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TRANSMITTAL LETTER

Date: November 16, 2012

TO: FDEP Waste Management Division – Solid Waste 3319 Maguire Blvd, Suite 232 Orlando, Florida 32803-3767

Attention: Kim Rush, PE

SENT VIA: Fedex

QUANTITY	ITEM	DESCRIPTION						
1	Disc	Construction Drawings, J.E.D. Solid Waste Management Facility – St. Cloud, Florida						

REMARKS:

Ms. Rush,

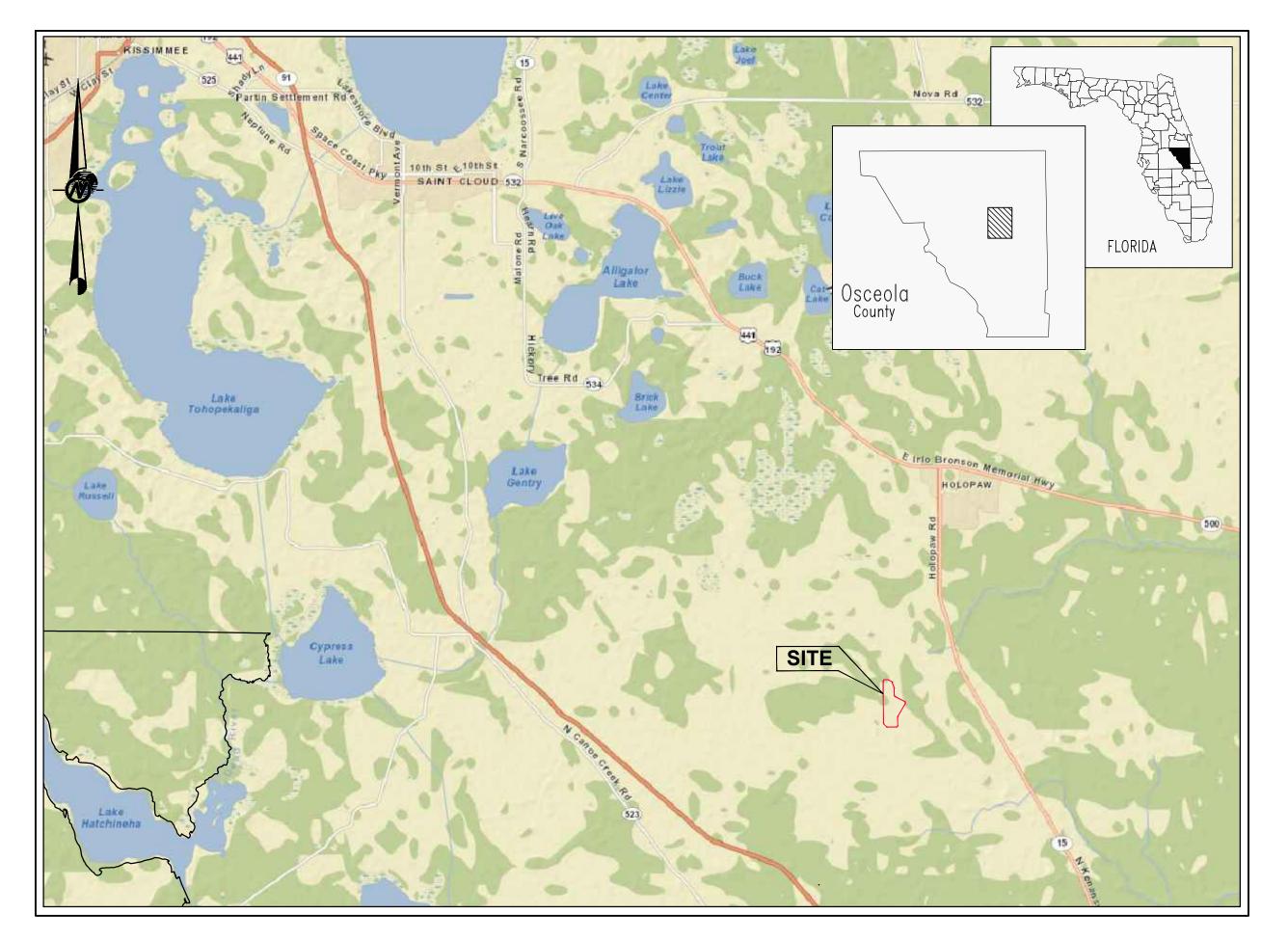
Mr. Mike Kaiser asked me to forward you these drawings. Please find one disc with an electronic set of construction drawings for the Phase III Landfill Gas Collection and Control System at the J.E.D. Solid Waste Management Facility. The drawings were generated in general accordance with the permit level drawings for the facility.

If you have any questions, please contact me at 904-363-3430.

Thanks,

Don E. Grigg

J.E.D. SOLID WASTE MANAGEMENT FACILITY GAS COLLECTION AND CONTROL SYSTEM (GCCS) PHASE III DISPOSAL AREA



SITE LOCATION MAP

PROJECT NoD83-82734 FILE No.08382734G001 CADD BCL DATE 09/07/12

ST. CLOUD, OSCEOLA COUNTY, FLORIDA

	LIST OF DRAWINGS	
SHEET	TITLE	REVISION
1	TITLE SHEET	
2	TOPOGRAPHIC MAP	
3	PLAN LAYOUT OF GCCS IN PHASE 3 (CELLS 8 THROUGH 10)	
4	PLAN LAYOUT OF GCCS IN PHASE 3 (SEQUENCE 1)	
5	PLAN LAYOUT OF GCCS IN PHASE 3 (SEQUENCE 2)	
6	PLAN LAYOUT OF GCCS IN PHASE 3 (SEQUENCE 3)	
7	GAS SYSTEM CONTROL POINTS	
8	VERTICAL GAS EXTRACTION WELL DETAILS	
9	GCCS DETAILS (1 OF 2)	
10	GCCS DETAILS (2 OF 2)	
11	HORIZONTAL GAS COLLECTOR DETAILS	
12	HORIZONTAL GAS COLLECTOR CROSS SECTIONS	

Prepared for:



OMNI WASTE OF OSCEOLA COUNTY, LLC 1501 OMNI WAY ST. CLOUD, FLORIDA 34773 L: 407-891-3720 FAX: 407-891-3730

Prepared by:



