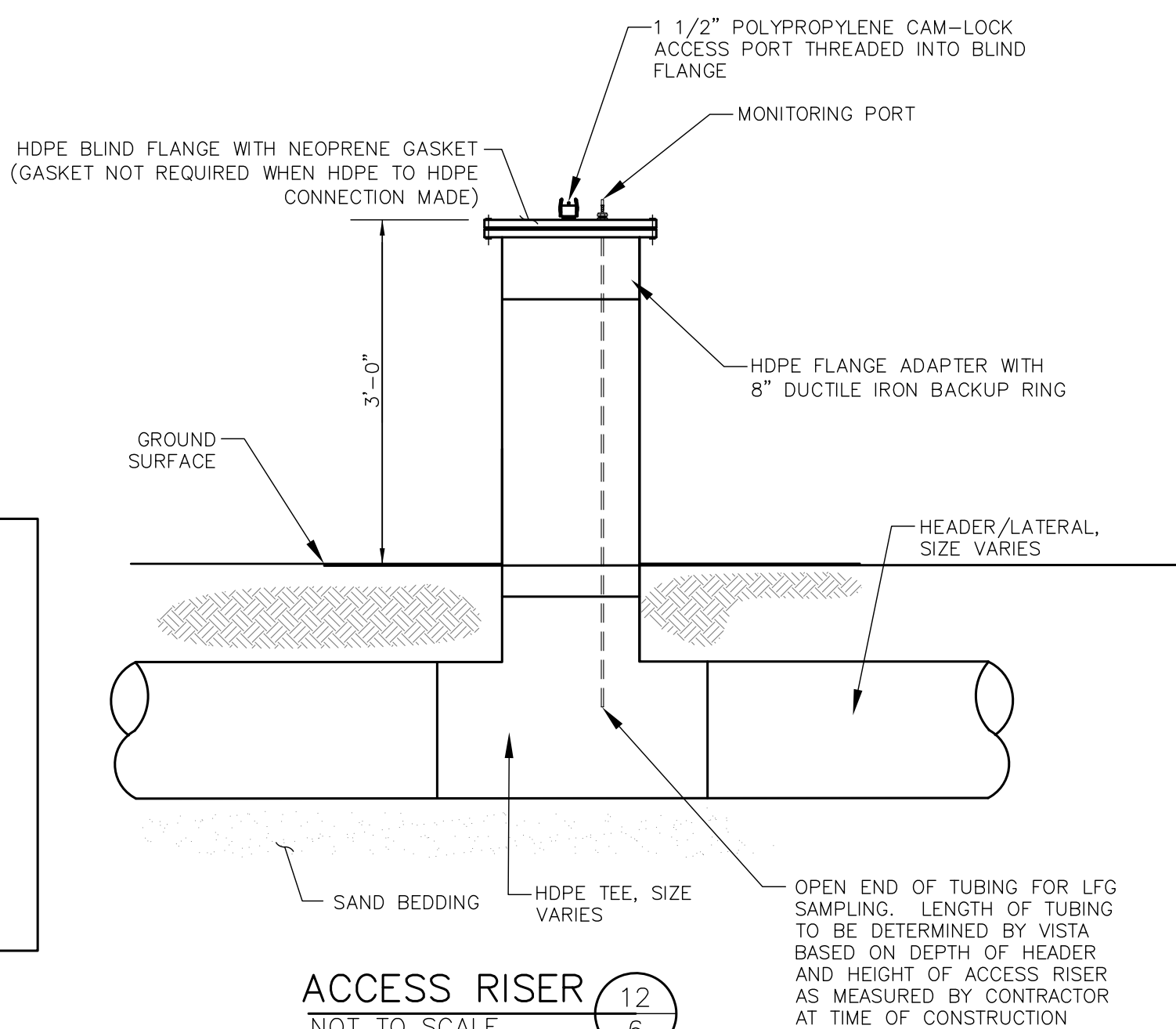
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E



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.

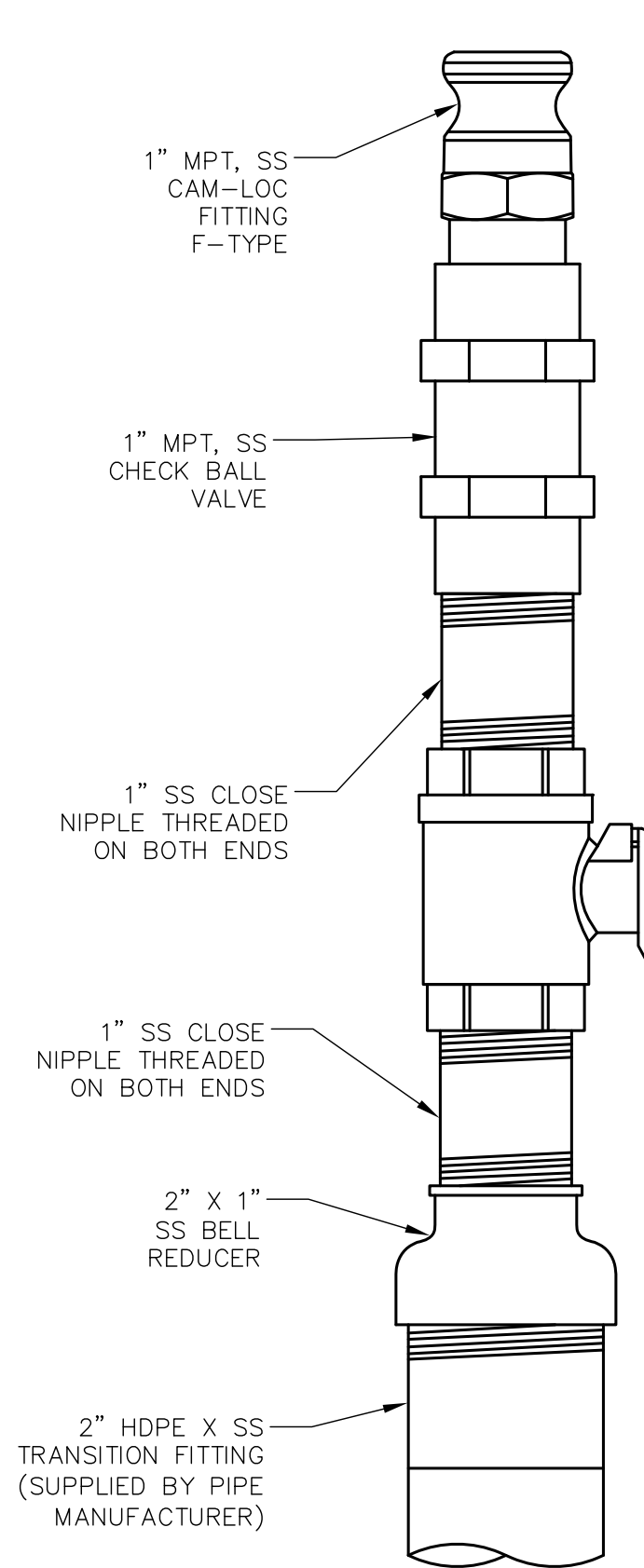
NOTES FOR LFG CONNECTIONS TO LCS SYSTEM:
1. LFG WELLHEADS WILL BE INSTALLED REMOTELY ALONG THE 8" HEADER FOR LFG COLLECTION FROM THE LCS CLEANOUTS.
2. WELLHEADS ARE NOT TO BE INSTALLED ON THE REMOTE LEACHATE CLEANOUT CONNECTIONS WITHOUT AUTHORIZATION FROM VISTA. THESE REMOTE CONNECTIONS ARE TO BE CAPPED WITH FUSED CAPS & LABELED UNLESS OTHERWISE DIRECTED BY VISTA.
3. BRANCH SADDLES OR FACTORY FABRICATED TEES ARE TO BE INSTALLED ON THE SIDES OF THE LEACHATE CLEANOUT RISERS. THERE ARE NO EXISTING BRANCH SADDLE CONNECTIONS FOR LFG LOCATED ON THESE LEACHATE CLEANOUT RISERS.
4. ONE (1) LFG CONNECTION TO THE LCS SYSTEM IS PROPOSED AS PART OF THIS PROJECT: LC-5W



