

LEGEND

- LIMITS OF LINER
- LIMITS OF CONSTRUCTION
- 1080 — EXISTING CONTOURS (MAJOR)
- EXISTING CONTOURS (MINOR)
- LFG PIPE TO BE ABANDONED
- LFG PIPE ABANDONED IN PLACE
- NEW HDP SDR 17 LFG HEADER (SIZE VARIES)
- HP DENOTES HIGH POINT IN HEADER
- NEW HDP SDR 11 LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HEADER PIPE (SIZE VARIES)
- EXISTING LFG LATERAL PIPE (SIZE VARIES)
- EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND LEACHATE FORECMAIN
- LCR-1 EXISTING LEACHATE CLEANOUT RISER
- ▲ HC-7B EXISTING HORIZONTAL LFG WELHEAD
- ◆ EW-1 EXISTING LFG WELL
- LCRS EXISTING LEACHATE RISER SUMP
- CS-2 EXISTING CONDENSATE SUMP
- ✕ EXISTING HEADER ISOLATION VALVE
- ISOLATION VALVE
- CS-2 CONDENSATE SUMP
- ◆ EW-1 LFG WELL
- ◆ EW-24 CONNECTION TO EXISTING VERTICAL WELLS
- UP-16AR UPSLOPE WELLHEAD
- AP-2 ACCESS POINTS
- ▲ 30.64 SURVEY MONUMENTS
- 20
- × CP-3 CONNECTION POINTS TO EXISTING LFG SYSTEM