September 2012

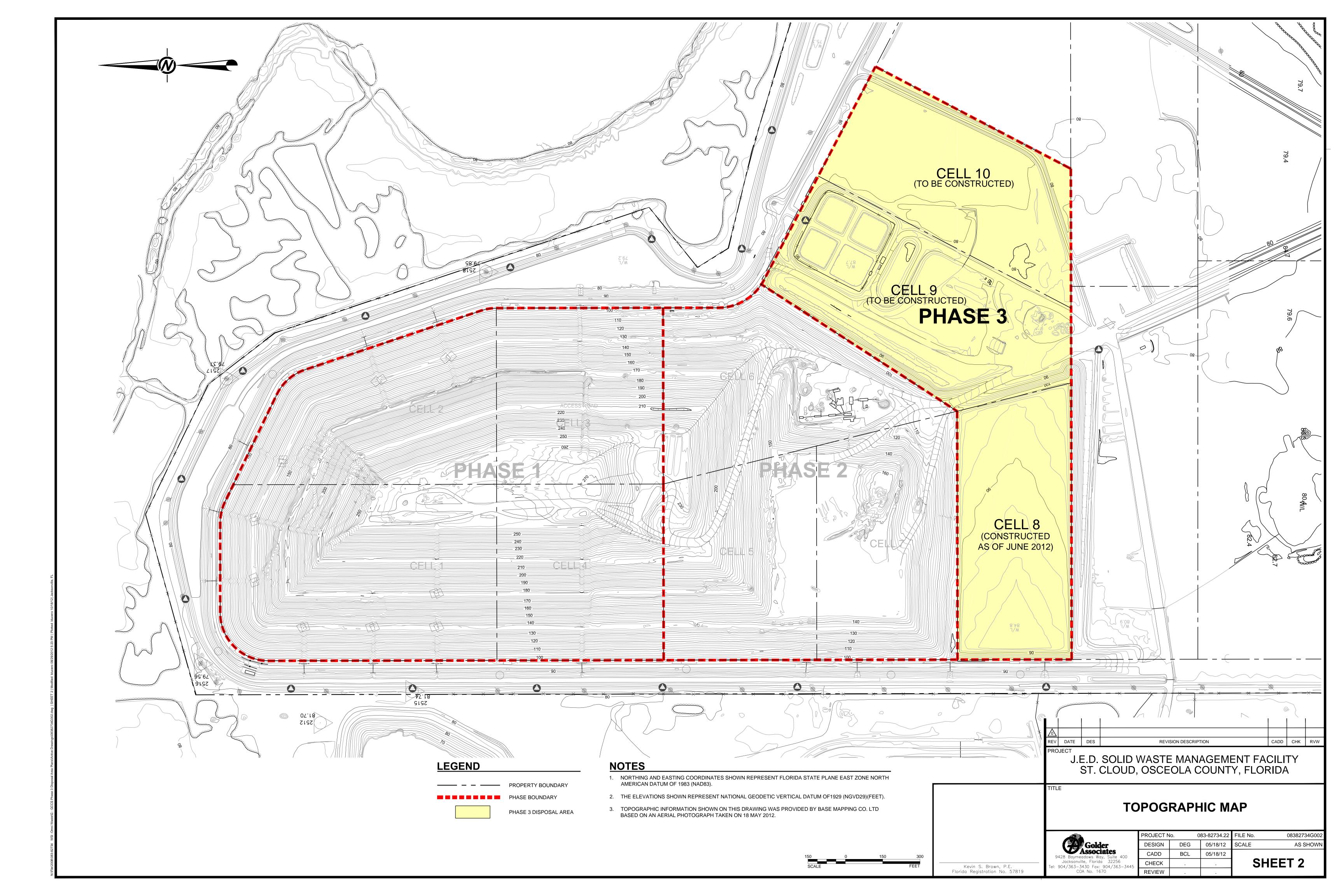


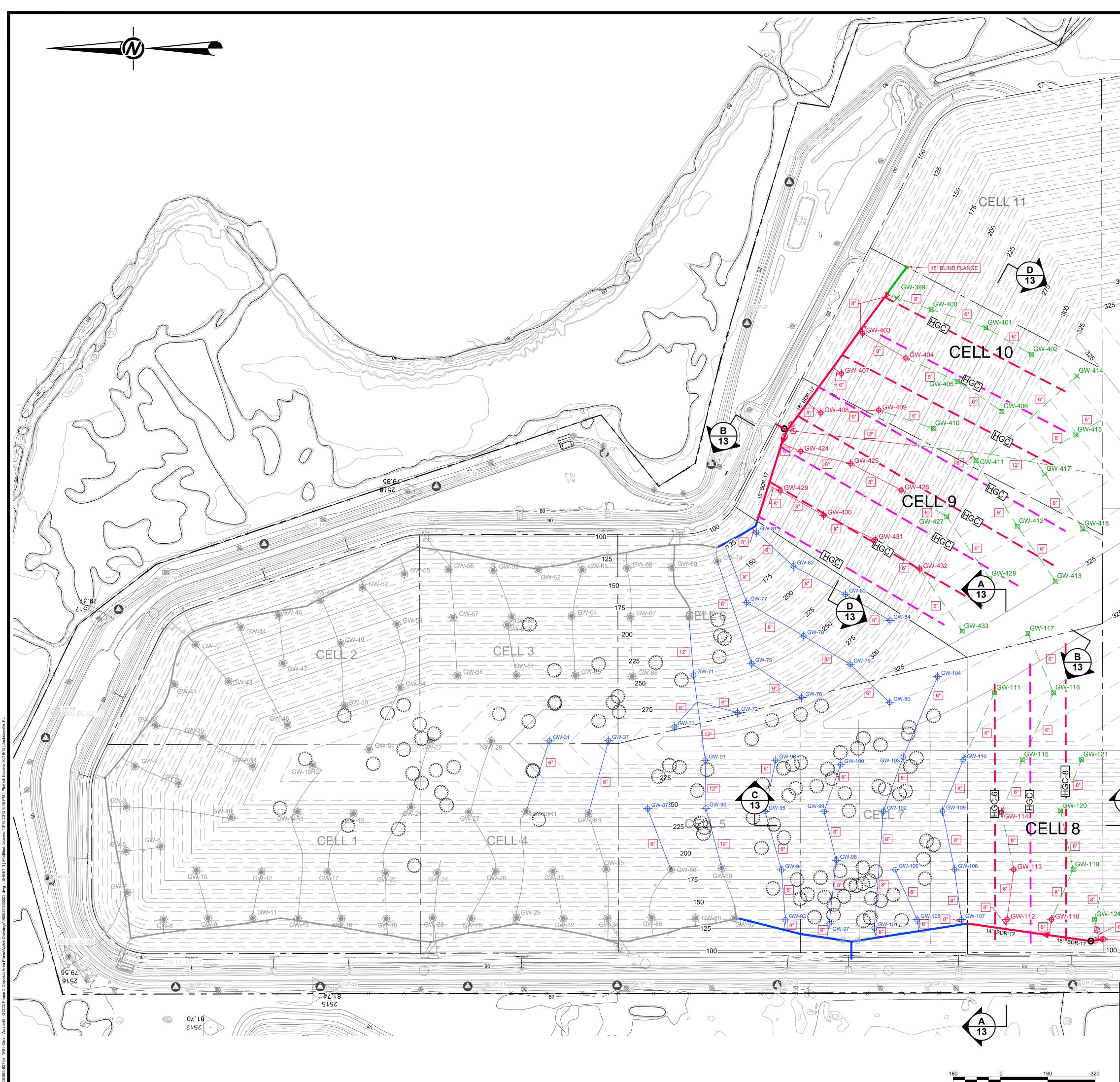
J.E.D. SOLID WASTE MANAGEMENT FACILITY OSCEOLA COUNTY FLORIDA

> Kevin S. Brown, P.E. Florida Registration No. 57819

TITLE SHEET/LIST OF DRAWINGS

SHEET 1





100
125
150
175
200
225
250
275
300
CELL 13
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CELL 12
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	PROPERTY BOUNDARY
	EXISTING GROUND ELEVATION (FEET)
	EXISTING FENCE
	FINAL COVER ELEVATION (FEET)
-53	EXISTING VERTICAL GAS EXTRACTION WELL
	EXISTING HDPE HEADER PIPE
	EXISTING HDPE LATERAL PIPE
	APPROXIMATE LIMITS OF ASBESTOS (SEE NOTE 1)
-419	PROPOSED VERTICAL GAS EXTRACTION WELL
	PROPOSED HDPE HEADER PIPE
445	PROPOSED HDPE LATERAL PIPE
415	FUTURE VERTICAL GAS EXTRACTION WELL
	FUTURE HDPE LATERAL PIPE
	REDUCER
	BLIND FLANGE (DIAMETER VARIES)
	CONDENSATE DRAIN AT LOW POINT
	ISOLATION VALVE
	PROPOSED UPPER TIER HGC (10" SDR-11)
	PROPOSED LOWER TIER HGC (10" SDR-11)
	LATERAL PIPE SIZE
-91	PREVIOUS PHASE PROPOSED VERTICAL GAS EXTRACTION WELL
	PREVIOUS PHASE PROPOSED HDPE LATERAL PIPE
	PREVIOUS PHASE PROPOSED HDPE HEADER PIPE

NOTES

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6"

- 1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
- 2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
- 3. THE PROPERTY BOUNDARY BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
- 4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING (OUTSIDE OF THE WASTE LIMITS) WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 18 MAY 2012.
- 5. THE TOPOGRAPHIC INFORMATION PROVIDED DOES NOT NECESSARILY REPRESENT CURRENT CONDITIONS. THE CONTRACTOR SHALL UNDERSTAND CURRENT CONDITIONS BASED ON FIELD RECONNAISSANCE AND/OR ADDITIONAL TOPOGRAPHIC SURVEYS AT THEIR EXPENSE.

GCCS NOTES

Golder

9428 Baymeadows Way, Suite 400 Jacksonville, Florida 32256

I: 904/363-3430 Fax: 904/363-34-COA No. 1670

- 1. APPROXIMATE LIMITS OF ASBESTOS SHOWN WERE BASED ON GRID AND GPS TRACKING BY SITE OPERATIONS. THE LIMITS OF ASBESTOS WERE ASSUMED TO BE WITHIN 20-FT RADIUS OF THE COORDINATES PROVIDED BY OMNI. CONTRACTOR SHALL MARK THE INDICATED AREAS IN FIELD TO PREVENT INSTALLATION OF GAS EXTRACTION WELLS IN AREAS WHERE ASBESTOS WAS DISPOSED.
- 2. LATERAL PIPES SHALL BE 4", 6" OR 8" DIA. SDR-17 HDPE PIPES AS SHOWN ON THIS SHEET.
- 3. GRADES INDICATED ON THIS SHEET WITHIN THE WASTE DISPOSAL BOUNDARY ARE TOP OF FINAL COVER SYSTEM GRADES.
- 4. A 15-FT WIDE BENCH WILL BE PROVIDED ON THE SIDE SLOPE OF THE LANDFILL EVERY 40 VERTICAL FEET. GAS EXTRACTION WELLS ADJACENT TO THESE BENCHES SHALL BE OFFSET FROM THE EDGE OF THE BENCH AS INDICATED ON SHEET 10, DETAIL 3.
- 5. THE BOTTOM LINER SYSTEM IS AT A RELATIVELY HIGHER ELEVATION ADJACENT TO THE INTERCELL BERMS. CONTRACTOR SHALL PROVIDE ADDITIONAL ATTENTION DURING INSTALLATION OF GAS EXTRACTION WELLS ADJACENT TO THE INTERCELL BERMS.
- 6. A HEADER ACCESS RISER SHALL BE PROVIDED AT EACH HIGH POINT ALONG HEADER (I.E., AT EACH HPH) AS NOTED ON SHEET 11.
- 7. A CONDENSATE DRAIN SHALL BE PROVIDED AT EACH LOW POINT ALONG HEADER (I.E., AT EACH LPH).
- 8. FUTURE GAS EXTRACTION WELLS SHOWN IN GREEN LOCATED WITHIN CELLS 8-10, WILL NOT BE INSTALLED UNTIL WASTE IS IN CELLS 11, 12, AND CELL 13 AND IS SUFFICIENT TO ALLOW INSTALLATION AT OR NEAR FINAL GRADES.
- 9. ALL PIPING WITHIN THE LIMITS OF WASTE TO BE INSTALLED WITH A MINIMUM OF 5% SLOPE.
- 10. THE EXACT LOCATIONS AND NUMBERING OF GCCS FEATURES MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS AT THE TIME OF INSTALLATION.
- 11. EXCESS EXCAVATED WASTE (INCLUDING DRILL CUTTINGS) WILL BE HAULED TO THE ACTIVE WORKING FACE FOR DISPOSAL. SHOULD WASTE BE UTILIZED AS BACKFILL, DAILY COVER WILL BE UTILIZED IN ACCORDANCE WITH PERMIT AND REGULATORY REQUIREMENTS.