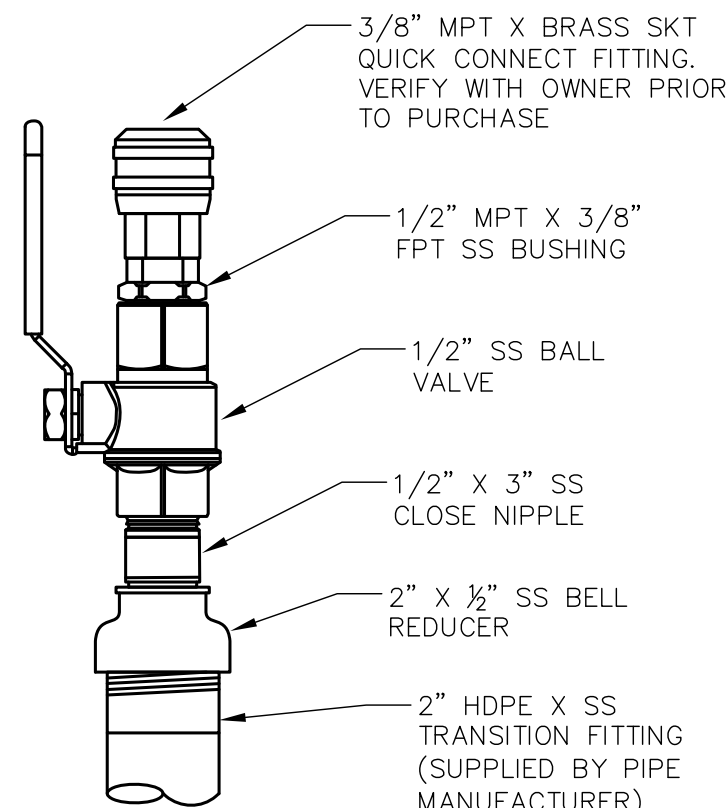
HEADER/LATERAL FUSED DISCONNECT 13/6
NOT TO SCALE

NOTES FOR HEADER/LATERAL DISCONNECTS:
1. FOR FUSED DISCONNECTS - CONTRACTOR TO LOCATE HEADER/LATERAL TO BE ABANDONED AND CUT HEADER/LATERAL. THE CONTRACTOR TO INSTALL FUSED HDPE BUTT CAPS (SIZE VARIES) ON BOTH ENDS TO SEAL THE HEADER/LATERAL. CONTRACTOR TO FIELD FIT CAPS. THE CONTRACTOR MAY REMOVE THE HEADER/LATERAL IN LIEU OF CAPPING AT NO ADDITIONAL CHARGE, IF APPROVED BY VISTA.
3. NO PVC SLIP CAPS OR ELECTROFUSION COUPLINGS WITH HDPE BUTT CAPS ARE PERMITTED WITHOUT PRIOR APPROVAL BY VISTA.