POINT #	NORTHING	EASTING	TOP ELEV	DESCRIPTION	LATITUDE	LONGITUDE
3001	1745404.1191	626174.2604	31.37	YCL21 YCL21	29.0806145	-81.0538212
3001	1745603.8356	624660.3376	30.79	10"X8" & 2" & 4" TEE	29.0801110	-81.0555288
3002	1745606.0404	624681.1491	31.21	2" & 4" 90°	29.0808131	-81.0555276
3003	1745605.0587	624652.8129	31.78	6" & 2" 45°	29.0808122	-81.0555370
3004	1745623.8285	624635.7031	35.71	6" & 2" TOP OF PIPE	29.0808307	-81.0555563
3005	1745611.5268	624606.6936	44.50	6" & 2" TEE	29.0808280	-81.0555591
3006	1745603.8356	624604.4204	44.02	6" & 2" 90°	29.0808664	-81.0555317
3007	1745663.2785	624610.4358	45.14	6" & 2" TEE	29.0808698	-81.0555849
3008	1745664.4774	624612.4175	45.29	6" & 2" 90°	29.0808710	-81.0555826
3009	1745656.8403	624659.8355	43.94	2" & 4" TEE	29.0808634	-81.0555303
3010	1745655.3421	624652.5489	43.70	2" & 4" 90°	29.0808825	-81.0555374
3011	1745657.0468	624655.4020	44.87	2" & 4" TEE	29.0808836	-81.0555292
3012	1745657.0468	624670.0141	45.35	2" & 4" 90°	29.0808644	-81.0555177
3013	1745617.5539	624365.6030	30.51	8"X4" & 2" & 4" TEE	29.0808243	-81.0558609
3014	1745610.9522	624378.9825	31.48	4" & 4" & 2" 22° BEND	29.0808257	-81.0558459
3015	1745658.7151	624459.7694	41.89	4" & 4" & 2" 90° BEND	29.0808851	-81.0557548
3016	1745656.4487	623339.5131	52.80	6" & 2" TIE IN	29.0815650	-81.0607832
3017	1748357.9043	628606.2011	67.46	6" & 2" TOP OF PIPE	29.0815566	-81.0607180
3018	1748349.8517	628664.9032	78.54	6" & 2" TOP OF PIPE	29.0815487	-81.0606518
3019	1748344.2679	628681.0705	81.66	6" & 2" 90° BEND	29.0815432	-81.0606338
3020	1748466.7094	623528.6129	50.28	16" HEADER & 2" TIE IN & BND 4"	29.0816843	-81.0608079
3021	1748478.8494	623527.8491	51.31	16"X8" ACCESS RISOR	29.0816741	-81.0608087
3022	1748478.8494	623527.8491	48.30	4" ACCESS RISOR	29.0816750	-81.0608084
3023	1748478.1469	623530.0291	49.53	2" ACCESS RISOR	29.0816758	-81.0608040
3024	1748483.8257	623528.9465	51.92	16" & 4" & 2" 90° BEND	29.0816810	-81.0608052
3025	1748483.9676	623581.2383	59.00	24" CASING	29.0816913	-81.0607463
3026	1748509.9561	623658.2201	73.04	24" CASING	29.0817072	-81.0606595
3027	1748511.7399	623670.7197	79.51	16" & 4" & 2" 90° BEND	29.0817090	-81.0606454
3028	1748512.3871	623672.3871	84.78	16"X8" & 4" & 2" TEE	29.0817392	-81.0606435
3029	1748543.8945	623683.2296	88.80	16"X8" & 4" & 2" WYE	29.0817408	-81.0606313
3030	1748512.8258	623720.2807	95.52	6" & 4" & 2" TOP OF PIPE	29.0817099	-81.0605895
3031	1748472.3968	623758.6982	105.08	6" TOP OF PIPE	29.0816701	-81.0605481
3032	1748471.9230	623758.2953	104.75	4" TOP OF PIPE	29.0816696	-81.0605466
3033	1748470.1480	623757.8105	104.84	2" TOP OF PIPE	29.0816679	-81.0605471
3034	1748437.5469	623693.3251	114.15	2" TOP OF PIPE	29.0816356	-81.0605183
3035	1748357.1108	623642.1904	128.65	6" & 4" & 2" 90° BEND	29.0815560	-81.0604519
3036	1748594.5373	623877.0641	137.85	6" & 4" & 2" 90° BEND	29.0817911	-81.0604128
3037	1748575.7898	623831.2045	128.68	6" & 4" & 2" TOP OF PIPE	29.0817725	-81.0604645
3038	1748584.3992	623787.0176	113.20	6" & 4" & 2" TOP OF PIPE	29.0817612	-81.0605143
3039	1748595.1973	623678.9344	87.28	16" & 4" & 2" TOP OF PIPE	29.0817916	-81.0605302
3040	1748638.1889	623693.1889	88.12	4" 90° & 4" & 2" TEE	29.0818321	-81.0606315
3041	1748633.1267	623686.0912	88.61	16"X4" TEE	29.0818292	-81.0608202
3042	1748631.1028	623638.9778	74.01	16"X4" TEE TO WELL & 2" & 4" 90°	29.0818271	-81.0608881
3043	1748677.9920	623692.3502	91.84	16" & 2" & 4" TOP OF PIPE	29.0818736	-81.0608212
3044	1748713.3639	623697.8702	95.54	16"X4" & 2" & 4" TEE	29.0819086	-81.0609150
3045	1748745.8927	623702.0849	97.45	16"X8" & 2" & 4" TEE AT2	29.0819408	-81.0609096
3046	1748708.0665	623706.3539	95.12	16"X4" TEE	29.0819628	-81.0609055
3047	1748708.9132	623704.5927	93.39	4" 90° & 2" & 4" TEE	29.0819636	-81.0609074
3048	1748780.3298	623709.7167	94.38	16"X4" TEE	29.0819749	-81.0609017
3049	1748782.8510	623708.6527	93.04	4" 90° & 2" & 4" TEE	29.0819774	-81.0609029
3050	1748790.3040	623715.2279	93.65	16"X4" TEE	29.0819854	-81.0609355
3051	1748792.5492	623712.3701	92.11	4" 90° & 2" & 4" TEE	29.0819970	-81.0609381
3052	1748789.9835	623666.3424	81.02	4" & 2" & 4" TOP OF PIPE	29.0819845	-81.0609506
3053	1748802.7929	623691.7243	65.81	6"X4" WELL TIE & 2" & 4" 90° BEND	29.0819971	-81.0607032
3054	1748929.1066	623580.1488	57.30	6"X4" WELL TIE & 2" & 4" 90° BEND	29.0821221	-81.0607479
3055	1748852.8184	623649.5646	70.97	4" & 4" & 2" TOP OF PIPE	29.0820464	-81.0606896
3056	1748814.7488	623681.5283	82.14	4" & 4" & 2" TOP OF PIPE	29.0820090	-81.0606335
3057	1748837.7808	623690.5900	79.14	4" & 4" & 2" TOP OF PIPE	29.0820318	-81.0606383
3058	1748892.8952	623668.3708	69.39	6"X4" TIE IN & 2" & 4" 90° BEND	29.0820762	-81.0606482
3059	1748851.1884	623770.9561	82.38	16"X4" TEE	29.0820451	-81.0605327
3060	1748853.5410	623770.6940	80.69	4" 90° & 2" & 4" TEE	29.0820475	-81.0605330
3061	1748903.0004	623763.2127	64.86	6"X4" TIE IN & 2" & 4" 90° BEND	29.0820964	-81.0605415
3062	1748974.0102	623910.0517	75.57	6"X4" TEE & 2" & 4" TEE	29.0820678	-81.0604988
3063	1748820.2962	623836.8463	31.48	2" & 4" & 2" 90° BEND	29.0820146	-81.0604584
3064	1748971.1276	623972.4405	60.07	16" TIE IN & 2" & 4" TOP	29.0820907	-81.0604183
3065	1748899.6740	623928.7879	74.65	4" FM VALVE	29.0820933	-81.0603547
3066	1748904.1518	623945.5242	66.81	2" & 4" TEES	29.0820977	-81.0603559
3067	1748904.0738	623952.6905	66.95	2" & 4" TIE IN EXIST	29.0820977	-81.0603278
3068	1747026.7120	624484.9430	35.58	2" & 4" TEES	29.0822105	-81.0557502
3069	1747032.2328	624500.4028	34.04	2" & 4" TEES	29.0822250	-81.0557103
3070	1747039.1492	624537.6659	33.06	2" & 4" TEES	29.0822319	-81.0556682
3071	1747040.0823	624549.9304	33.13	2" & 4" TEES	29.0822317	-81.0556544
3072	1747028.9916	624562.3675	33.46	2" & 4" TEES TIE IN EXIST	29.0822317	-81.0556397
3073	1747029.9055	624536.1448	38.57	2" & 4" TEES	29.0822228	-81.0556023
3074	1747031.2584	624539.2369	38.10	2" & 4" 90° CUT	29.0822241	-81.0555988
3075	1745548.0807	624670.4681	33.12	2" AIR VALVE	29.0807558	-81.0555171
3076	1745548.1716	624668.7522	33.35	4" FM VALVE	29.0807558	-81.0555213