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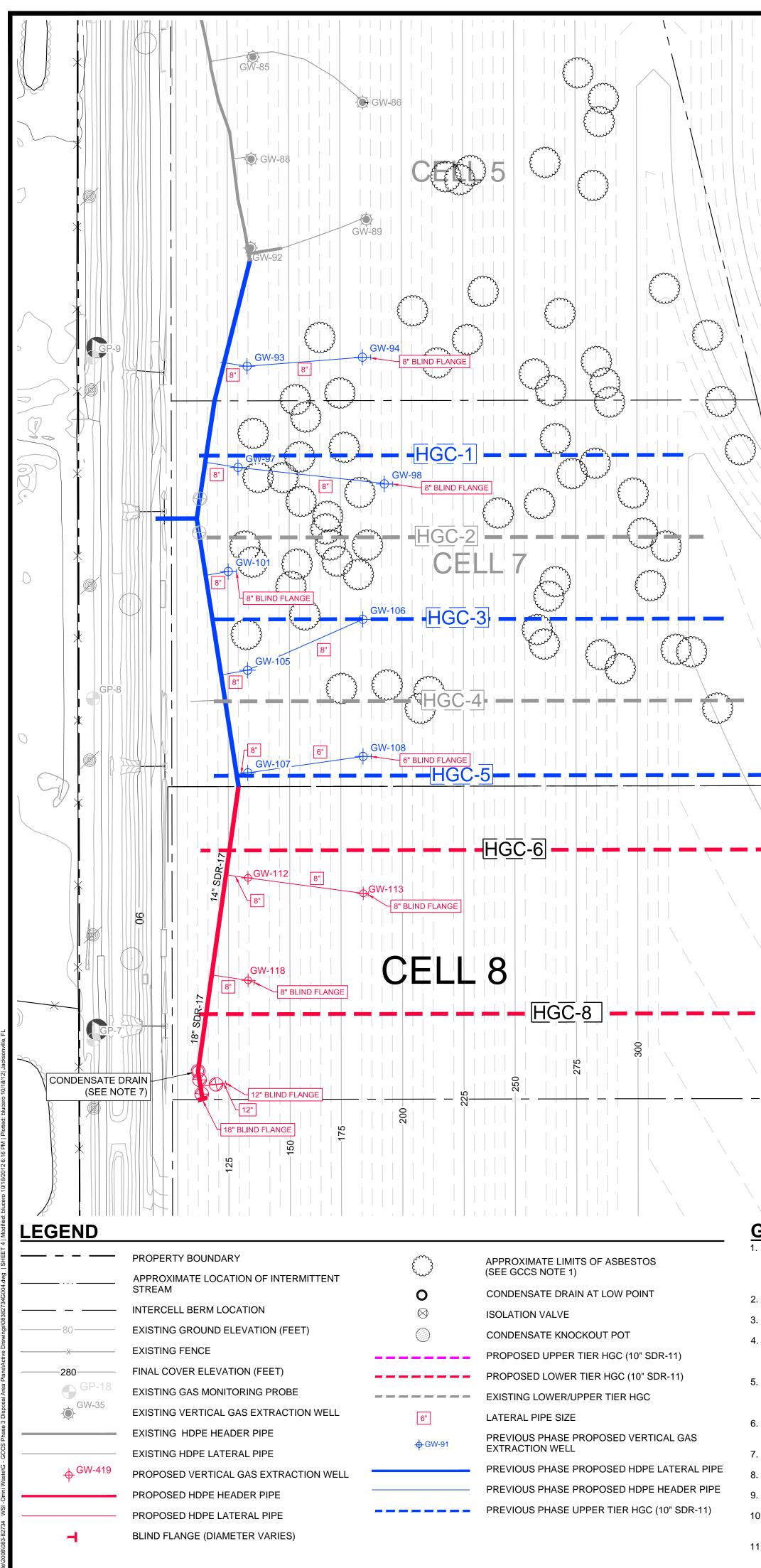
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AS SHOWN



CELL 10

GCCS NOTES

APPROXIMATE LIMITS OF ASBESTOS SHOWN WERE BASED ON GRID AND GPS TRACKING BY SITE OPERATIONS. THE LIMITS OF ASBESTOS WERE ASSUMED TO BE WITHIN 20-FT RADIUS OF THE COORDINATES PROVIDED BY OMNI. CONTRACTOR SHALL MARK THE INDICATED AREAS IN FIELD TO PREVENT INSTALLATION OF GAS EXTRACTION WELLS IN AREAS WHERE ASBESTOS WAS DISPOSED.

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5. THE BOTTOM LINER SYSTEM IS AT A RELATIVELY HIGHER ELEVATION ADJACENT TO THE INTERCELL BERMS. CONTRACTOR SHALL PROVIDE ADDITIONAL ATTENTION DURING INSTALLATION OF GAS EXTRACTION WELLS ADJACENT TO THE INTERCELL BERMS.

6. A HEADER ACCESS RISER SHALL BE PROVIDED AT EACH HIGH POINT ALONG HEADER (I.E., AT EACH HPH) AS NOTED ON SHEET 11.

7. A CONDENSATE DRAIN SHALL BE PROVIDED AT EACH LOW POINT ALONG HEADER (I.E., AT EACH LPH).

ALL PIPING WITHIN THE LIMITS OF WASTE TO BE INSTALLED WITH A MINIMUM OF 5% SLOPE.

PROPOSED GCCS COMPONENTS BASED UPON BULLSEYE DESIGN SERVICES, INC., DWG # 2.

10. THE EXACT LOCATIONS AND NUMBERING OF GCCS FEATURES MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS AT THE TIME OF INSTALLATION.

11. EXCESS EXCAVATED WASTE (INCLUDING DRILL CUTTINGS) WILL BE HAULED TO THE ACTIVE WORKING FACE FOR DISPOSAL. SHOULD WASTE BE UTILIZED AS BACKFILL, DAILY COVER WILL BE UTILIZED IN ACCORDANCE WITH PERMIT AND REGULATORY REQUIREMENTS.

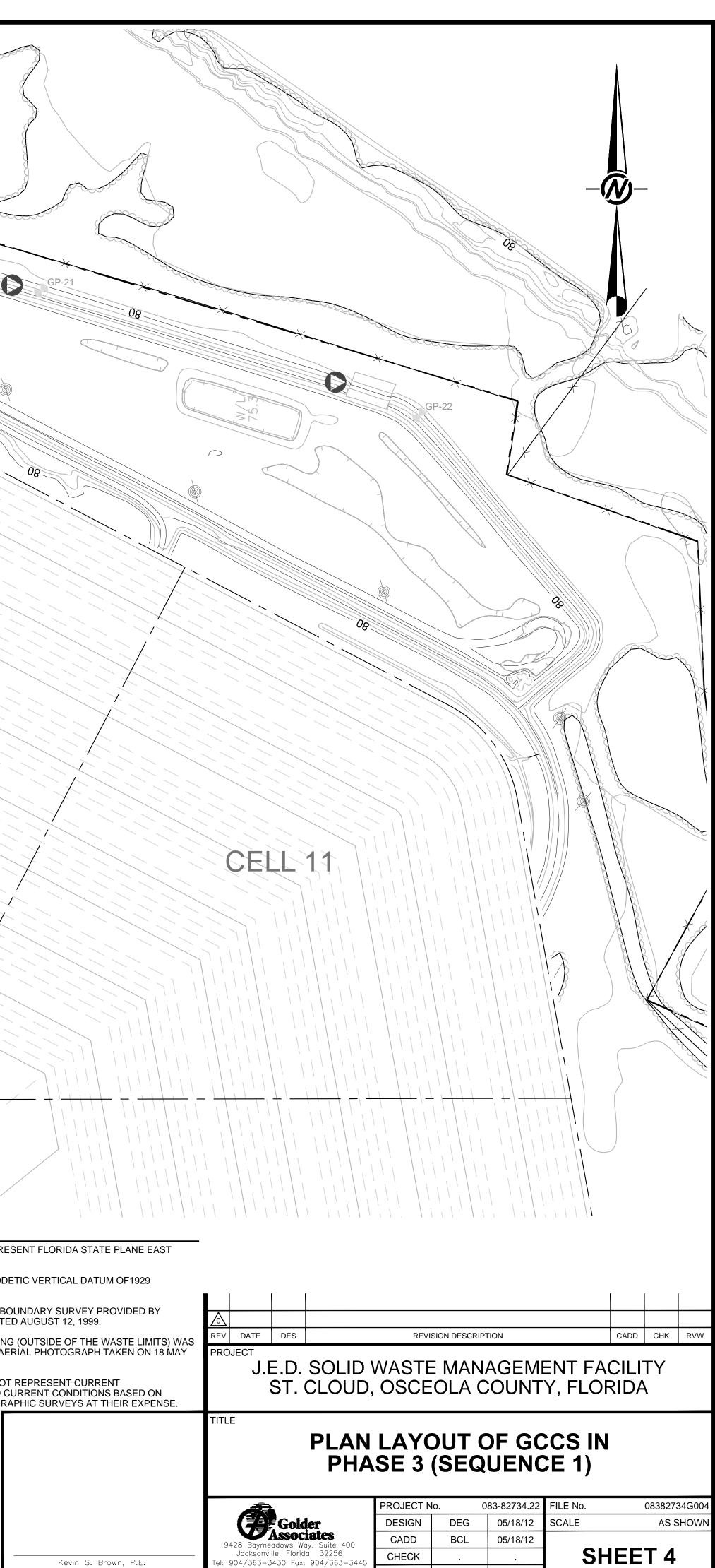
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CELL 9