LFG COLLECTION SYSTEM BUTTERFLY VALVE 11/6
NOT TO SCALE

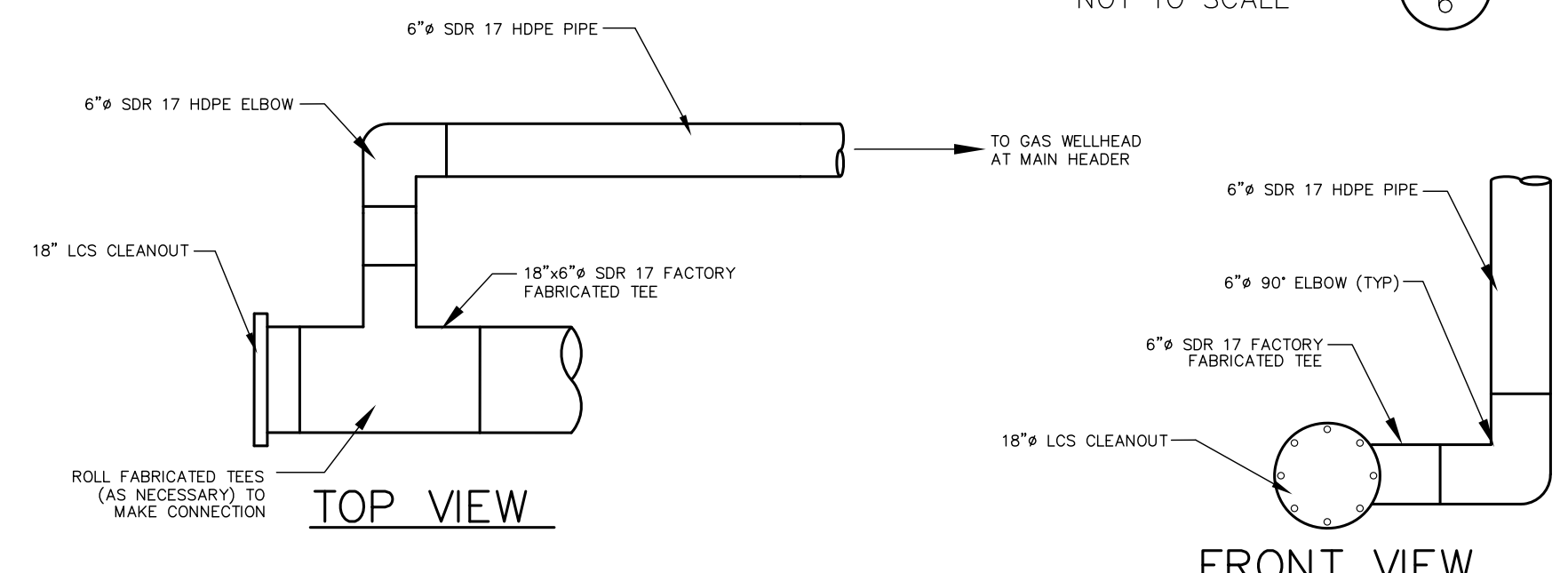


NOTES FOR PUMP AIR RISER VALVE DETAIL:
1. PIPE MANUFACTURER TO SUPPLY SAME NUMBER OF 2" HDPE X SS TRANSITION FITTINGS AS NUMBER OF PUMPS SHOWN ON SITEPLAN SHEET.
2. PUMP MANUFACTURER TO SUPPLY ALL MATERIALS ABOVE 2" HDPE X SS TRANSITION FITTING. ALL MATERIALS ARE TO COME PRE-ASSEMBLED AND TOTAL NUMBER OF PUMP AIR RISER VALVES SHALL EQUAL TOTAL NUMBER OF PUMPS TO BE INSTALLED SHOWN ON SITEPLAN SHEET.

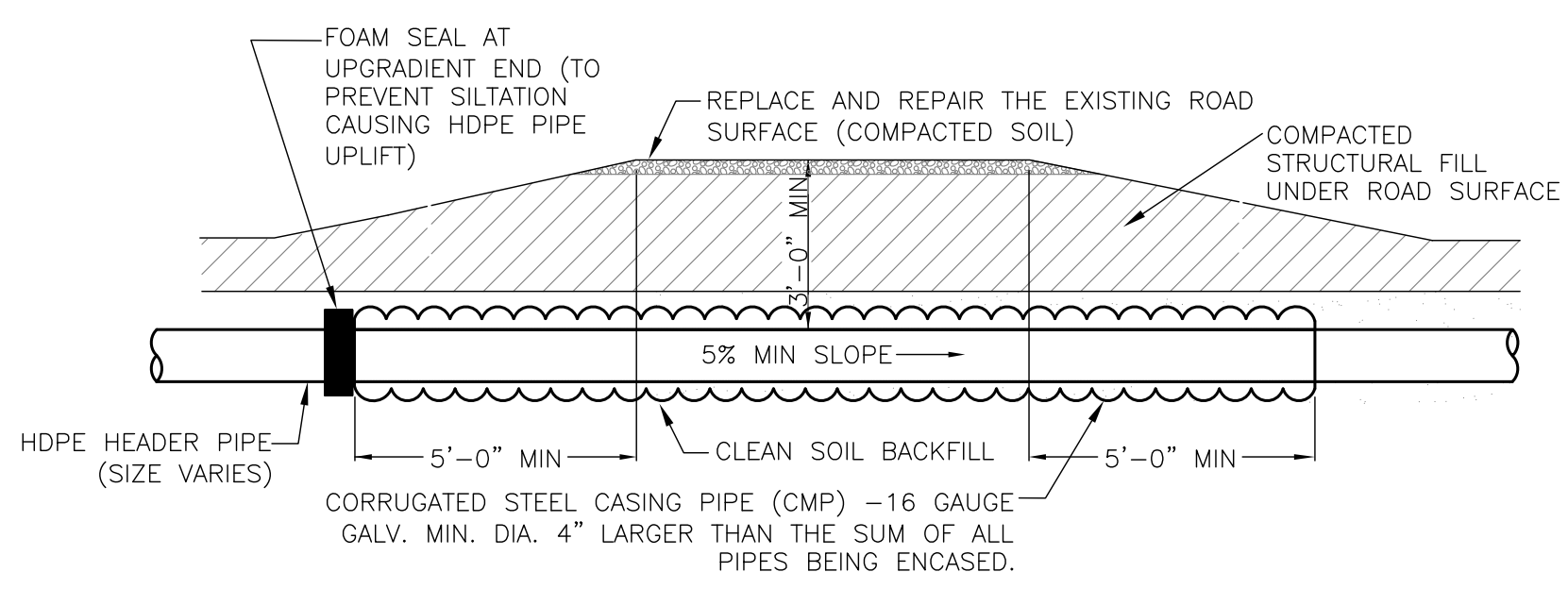


PUMP AIR RISER VALVE DETAIL 15/6
NOT TO SCALE

NOTES FOR DOWNSLOPE EXTRACTION WELLS:
1. INSTALLATION OF HARD WELDED FACTORY FABRICATED TEES WILL BE REQUIRED FOR THE VACUUM LINE CONNECTION (AS DETAILED). THE USE OF ELECTROFUSION COUPLINGS WILL NOT BE PERMITTED.
2. THE LATERALS ARE TO BE SADDLED ONTO THE EXISTING 6" HEADER. THE TIE-IN POINTS FOR THE 6" HEADER WILL BE STAKED PRIOR TO CONSTRUCTION. THE CONTRACTOR WILL MAKE A REASONABLE EFFORT TO LOCATE THE 6" HEADER TO MAKE THE CONNECTION.