**AS-BUILT LEGEND**

**AS-BUILT ABBREVIATIONS:**

**SLIGER & ASSOCIATES, INC. AS-BUILT SURVEY**

PROFESSIONAL LAND SURVEYORS  
 LICENSED BUSINESS CERTIFICATION # 8019  
 Copyright © 2011 Sliger & Associates, Inc.  
 3001 HIXSON ROAD • PORT CHARLOTTE, FL 33907 • (813) 761-5388  
 WWW.SLIGERANDASSOCIATES.COM

**SURVEYOR'S NOTICE:**  
 THIS IS NOT A BOUNDARY SURVEY.  
 THERE MAY BE ADDITIONAL RESTRICTIONS AND/OR OTHER MATTERS THAT ARE NOT SHOWN ON THIS SURVEY/SECTION OF DESCRIPTION THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.  
 THIS SURVEY/SECTION PROVIDES MEASUREMENTS OF AN INSTRUMENT.  
 DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.  
 UNLESS OTHERWISE SHOWN, RECORDS AND DIRECTIONS ARE FIELD MEASURED DISTANCES AND DIRECTIONS. SEE THE STATE.  
 UNDERGROUND UTILITIES, IF ANY, NOT LOCATED.  
 THE PRESENT OF SURE SURVEY ON SANITARY SEWER AND/OR STORM SEWER SHOWN WAS OBTAINED FROM PIPE MARKER DATA ACQUIRED ONLY AT THE STRUCTURES AT THE TERMINATION OF THE UTILITY LINE. THE REMAINDER OF THE UTILITY LINE WAS NOT VISUALLY INSPECTED BY THE SURVEYOR.  
 AS-BUILT PIPE LOCATIONS ARE MEASURED TO CENTERLINE OF MAINLINE, CLEAN OUT, ANCHOR BONES, WELLS, VARD MARKS, THE END OF WELLS AND SECTIONS AND BUTTER EDGE OF RECORDS.  
 DIRECTIONAL UNITS ARE LOCATED USING SHOWN PIPES AT THE END OF PIPE ONLY. THE APPROPRIATE ROUTE REFERRED ON THE DRAWING IS OBTAINED FROM THE DATA RECORDS AND INFORMATION FROM THE CONTRACTOR AND MAY NOT BE THE ACTUAL LOCATION WHICH WAS NOT PRESERVE PIPE LOCATION AND ELEVATION DETERMINED FROM MARKER PIPES SET BY CONTRACTOR.  
 ELEVATIONS BASED ON SITE DATA.