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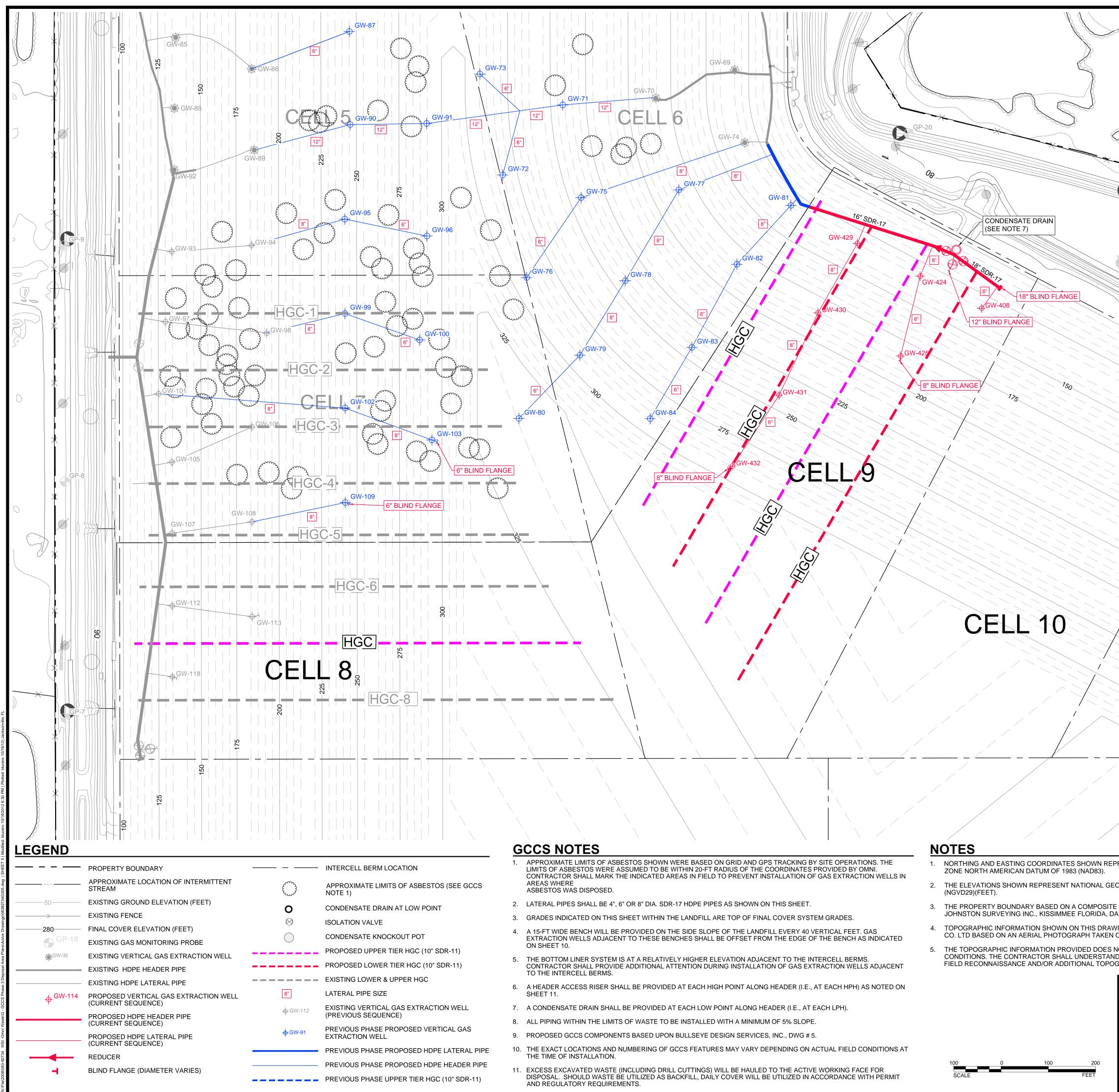


Florida Registration No. 57819



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COA No. 1670



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	Golder Associates	DESIGN DEG CADD BCL	05/18/12 SCALE 05/18/12	AS SHOWN
Kevin S. Brown, P.E. Florida Registration No. 57819	9428 Baymeadows Way, Suite 400 Jacksonville, Florida 32256 Tel: 904/363-3430 Fax: 904/363-3445 COA No. 1670	СНЕСК		SHEET 5