LFG CONNECTION TO LEACHATE CLEANOUTS DETAIL 16/6
NOT TO SCALE

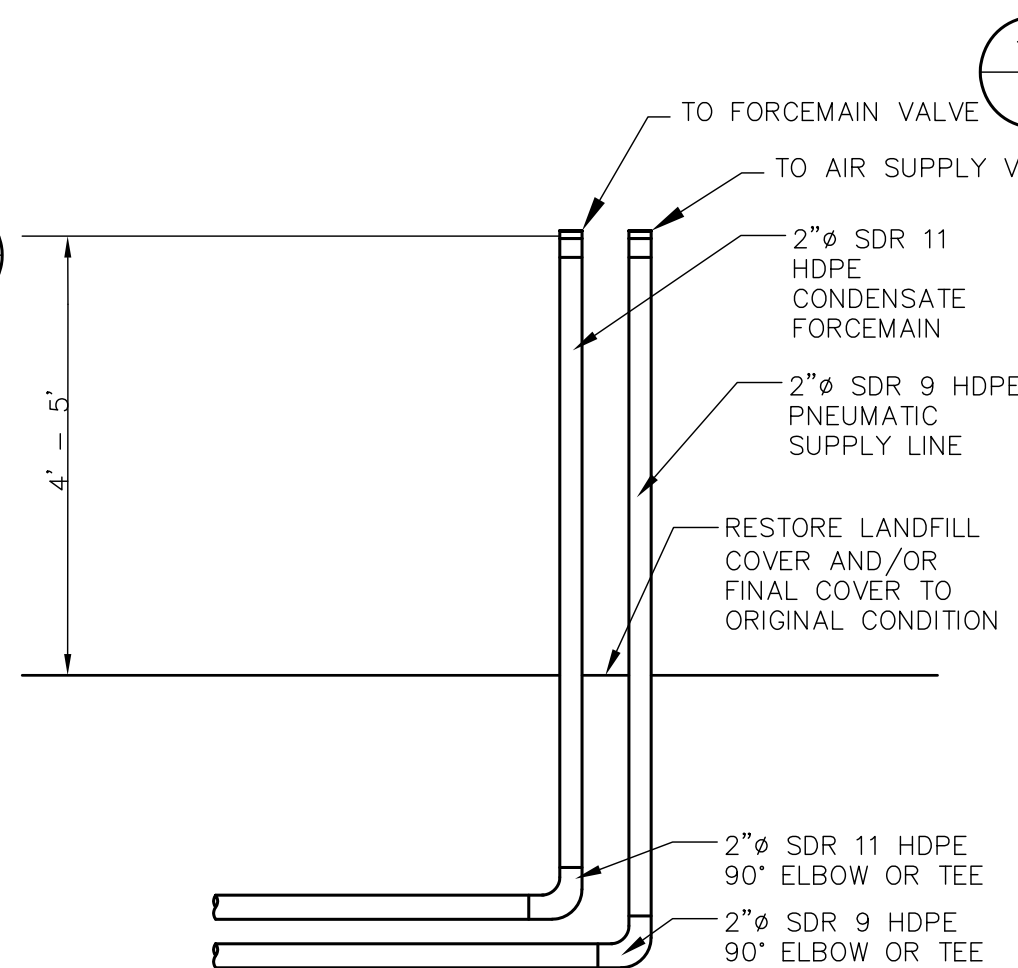


ROAD CROSSING DETAIL 17/6
NOT TO SCALE

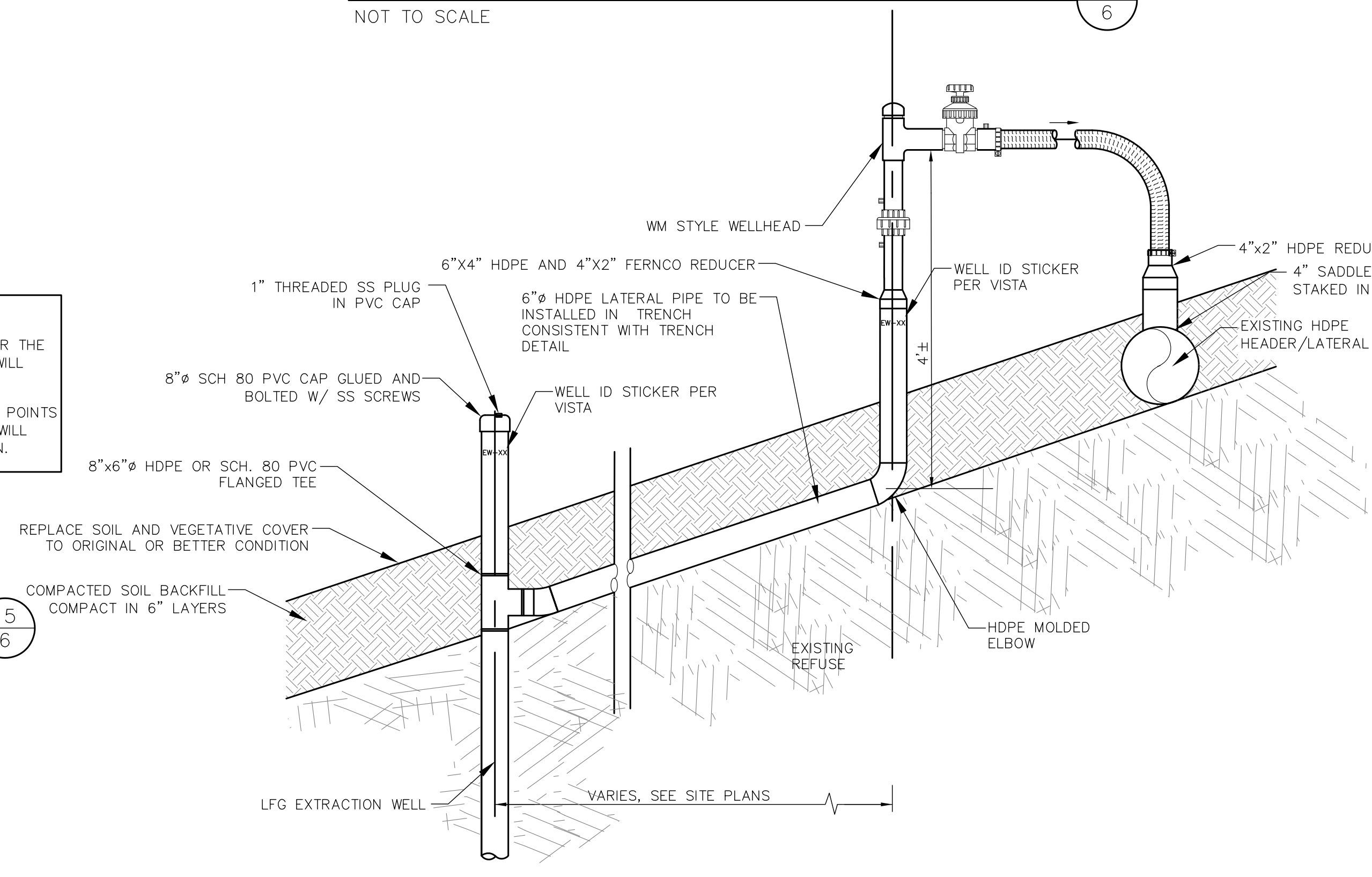
NOTES FOR ROAD CROSSING:
1. CONTRACTOR TO ENSURE LFG HEADER PIPE WITHIN ROAD CROSSINGS HAS POSITIVE DRAINAGE. ALL LFG PIPING SHALL BE INSTALLED AT A MIN. 5% SLOPE UNLESS OTHERWISE DIRECTED BY OWNER.
2. IN ORDER TO MINIMIZE DISTURBANCE TO LANDFILL OPERATIONS, CONTRACTOR SHALL COORDINATE ROAD CROSSING INSTALLATION WITH OWNER AND COA REPRESENTATIVE PRIOR TO BEGINNING WORK.
3. ADDITIONAL PIPING MAY BE ENCASED. REFER TO SITE PLAN FOR SPECIFIC PIPING THAT IS TO BE ENCASED.
4. CMP CASING IS TO BE A MINIMUM OF 4" GREATER THE THE SUM OF THE DIAMETER OF ALL PIPES BEING ENCASED.
5. ALL ROAD CROSSING SHALL BE COMPACTED IN 6" LIFTS TO ENSURE ROAD STABILITY AND PROPER HAUNCH SUPPORT OF CASING PIPE.