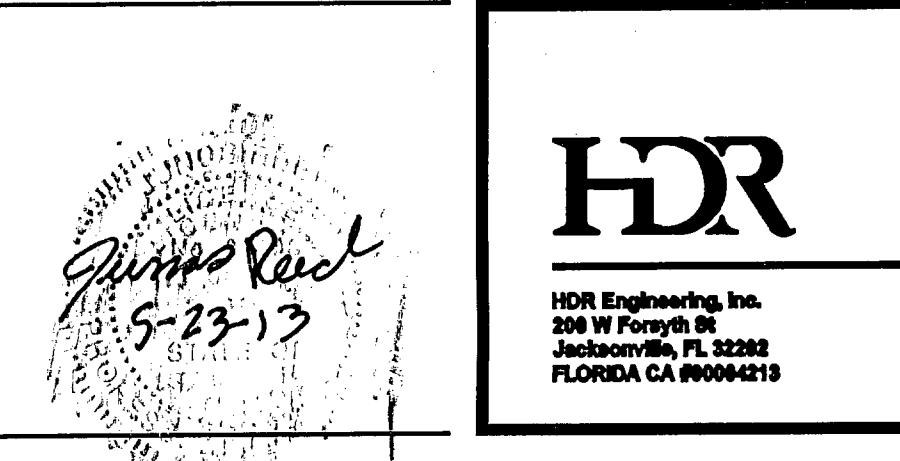
**AS-BUILT SURVEY**  
 NOT A BOUNDARY SURVEY.  
 SANITARY SEWER FORCE MAIN & FITTINGS  
 SANITARY SEWER GRAVITY LINE & SERVICES  
 POTABLE WATERMAIN, VALVES, FITTINGS & SERVICES  
 RESILIENT WATERMAIN, VALVES, FITTINGS & SERVICES  
 STORM SEWER PIPE/STRUCTURES  
 GAS MAIN, VALVES, FITTINGS & SERVICES  
 ELEVATIONS

**SURVEYOR'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN MEETS THE MINIMUM TECHNICAL REQUIREMENTS SET FORTH BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 461.02, FLORIDA STATUTES, PURSUANT TO SECTION 472.02, FLORIDA STATUTES.

**DATE:** 03-08-2013  
**BY:** STEVEN T. BRIGGS, P.L.S. NO. 4018  
 C.O. VAN KLEECK, P.L.S. NO. 6149  
 MICHAEL S. HURPHY, P.L.S. NO. 8208

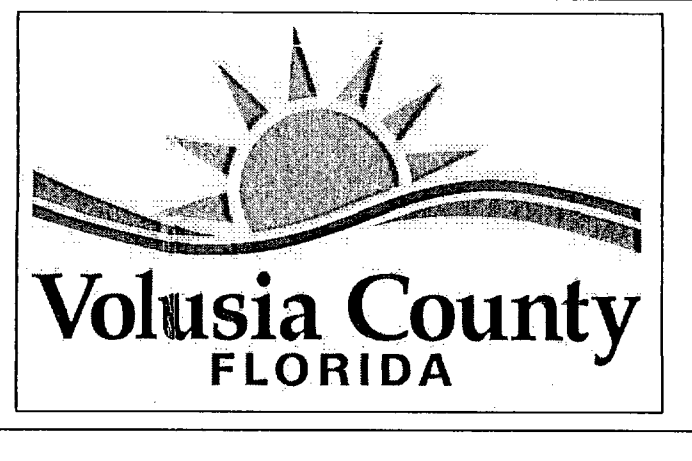
**NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RANDED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.**