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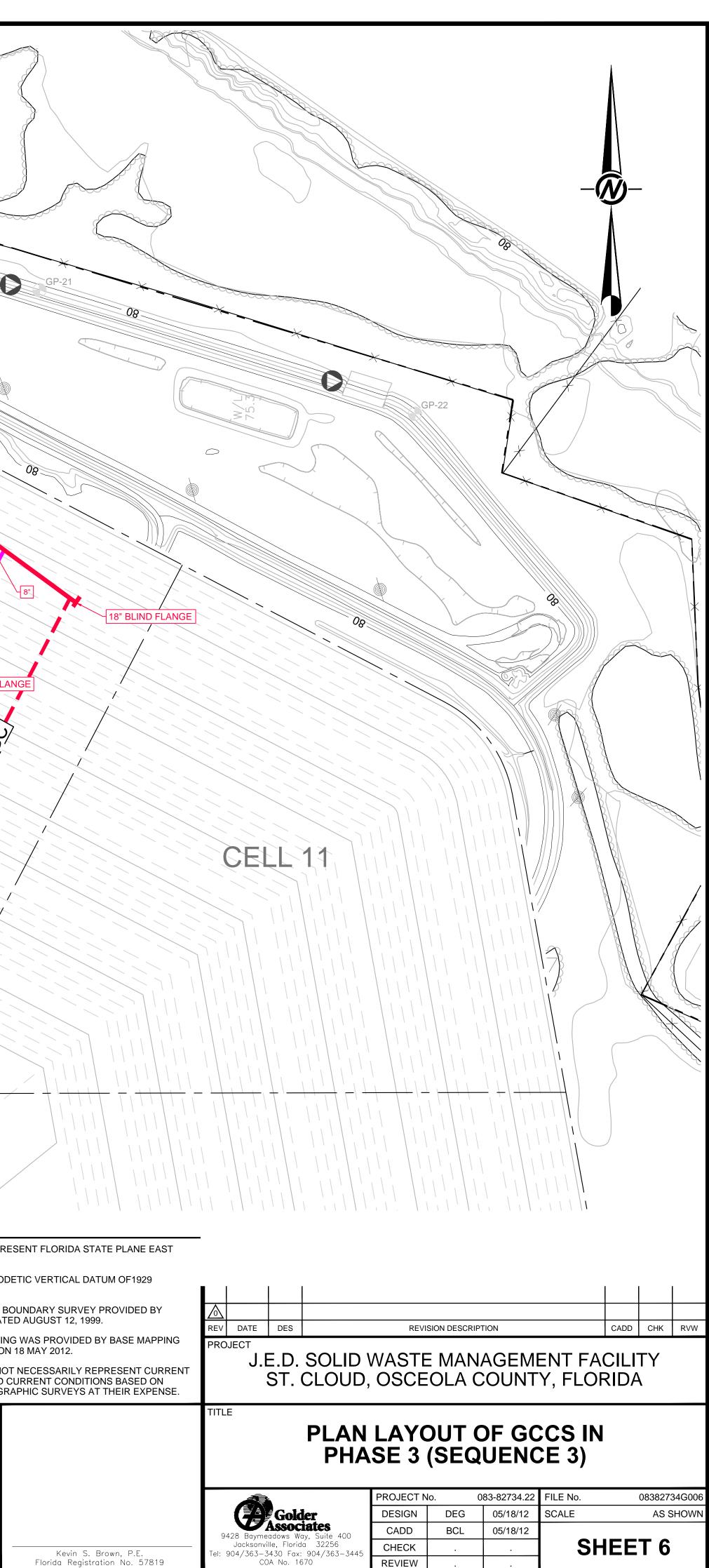
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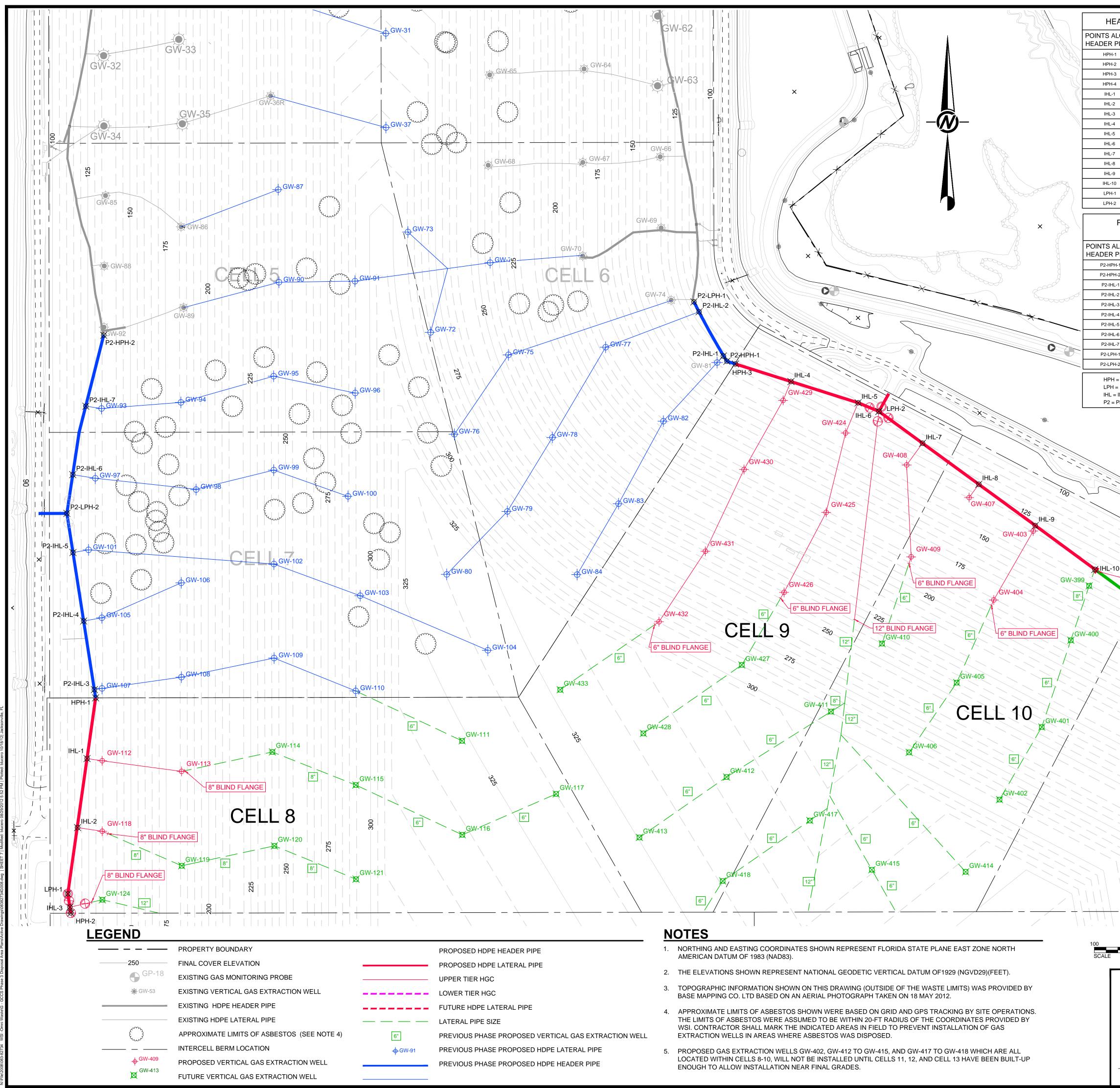
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