PUMP DISCHARGE ASSEMBLY DETAIL 14/6
NOT TO SCALE

NOTES FOR PUMP DISCHARGE ASSEMBLY DETAIL:
1. SIZE OF FORCEMAIN PIPING VARIES. ADD OR REMOVE REDUCERS AS NECESSARY.
2. PIPE MANUFACTURER TO SUPPLY SAME NUMBER OF 2" HDPE X SS TRANSITION FITTINGS AS NUMBER OF PUMPS SHOWN ON SITEPLAN SHEET.
3. PUMP MANUFACTURER TO SUPPLY ALL MATERIALS ABOVE 2" HDPE X SS TRANSITION FITTING. ALL MATERIALS ARE TO COME PRE-ASSEMBLED AND TOTAL NUMBER OF PUMP DISCHARGE ASSEMBLIES SHALL EQUAL TOTAL NUMBER OF PUMPS TO BE INSTALLED SHOWN ON SITEPLAN SHEET.



AIR/FORCEMAIN STUB UPS 18/6
NOT TO SCALE



DOWNSLOPE EXTRACTION WELL 19/6
NOT TO SCALE

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SETH A. NUNES, P.E. ON THE DATE ADJACENT TO THE SEAL USING A SHA AUTHENTICATION CODE.
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REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

ISSUED FOR CONSTRUCTION

DEAILS - 3

PROJECT: LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION
VISTA LANDFILL
APOPKA, FLORIDA

CLIENT: VISTA LANDFILL LLC.

CARLSON ENVIRONMENTAL CONSULTANTS, PC
305 SOUTH MAIN STREET
MONROE, NORTH CAROLINA 28112
(704) 283-9785
FAX (704) 283-9755

CEC COA#: 27045

SCALE: NTS

PROJECT NO.: 101.07.80

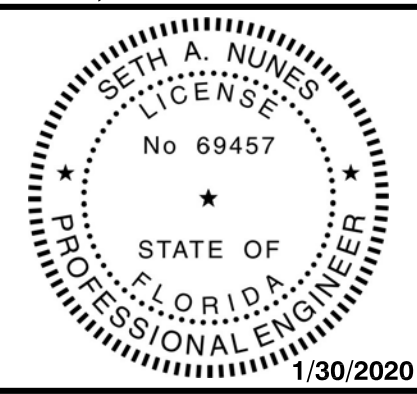
DWG: VISTA.2020.PH1.6

DATE: JANUARY 2020

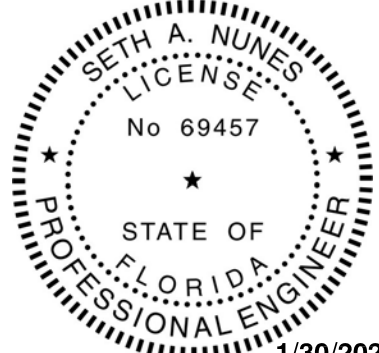
SHEET NO.: 6 OF 7

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CEC





ISSUED FOR CONSTRUCTION			
TITLE: DETAILS - 4			
PROJECT: LFG GCCS 2020 PHASE 1 SYSTEM EXPANSION VISTA LANDFILL APOPKA, FLORIDA			
CLIENT: VISTA LANDFILL LLC.			
CARLSON ENVIRONMENTAL CONSULTANTS, PC			
005 SOUTH MAIN STREET MONROE, NORTH CAROLINA 28112			
(704) 283-9765 FAX (704) 283-9755			
	CEC COA#: 27045		SCALE: NTS
	 WWW.CECENV.COM		PROJECT NO.: 101.07.80
			DWG: VISTA.2020.PH1.7
			DATE: JANUARY 2020
	SHEET NO.:		<u>7</u> OF <u>7</u>

ATTACHMENT B

DAILY FIELD LOGS



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista	Temperature:	92/73	Time Onsite:	6:00 am
Date:	7-6-2020	Weather:	Cloudy; Rain PM	Time Leaving:	6:00 pm

Labor – Employees	Hours		Labor - Employees	Hours	
CQA – T. Gravel	12				
Piping – A. Diaz + 6	12				
EQUIPMENT			EQUIPMENT		
2 – Bell trucks			1 – 650 Bull Dozer		
1 – 235 Excavator			1 – 210 Excavator		
1 – 9500 Skid Steer			1 – 4x4 Side x Side		
WORK PERFORMED – Description of Item			CONTRACTOR		
50' solid 150'perforated HC-20			CEC		

Notes:

Arrive on site and set up lay down area.
Weld 2 lifts of 6" perforated pipe and 400' of 6" solid pipe.
Met with the site at 8:00 am for Pre-con meeting.
Start on the south side of HC-20, excavate from 6" riser to just before sump.
Weld 50' of 6" solid and 150' of 6" perforated.
Bed trench with 6" of #57 stone and install pipe in trench.
Cover pipe with 12" of #57 stone.
Cover stone with 10 oz. non-woven fabric.
Backfill trench with waste and haul soil to restore area.
Witness risers were installed to get survey.