AS-BUILT SURVEY 03-08-2013  
 LAST FIELD DATE: 03-08-2013  
 JOB # 13-0001 CAD TECH: JM CHECK: JL



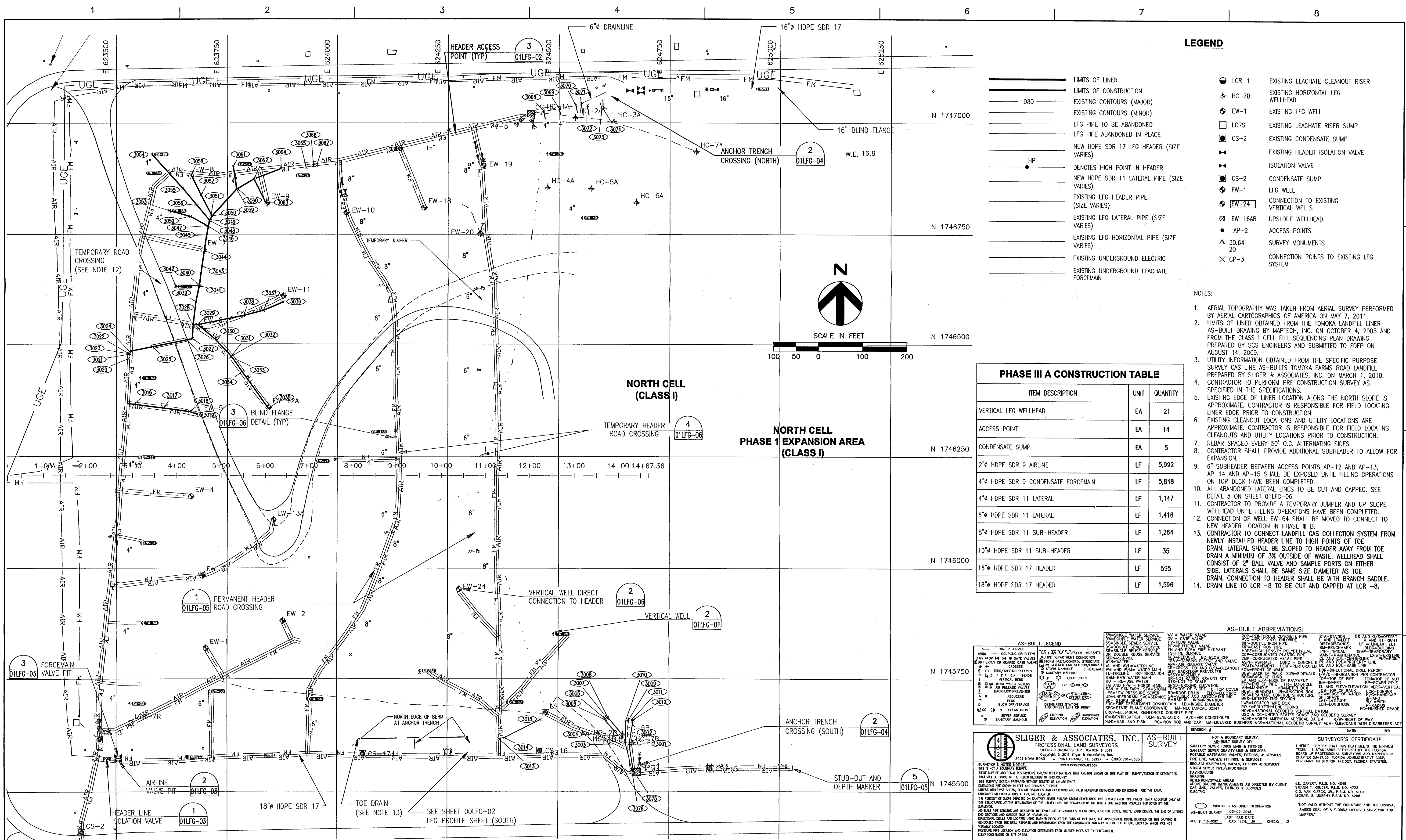
ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	000000000170244