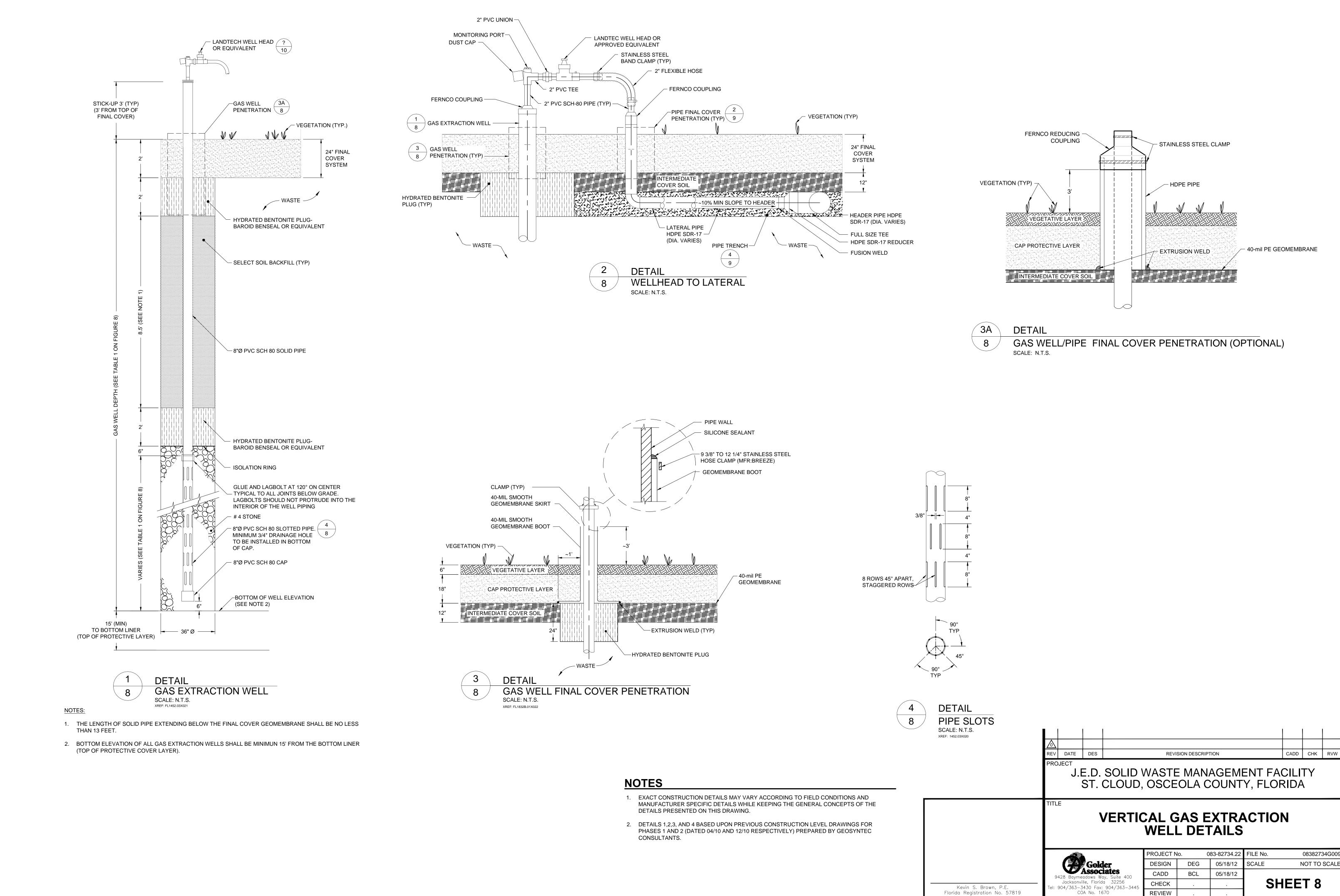
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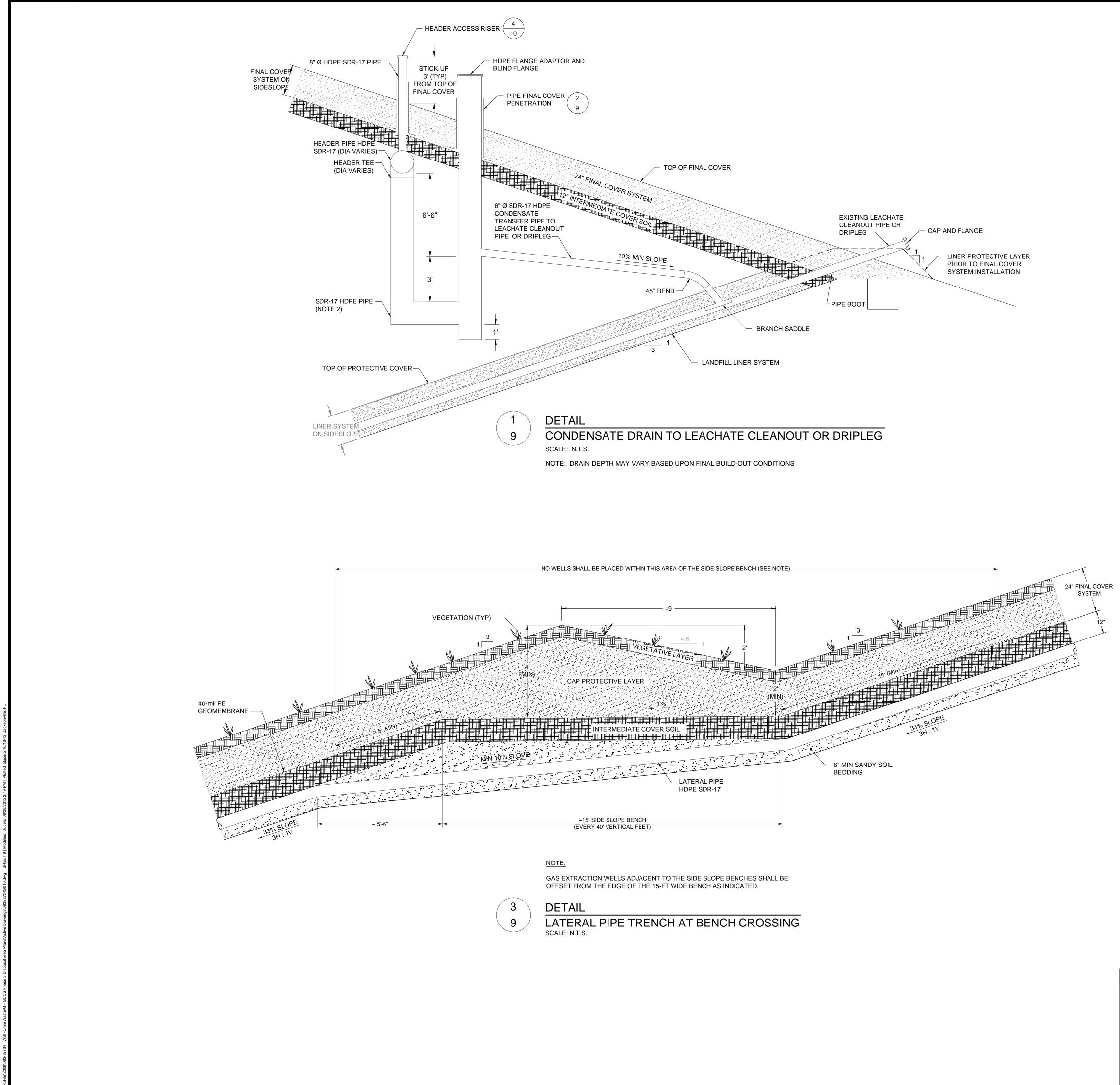
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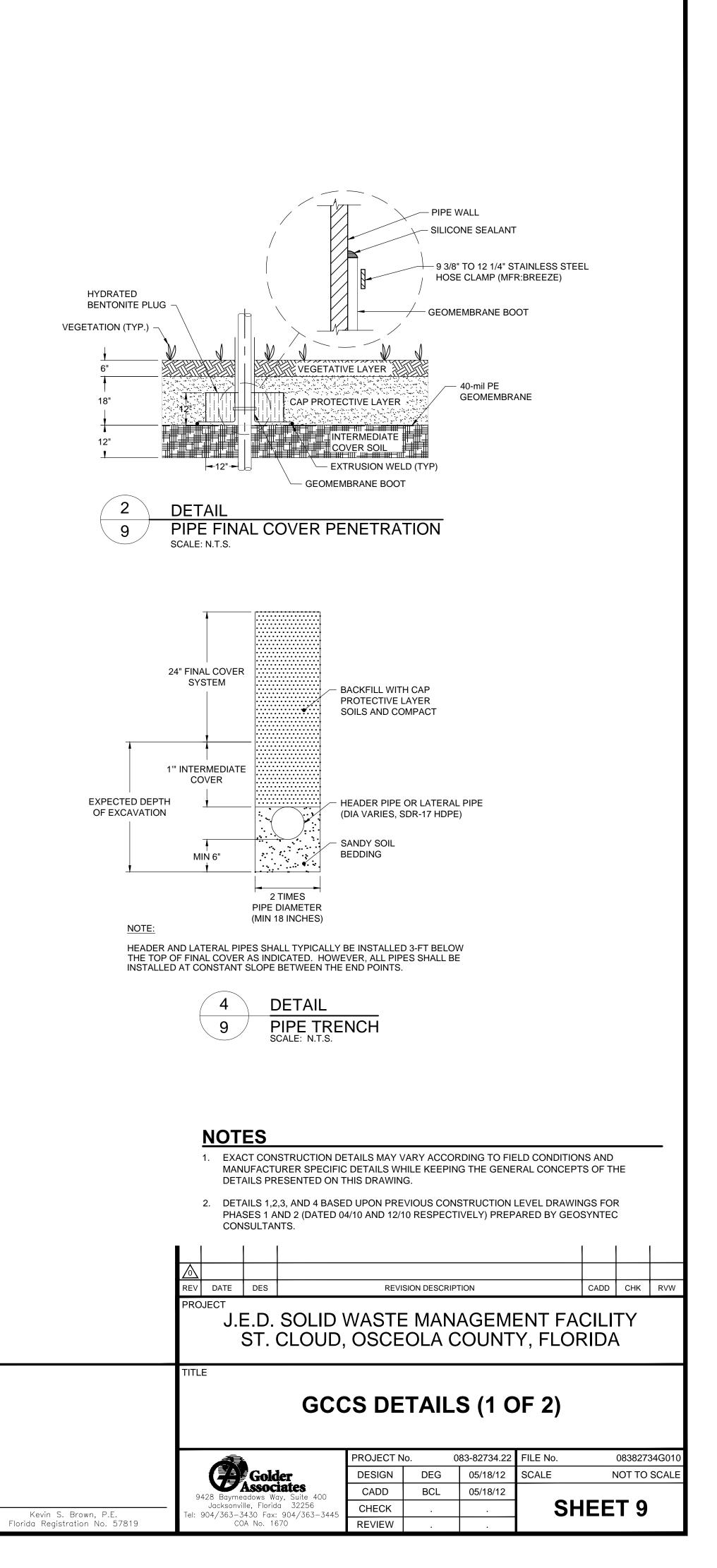