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista	Temperature:	90/75	Time Onsite:	6:00 am
Date:	7-7-2020	Weather:	Overcast; Rain PM	Time Leaving:	6:00 pm

Labor – Employees	Hours		Labor - Employees	Hours	
CQA – T. Gravel	12				
Piping - A. Diaz + 6	12				
EQUIPMENT			EQUIPMENT		
2 – Bell trucks			1 – 650 Bull Dozer		
1 – 235 Excavator			1 – 210 Excavator		
1 – 9500 Skid Steer			1 – 4x4 Side x Side		
WORK PERFORMED – Description of Item			CONTRACTOR		
240' solid welded to 150' perforated of HC-20			CEC		

Notes:

Started excavating 10'x10'x7' deep drainage sump for HC-20.
Continued trenching for 6" perforated and 6" solid from sump to EW-19.
Filled sump with stone and bedded trench with 6" of #57 stone.
Installed 240' of 6" perforated, welded it on to the 150' perforated that was installed on 7-6-2020.
Installed 360' of 6" solid with a riser at well EW-19.
Welded solid to perforated and placed two bentonite seals 25' from transition to perforated.
Backfilled solid pipe with clean soil.
Covered 6" perforated with 12" of #57 stone.
Covered stone with 10 oz new woven fabric.
Backfilled with waste and hauled clean soil to restore area.



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista	Temperature:	89/76	Time Onsite:	6:00 am
Date:	7-8-2020	Weather:	Overcast; Rain PM	Time Leaving:	6:00 pm

Labor – Employees	Hours		Labor - Employees	Hours	
CQA – T. Gravel	12				
Piping – A. Diaz + 6	12				
EQUIPMENT			EQUIPMENT		
2 – Bell trucks			1 – 650 Bull Dozer		
1 – 235 Excavator			1 – 210 Excavator		
1 – 9500 Skid Steer			1 – 4x4 Side x Side		
WORK PERFORMED – Description of Item			CONTRACTOR		
300' solid 360' perforated HC-19			CEC		

Notes:

HC-19 - Excavate trench from EW-19 down to toe of slope 250'.
Continue to low point at 2% and dig drainage sump 10'x10'x7'.
Trench from low point at 2% to high point to the south.
Bed 360' of trench with 6" of #57 stone.
Fill drainage sump with #57 stone.
Install 250' of solid pipe with riser at EW-19.
Install 360' of perforated pipe and weld it to solid on both ends.
50' of solid was installed on south end with 6" riser.
Place 12" of #57 stone over the top of perforated pipe.
Cover stone with 10 oz non-woven fabric.
Place double bentonite seal 25' from solid to perforated transition.
Backfill solid pipe with clean soil and backfill perforated pipe with waste.
Haul clean soil to restore area.



CARLSON ENVIRONMENTAL CONSULTANTS, PC

LANDFILL GAS, AIR PERMITTING, AND REGULATORY COMPLIANCE SERVICES

Site:	Vista	Temperature:	94/78	Time Onsite:	6:00 am
Date:	7-9-2020	Weather:	Partly Cloudy	Time Leaving:	6:00 pm

Labor – Employees	Hours		Labor - Employees	Hours	
CQA – T. Gravel	12				
Piping – A. Diaz + 6	12				
EQUIPMENT			EQUIPMENT		
2 – Bell trucks			1 – 650 Bull Dozer		
1 – 235 Excavator			1 – 210 Excavator		
1 – 9500 Skid Steer			1 – 4x4 Side x Side		
WORK PERFORMED – Description of Item			CONTRACTOR		
200' solid 295' perforated HC-18			CEC		

Notes:

HC-18 – Excavate trench from EW-20 to toe of slope 200'.

Continue trenching at 2% to drainage sump.

Dig sump 10'x10'x7' and go to high point at 2% and end with butt cap.

Grade was too low to build as designed so there was no solid pipe installed on the south end of HC-18.

Bed 295' with 6" of #57 stone.

Install 200' of solid pipe with riser at EW-20 and install 295' of perforated pipe and weld together.

Cover 295' of perforated pipe with 1' of #57 stone and cover stone with 10 oz non-woven fabric.

Install double bentonite seal 25' from solid to perforated transition.

Backfill solid pipe with clean soil and backfill perforated pipe with waste.

Haul clean soil to restore area.

Stencil well numbers on HC-18, 19, 20.

Order well heads and ferncos.