**CLASS I ACTIVE AREA**  
**TOMOKA FARMS ROAD LANDFILL**  
**VOLUSIA COUNTY, FLORIDA**  
**NOT FOR CONSTRUCTION**

FILENAME	OOLFG-01.dwg	SHEET	00LFG-01-1
SCALE	AS SHOWN		



**LEGEND**

—	LIMITS OF LINER	●	LCR-1	EXISTING LEACHATE CLEANOUT RISER
—	LIMITS OF CONSTRUCTION	+	HC-7B	EXISTING HORIZONTAL LFG WELLHEAD
—	EXISTING CONTOURS (MAJOR)	◆	EW-1	EXISTING LFG WELL
—	EXISTING CONTOURS (MINOR)	□	LCRS	EXISTING LEACHATE RISER SUMP
—	LFG PIPE TO BE ABANDONED	⊗	CS-2	EXISTING CONDENSATE SUMP
—	LFG PIPE ABANDONED IN PLACE	⊕		EXISTING HEADER ISOLATION VALVE
—	NEW HDPE SDR 17 LFG HEADER (SIZE VARIES)	⊖	CS-2	CONDENSATE SUMP
—	NEW HDPE SDR 11 LATERAL PIPE (SIZE VARIES)	◆	EW-1	LFG WELL
—	EXISTING LFG HEADER PIPE (SIZE VARIES)	◆	EW-24	CONNECTION TO EXISTING VERTICAL WELLS
—	EXISTING LFG LATERAL PIPE (SIZE VARIES)	⊗	EW-16AR	UPSLOPE WELLHEAD
—	EXISTING LFG HORIZONTAL PIPE (SIZE VARIES)	●	AP-2	ACCESS POINTS
—	EXISTING UNDERGROUND ELECTRIC	△	30.64	SURVEY MONUMENTS
—	EXISTING UNDERGROUND LEACHATE FORCEMAIN	×	CP-3	CONNECTION POINTS TO EXISTING LFG SYSTEM

- NOTES:**
- AERIAL TOPOGRAPHY WAS TAKEN FROM AERIAL SURVEY PERFORMED BY AERIAL CARTOGRAPHICS OF AMERICA ON MAY 7, 2011.
  - LIMITS OF LINER OBTAINED FROM THE TOMOKA LANDFILL LINER AS-BUILT DRAWING BY MAPTECH, INC. ON OCTOBER 4, 2005 AND FROM THE CLASS I CELL FILL SEQUENCING PLAN DRAWING PREPARED BY SCS ENGINEERS AND SUBMITTED TO FDEP ON AUGUST 14, 2009.
  - UTILITY INFORMATION OBTAINED FROM THE SPECIFIC PURPOSE SURVEY GAS LINE AS-BUILTS TOMOKA FARMS ROAD LANDFILL PREPARED BY SLIGER & ASSOCIATES, INC. ON MARCH 1, 2010. CONTRACTOR TO PERFORM PRE-CONSTRUCTION SURVEY AS SPECIFIED IN THE SPECIFICATIONS.
  - EXISTING EDGE OF LINER LOCATION ALONG THE NORTH SLOPE IS APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING LINER EDGE PRIOR TO CONSTRUCTION.
  - EXISTING CLEANOUT LOCATIONS AND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING CLEANOUTS AND UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
  - REBAR SPACED EVERY 50' O.C. ALTERNATING SIDES.
  - CONTRACTOR SHALL PROVIDE ADDITIONAL SUBHEADER TO ALLOW FOR EXPANSION.
  - 6" SUBHEADER BETWEEN ACCESS POINTS AP-12 AND AP-13, AP-14 AND AP-15 SHALL BE EXPOSED UNTIL FILLING OPERATIONS ON TOP DECK HAVE BEEN COMPLETED.
  - ALL ABANDONED LATERAL LINES TO BE CUT AND CAPPED. SEE DETAIL 5 ON SHEET 01LFG-06.
  - CONTRACTOR TO PROVIDE A TEMPORARY JUMPER AND UP SLOPE WELLHEAD UNTIL FILLING OPERATIONS HAVE BEEN COMPLETED.
  - CONNECTION OF WELL EW-64 SHALL BE MOVED TO CONNECT TO NEW HEADER LOCATION IN PHASE III B.
  - CONTRACTOR TO CONNECT LANDFILL GAS COLLECTION SYSTEM FROM NEWLY INSTALLED HEADER LINE TO HIGH POINTS OF TOE DRAIN. LATERAL SHALL BE SLOPED TO HEADER AWAY FROM TOE DRAIN A MINIMUM OF 3% OUTSIDE OF WASTE. WELLHEAD SHALL CONSIST OF 2" BALL VALVE AND SAMPLE PORTS ON EITHER SIDE. LATERALS SHALL BE SAME SIZE DIAMETER AS TOE DRAIN. CONNECTION TO HEADER SHALL BE WITH BRANCH SADDLE.
  - DRAIN LINE TO LCR-8 TO BE CUT AND CAPPED AT LCR-8.