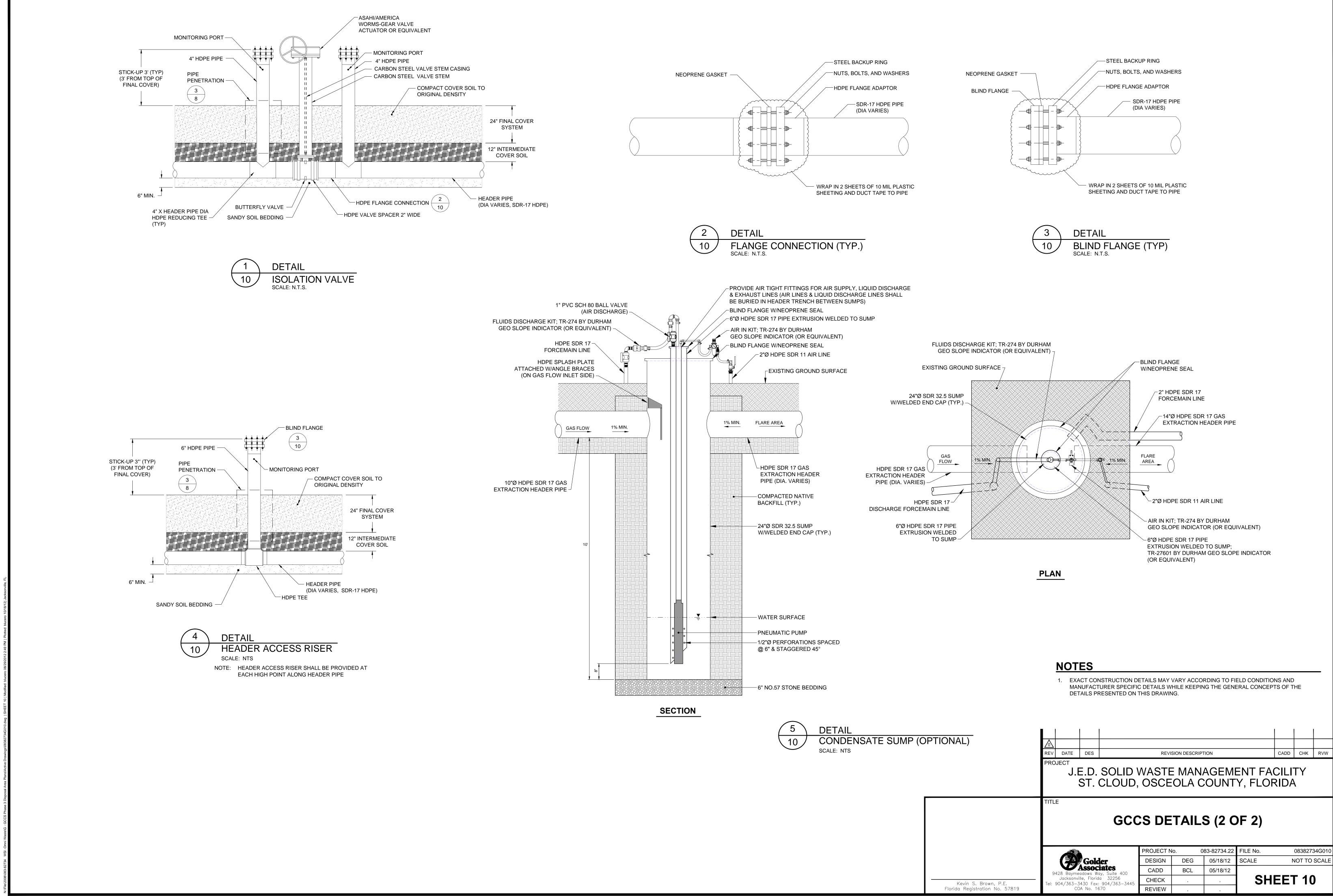


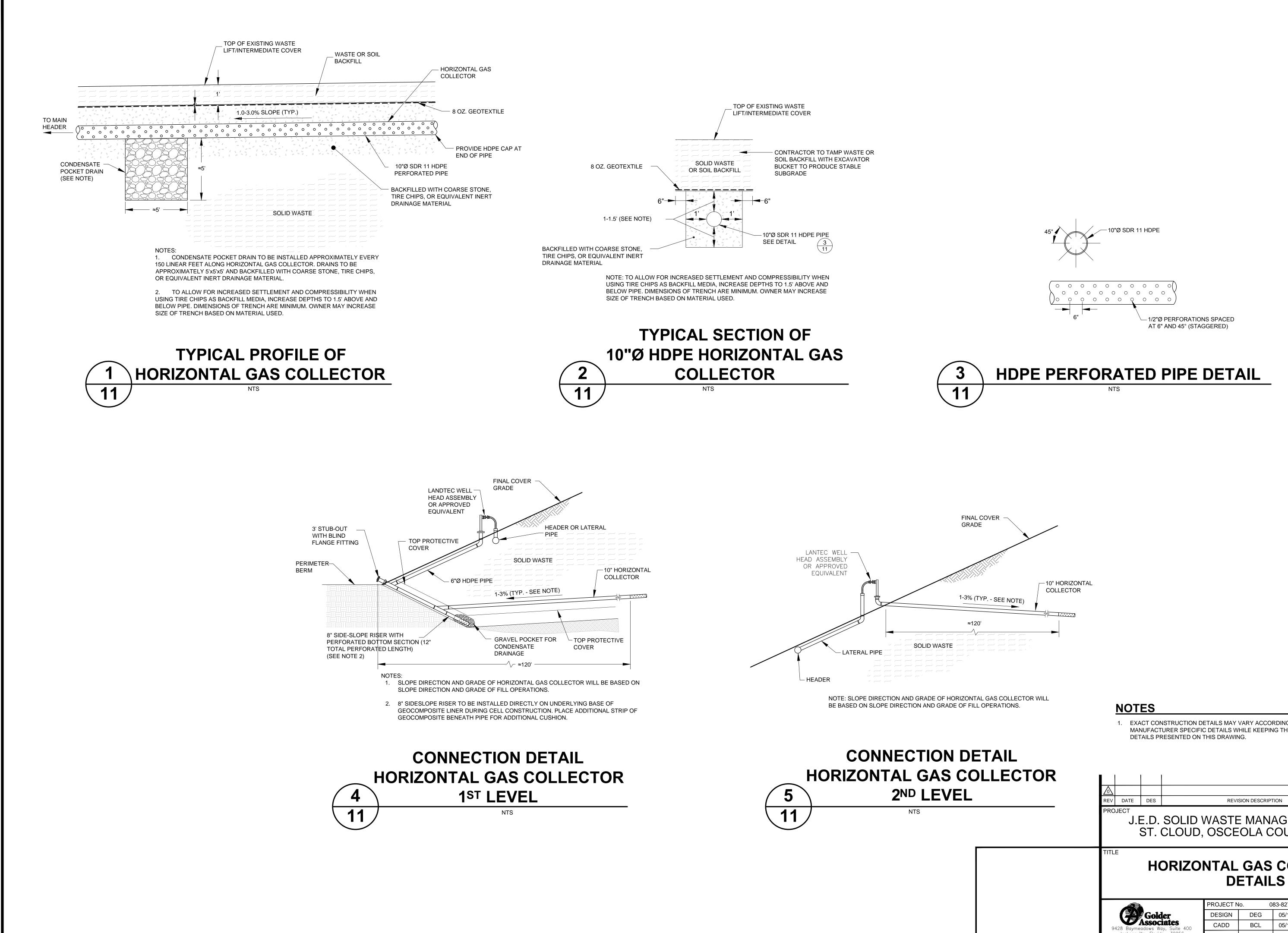
	PIPE CON				İ			TRACTION WELLS			
S ALONG ER PIPES	NORTHING	EASTING	ELEVATION	GAS WELL	NORTHING	EASTING	TOP OF FINAL COVER	TOP OF LINER PROTECTIVE LAYER	BOTTOM OF GAS WELL	TOTAL WELL	
IPH-1	1354677.20	624065.35					ELEVATION	ELEVATION	ELEVATION	DEPTH	(SLOTTED PIPE)
PH-2	1354219.31	624012.58		GW-111	1354585.70	624845.51	324.3	90.6	105.6	218.6	203.6
PH-3	1355388.10	625427.37		GW-112 GW-113	1354543.42 1354520.60	624079.15 624248.16	134.5 180.8	82.3 83.6	97.3 98.6	37.3 82.3	22.3 67.3
PH-4 HL-1	1354882.58 1354548.01	626285.31 624046.99		GW-113 GW-114	1354562.06	624441.62	240.4	86.2	101.2	139.2	124.2
HL-1	1354548.01	624046.99		GW-115	1354491.65	624619.24	294.5	86.8	101.8	192.8	177.8
HL-3	1354231.65	624010.60		GW-116	1354385.70	624845.85	319.2	89.4	104.4	214.8	199.8
HL-4	1355350.73	625545.51		GW-117 GW-118	1354472.67 1354393.24	625045.71 624079.41	330.0	90.7 81.6	96.6	224.3 38.0	209.3
HL-5	1355305.49	625688.54		GW-118 GW-119	1354393.24	624248.50	180.8	84.5	99.5	81.3	66.3
HL-6	1355287.09	625732.72		GW-120	1354362.06	624445.89	241.7	85.8	100.8	140.9	125.9
HL-7 HL-8	1355219.35 1355131.89	625825.54 625945.36		GW-121	1354291.24	624619.58	294.5	88.7	103.7	190.8	175.8
HL-9	1355043.90	626065.33		GW-124	1354247.31	624079.66	134.5	84.1	99.1	35.4	20.4
HL-10	1354950.71	626192.38		GW-399	1354915.72	626180.29	145.6	83.5	98.5	47.1	32.1
.PH-1	1354259.97	624006.06		GW-400 GW-401	1354799.88 1354615.03	626141.27 626079.49	240.0	85.1 87.5	100.1	80.8 137.5	65.8 122.5
PH-2	1355287.09	625732.72		GW-402	1354460.54	625989.53	294.5	89.2	104.2	190.4	175.4
PREV	IOUS PHA	SE HEADI	ER	GW-403	1355032.32	626061.33	134.5	81.0	96.0	38.6	23.6
	E CONTRO			GW-404	1354885.60	625977.26	180.8	82.8	97.8	83.1	68.1
S ALONG				GW-405	1354709.71	625898.32	240.0	84.5	99.5	140.5	125.5
ER PIPES	NORTHING	EASTING	ELEVATION	GW-406 GW-407	1354561.10 1355103.69	625797.13 625924.78	294.5	86.6 83.6	98.6	192.9 35.9	20.9
-HPH-1	1355393.90	625409.03		GW-408	1355173.17	625791.84	134.5	83.6	98.6	36.0	21.0
-HPH-2 2-IHL-1	1355449.21 1355405.09	624082.42 625401.58		GW-409	1354977.46	625801.51	180.9	86.2	101.2	79.7	64.7
2-IHL-1 2-IHL-2	1355405.09	625401.58 625349.87		GW-410	1354792.74	625739.46	240.0	87.6	102.6	137.4	122.4
2-IHL-3	1354694.82	624062.60		GW-411	1354648.04 1354508 74	625630.78 625408 50	294.5 313.6	90.0	105.0	189.6 207.3	174.6
2-IHL-4	1354840.81	624039.85		GW-412 GW-413	1354508.74 1354380.03	625408.50 625222.96	313.6 324.8	91.3 91.7	106.3	207.3 218.1	192.3 203.1
2-IHL-5	1354986.62	624017.13		GW-413 GW-414	1354306.83	625917.31	324.8	91.0	106.0	215.2	200.2
2-IHL-6 2-IHL-7	1355152.50 1355298.25	624016.62 624044.44	<u> </u>	GW-415	1354311.26	625717.71	314.7	88.8	103.8	210.9	195.9
2-IHL-7 	1355298.25	624044.44 625338.95		GW-417	1354416.09	625585.74	308.4	91.0	106.0	202.4	187.4
-LPH-2	1355069.97	624004.14		GW-418	1354287.39	625400.21 625661.75	319.7	96.8 81 1	96.1	207.9 38.4	192.9
IPH = HIGH I	POINT ALONG HI			GW-424 GW-425	1355241.16 1355072.12	625661.75 625620.38	134.5	81.1 83.6	96.1 98.6	38.4 82.2	23.4 67.2
.PH = LOW P	OINT ALONG HE	ADER PIPE		GW-425 GW-426	1354901.82	625530.75	240.0	85.7	100.7	139.3	124.3
HL = INTERS 2 = PHASE 2	ECTION HEADEI	K PIPE		GW-427	1354747.27	625440.92	294.5	87.5	102.5	192.0	177.0
				GW-428	1354601.51	625231.32	318.7	88.7	103.7	215.1	200.1