ATTACHMENT C
CONSTRUCTION PHOTOGRAPHS

VISTA LANDFILL
2020 GCCS EXPANSION – PHASE II

HC-20 Trench with Aggregate



HC-20 South Vertical Riser



HC-20 Trench with 6" Perforated Pipe and Aggregate



HC-20 Fabric Over 6" Perforated Pipe



VISTA LANDFILL
2020 GCCS EXPANSION – PHASE II

HC-20 Installing Fabric Over 6" Perforated Pipe



HC-19 and HC-20 6" Solid Pipe



HC-20 Solid to Perforated Pipe Transition



HC-19 and HC-20 Northern Vertical Risers and
EW-19



VISTA LANDFILL
2020 GCCS EXPANSION – PHASE II

HC-19 and HC-20 6" Solid Pipe Diverging
Point



HC-19 Aggregate Sump



HC-19 Solid to Perforated Pipe Transition



HC-19 Fabric Over Aggregate Sump



VISTA LANDFILL
2020 GCCS EXPANSION – PHASE II

HC-18 Bentonite Seal at Solid to Perforated Pipe
Transition



HC-18 In Trench



HC-18 Survey Riser



HC-18 South End with Butt Cap

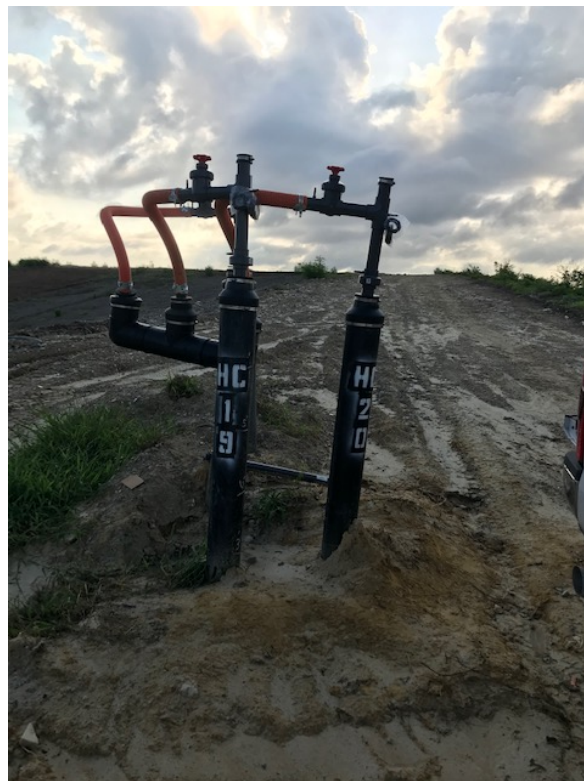


VISTA LANDFILL
2020 GCCS EXPANSION – PHASE II

HC-18 Wellhead



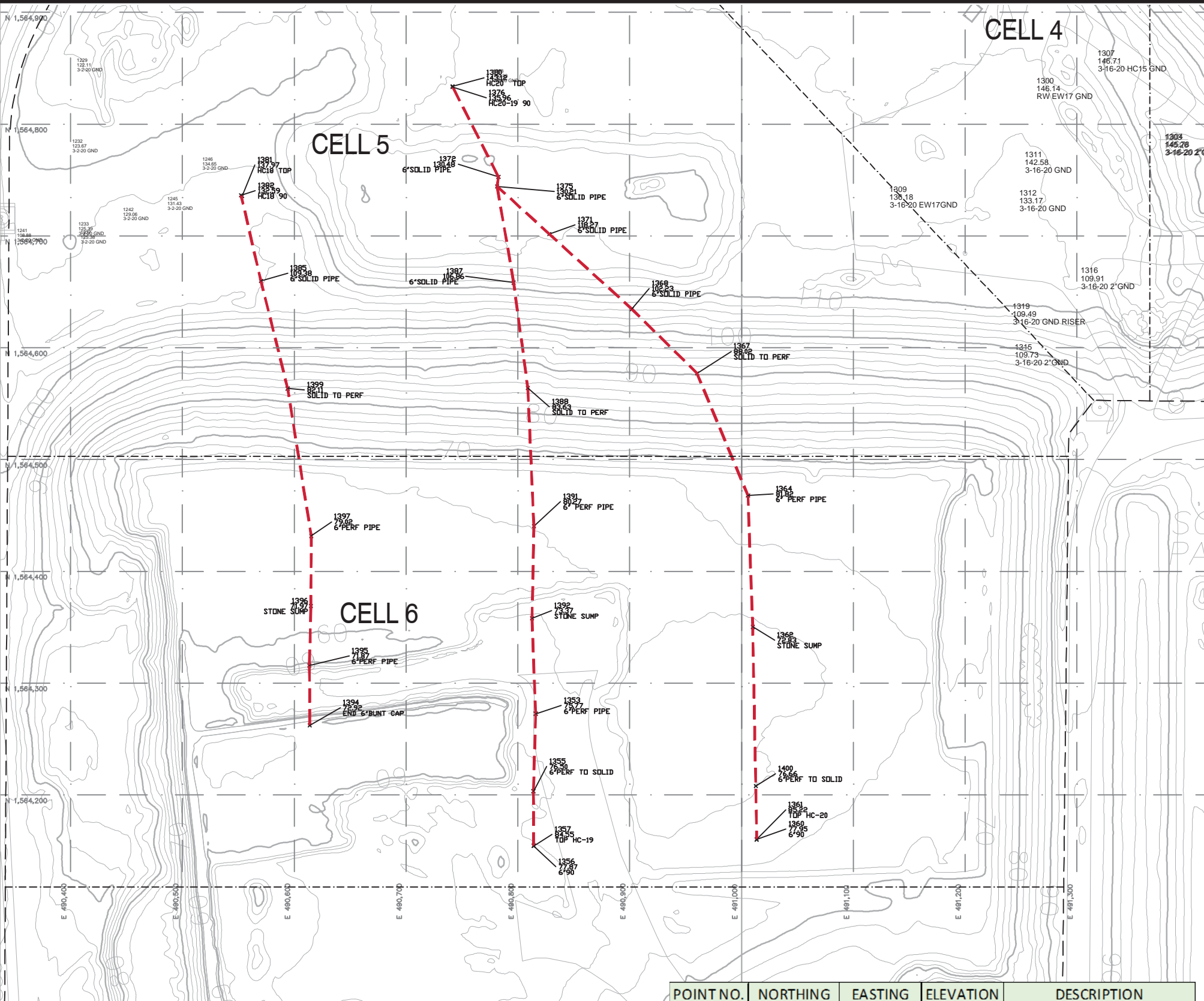
HC-19 and HC-20 Wellheads



ATTACHMENT D

AS-BUILTS

SURVEYOR AS-BUILT

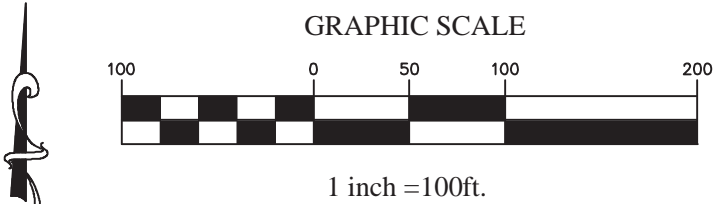


POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1353	1564272.6	490816.0	75.8	6"PERF PIPE
1355	1564203.2	490813.9	76.5	6"PERF TO SOLID
1356	1564154.5	490814.2	77.9	6"90
1357	1564154.2	490814.4	84.6	TOP HC-19
1360	1564160.1	491013.7	78.0	6"90
1361	1564160.0	491013.7	85.2	TOP HC-20
1362	1564350.2	491010.0	72.8	STONE SUMP
1364	1564467.8	491005.8	81.8	6" PERF PIPE
1367	1564577.1	490960.2	88.0	SOLID TO PERF
1368	1564634.6	490902.0	102.2	6"SOLID PIPE
1371	1564701.7	490828.1	118.3	6"SOLID PIPE
1372	1564752.7	490782.6	130.5	6"SOLID PIPE
1375	1564744.4	490781.5	130.2	6"SOLID PIPE
1376	1564833.3	490741.7	136.0	HC20-19 90
1380	1564833.8	490741.5	143.1	HC20 TOP
1381	1564735.6	490553.4	138.0	HC18 TOP
1382	1564736.3	490552.5	132.6	HC18 90
1385	1564659.7	490570.2	109.4	6"SOLID PIPE
1387	1564658.3	490796.2	106.9	6"SOLID PIPE
1388	1564563.9	490808.9	83.6	SOLID TO PERF
1391	1564440.3	490814.4	80.3	6" PERF PIPE
1392	1564357.8	490812.6	73.4	STONE SUMP
1394	1564262.3	490613.9	72.9	END 6" BUTT CAP
1395	1564315.8	490613.6	71.9	6"PERF PIPE
1396	1564368.9	490614.9	72.0	STONE SUMP
1397	1564431.6	490615.2	79.0	6"PERF PIPE
1399	1564563.5	490594.1	82.1	SOLID TO PERF
1400	1564207.9	491012.8	76.7	6"PERF TO SOLID