**PHASE III A CONSTRUCTION TABLE**

ITEM DESCRIPTION	UNIT	QUANTITY
VERTICAL LFG WELLHEAD	EA	21
ACCESS POINT	EA	14
CONDENSATE SUMP	EA	5
2" HDPE SDR 9 AIRLINE	LF	5,992
4" HDPE SDR 9 CONDENSATE FORCEMAIN	LF	5,848
4" HDPE SDR 11 LATERAL	LF	1,147
6" HDPE SDR 11 LATERAL	LF	1,416
8" HDPE SDR 11 SUB-HEADER	LF	1,264
10" HDPE SDR 11 SUB-HEADER	LF	35
16" HDPE SDR 17 HEADER	LF	595
18" HDPE SDR 17 HEADER	LF	1,596

**AS-BUILT LEGEND**

<ul style="list-style-type: none"> <li>WATER SERVICE</li> <li>SEWER SERVICE</li> <li>STORM DRAIN</li> <li>... (many other symbols and abbreviations)</li> </ul>	<ul style="list-style-type: none"> <li>AS-BUILT ABBREVIATIONS:</li> <li>CONCRETE</li> <li>ASPHALT</li> <li>... (many other abbreviations)</li> </ul>
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**SLIGER & ASSOCIATES, INC.**  
 PROFESSIONAL LAND SURVEYORS  
 LICENSED BUSINESS CERTIFICATION # 2018  
 3821 NOVA ROAD • PORT ST. LUCIE, FL 32927 • (888) 761-5385  
 www.sligerandassociates.com

**AS-BUILT SURVEY**

DATE: \_\_\_\_\_ BY: \_\_\_\_\_

NOT A BOUNDARY SURVEY.  
 AS-BUILT SURVEY OF:  
 SANITARY SEWER FORCE MAIN & FITTINGS  
 POTABLE WATERMAIN, VALVES, FITTINGS & SERVICES  
 FIRE LINE, VALVES, FITTINGS & SERVICES  
 STORM SEWER PIPE/STRUCTURES  
 PAVERS/CLUBS  
 GRADING  
 RETENTION/SHALE AREAS  
 ABOVE GROUND IMPROVEMENTS AS DIRECTED BY CLIENT  
 GAS MAIN, VALVES, FITTINGS & SERVICES  
 ELECTRIC

SURVEYOR'S CERTIFICATE  
 I HEREBY CERTIFY THAT THIS PLAN MEETS THE MINIMUM  
 REQUIREMENTS OF THE FLORIDA STATUTES, CHAPTER 461,  
 PART I, PROFESSIONAL SURVEYORS AND MAPPERS IN  
 CONFORMANCE WITH THE FLORIDA ADMINISTRATIVE CODE,  
 PURSUANT TO SECTION 472.022, FLORIDA STATUTES.

J.E. ZAPERT, P.L.S. No. 4046  
 STEVEN T. KRUGER, P.L.S. No. 4722  
 C.S. VAN RIECKEN, P.L.S. No. 8149  
 MICHAEL S. MURPHY, P.L.S. No. 8208

"NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL  
 RABBIT SEAL OF A FLORIDA LICENSED SURVEYOR AND  
 MAPPER."

JOB # 13-0001 CAD TECH: JM CHECK: JZ

**HDR**  
 HDR Engineering, Inc.  
 206 W. Forsyth St.  
 Jacksonville, FL 32202  
 FLORIDA CA #0004219

5-23-13

ISSUE	DATE	DESCRIPTION
1	09/11	DRAFT

PROJECT MANAGER	C. LEBRON, P.E.
DESIGNED BY	M. AUSTIN
DESIGNED BY	
DRAWN BY	M. AUSTIN
CHECKED BY	
PROJECT NUMBER	000000000170244



**CLASS I ACTIVE AREA  
 TOMOKA FARMS ROAD LANDFILL  
 VOLUSIA COUNTY, FLORIDA**

**PHASE III - PART A  
 LFG SYSTEM EXPANSION**

FILENAME	00LFG-01.dwg	SHEET	00LFG-01
SCALE	AS SHOWN		