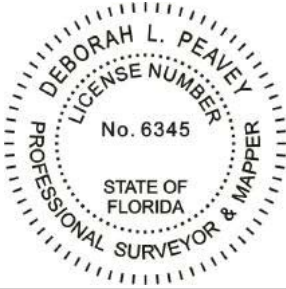
PROPERTY ADDRESS:
242 WEST KEENE ROAD
APOPKA, FL 32703

SURVEYOR’s NOTES:

- 1.) North, the grid, and the coordinates shown hereon are referenced to the East Zone of the Florida State Plane Coordinate System, NAD 83, 1990
- 2.) Elevations are to National Geodetic Vertical Datum of 1929.
- 3.) This as-built survey was prepared to show the installed landfill gas.



VISTA LANDFILL
ASBUILT SURVEY 2020 LANDFILL GAS



CLIENT:
WASTE MANAGEMENT
242 WEST KEENE ROAD
APOPKA, FL 32703

Deborah L. Peavey
Digitally signed by Deborah L. Peavey
Date: 2020.07.26 14:30:48 -04'00'

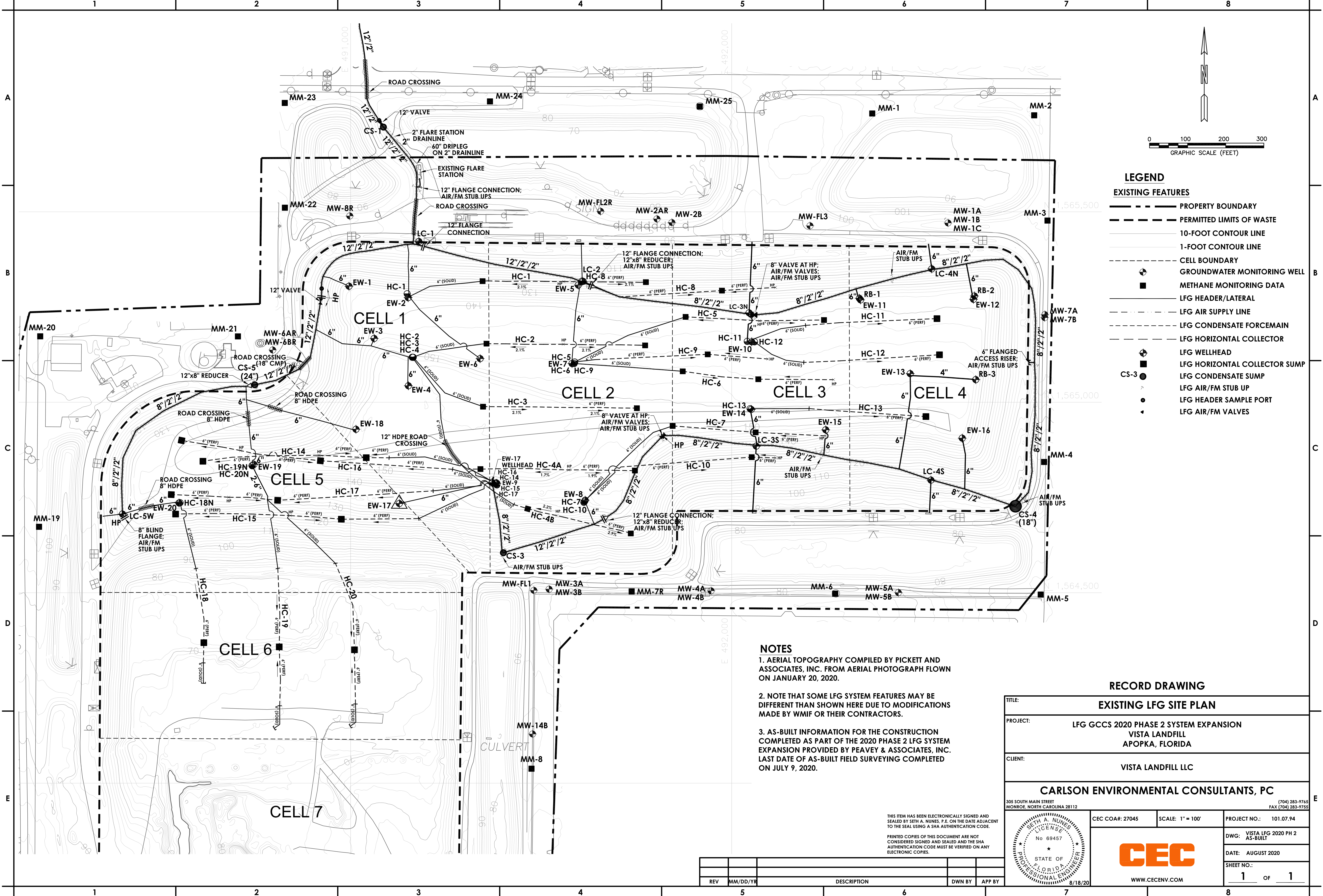
7/9/2020
SURVEY DATE

DEBORAH L. PEAVEY, P.S.M.
FLORIDA REGISTRATION NO.6345

Peavey & Associates
SURVEYING & MAPPING PA

9399 N LAKE BUFFUM RD
FORT MEADE, FL 33841
PHONE: 863-738-4960
FLORIDA BUSINESS NO.7779
FILE NAME:
1694 2020 wrm vista gas asbuilt-rev

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 20, 2020.

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 2020 PHASE 2 LFG SYSTEM EXPANSION PROVIDED BY PEAVEY & ASSOCIATES, INC. LAST DATE OF AS-BUILT FIELD SURVEYING COMPLETED ON JULY 9, 2020.

RECORD DRAWING

EXISTING LFG SITE PLAN

TITLE: EXISTING LFG SITE PLAN			
PROJECT: LFG GCCS 2020 PHASE 2 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: 1" = 100'	PROJECT NO.: 101.07.94	
 WWW.CECENV.COM		DWG: VISTA LFG 2020 PH 2 AS-BUILT	
		DATE: AUGUST 2020	
		SHEET NO.: 1 OF 1	

REV	MM/DD/YR	DESCRIPTION	DWN BY	APP BY

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8/18/20