				GW-429 GW-430	1355310.64 1355163.50	625528.81 625445.55	134.5	82.8	97.8 99.4	36.8 81.4	21.8 66.4
			\sum	GW-430 GW-431	1355163.50 1354989.37	625445.55 625363.24	180.8 240.0	84.4 86.1	99.4	81.4 138.9	66.4 123.9
		7/18/19	24 /1	GW-432	1354839.37	625264.70	294.5	88.0	103.0	191.5	176.5
				GW-433	1354694.52	625054.26	324.0	92.2	107.2	216.8	201.8
						PRE	VIOUS PHAS	E GAS EXTRACTIO	N WELLS		
	,`````),		GAS WELL	NORTHING	EASTING			BOTTOM OF GAS WELL		SCREEN LENGTH
	// <i>,</i> / _/			GAS WELL	NORTHING	EASTING	FINAL COVER ELEVATION	PROTECTIVE LAYER ELEVATION	ELEVATION	WELL DEPTH	(SLOTTED PIPE)
$\langle $				GW-31	1356091.81	624683.01	281.3	100.8	115.8	165.5	150.5
				GW-37	1355891.59	624683.36	291.3	101.0	116.0	175.3	160.3
			×	GW-71 GW-72	1355603.72 1355455.45	624905.14 624778.32	241.6 285.3	84.8 103.7	99.8 118.7	141.7 166.6	126.7 151.6
				GW-72 GW-73	1355455.45 1355669.04	624778.32 624730.24	285.3 294.5	103.7	118.7	166.6 177.9	151.6 162.9
IL-10				GW-75	1355407.44	624944.22	241.6	87.1	102.1	139.4	124.4
<u> </u>	18" BLIND FL	ANGE	· · · ·	GW-76	1355238.42	624829.07	294.5	104.2	119.2	175.3	160.3
	/HPH-4			GW-77	1355423.80	625151.00	180.9	83.4	98.4	82.5	67.5
				GW-78 GW-79	1355231.61 1355074.09	625037.69 624941.79	241.7 294.5	85.7 87.6	100.7	141.0 191.9	126.0 176.9
>				GW-79 GW-80	1355074.09 1354940.06	624941.79 624812.75	294.5 329.8	87.6 88.3	102.6	191.9 226.5	176.9 211.5
			$\langle \rangle \rangle$	GW-81	1355391.09	625388.23	134.5	85.4	100.4	34.2	19.2
$\langle \rangle$				GW-82	1355266.32	625273.96	180.9	86.4	101.4	79.5	64.5
				GW-83	1355090.43	625178.54	241.6	88.5	103.5	138.1	123.1
$\langle \cdot \rangle$				GW-84 GW-87	1354939.60 1355759.20	625090.30 624453.91	294.6 245.1	90.2 87.9	105.2	189.4 142.3	174.4
	$\langle \rangle$			GW-87 GW-90	1355759.20	624453.91 624455.51	245.1	90.5	102.9	142.3	127.3
	$\langle \cdot \rangle$			GW-91	1355564.43	624617.41	294.5	92.9	107.9	186.6	171.6
				GW-93	1355293.20	624077.87	134.5	88.4	103.4	31.1	16.1
		~~~~		GW-94	1355306.32	624246.82	180.8	90.8	105.8	75.1	60.1
				GW-95 GW-96	1355362.06 1355326.21	624444.19 624617.82	241.7 294.5	93.0 96.1	108.0	133.7 183.5	118.7 168.5
				GW-96 GW-97	1355326.21 1355144.79	624617.82 624064.55	130.0	96.1 83.7	98.7	183.5 31.3	168.5 16.3
				GW-98	1355120.63	624279.13	191.5	85.4	100.4	91.1	76.1
				GW-99	1355162.06	624444.53	241.7	87.8	102.8	138.9	123.9
				GW-100	1355106.20	624602.56	289.3	88.4	103.4	185.9	170.9
				GW-101 GW-102	1354992.32 1354962.06	624050.17 624444.87	125.1 241.7	80.9 84.3	95.9 99.3	29.2 142.4	14.2 127.4
				GW-102 GW-103	1354894.59	624628.54	297.9	87.3	102.3	195.6	127.4
		711		GW-104	1354778.55	624900.09	328.9	92.0	107.0	221.9	206.9
				GW-105	1354847.64	624078.63	134.5	82.6	97.6	37.0	22.0
	~~! i			GW-106	1354922.13	624247.48	180.8	83.0	98.0	82.9	67.9
				GW-107 GW-108	1354697.36 1354721.29	624078.89 624247.82	134.5 180.8	85.2 86.5	100.2	34.4 79.4	19.4 64.4
		11:11	11 1/	GW-108	1354721.29	624445.21	241.7	87.7	101.5	139.0	124.0
	$\left( \left( 1\right) \right) $			GW-110	1354691.92	624618.90	294.5	91.6	106.6	187.9	172.9
				<u>A</u>							
	+++	/ / /		REV DATE	DES		REVIS	SION DESCRIPTION		CA	ADD CHK RVW
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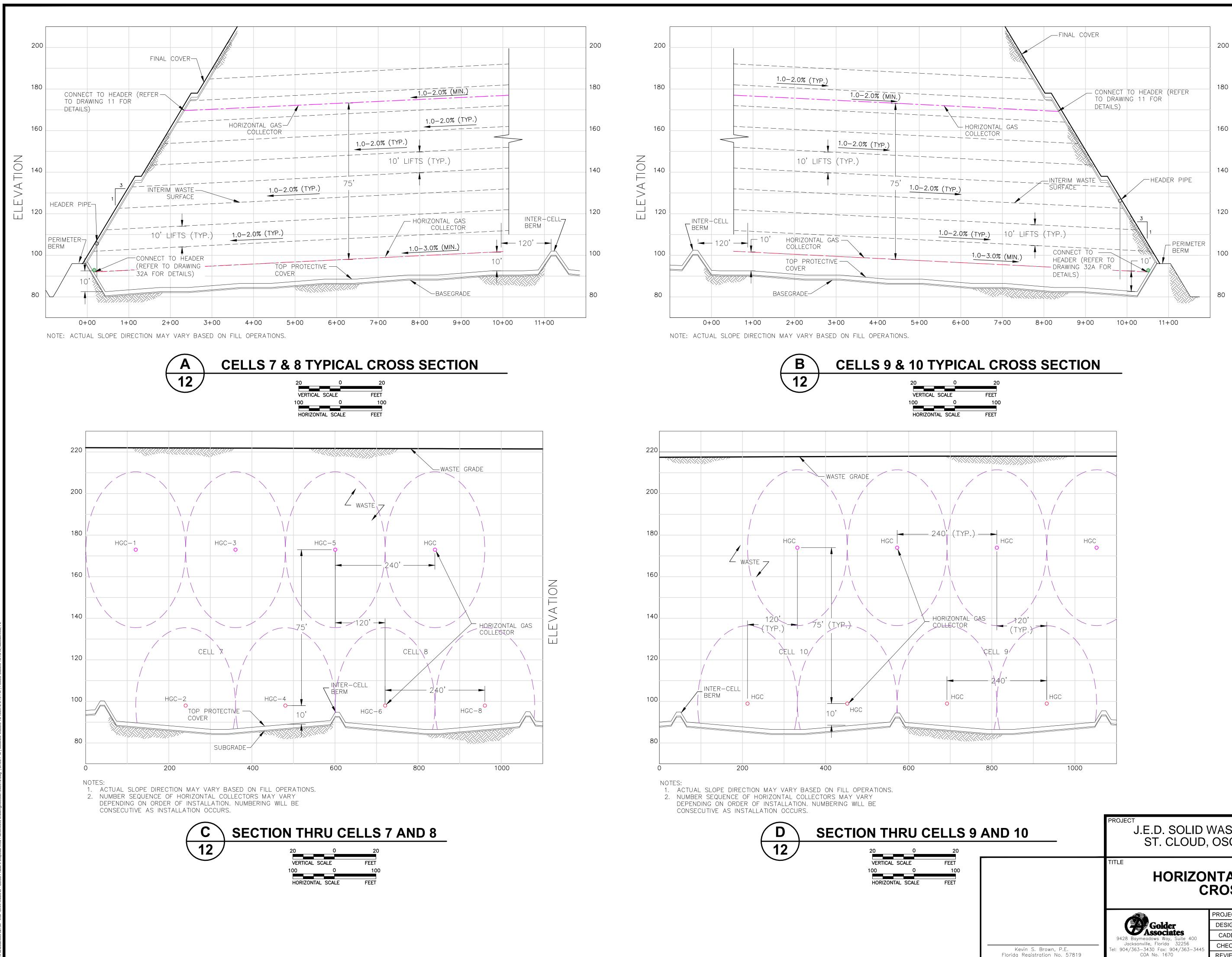






1. EXACT CONSTRUCTION DETAILS MAY VARY ACCORDING TO FIELD CONDITIONS AND MANUFACTURER SPECIFIC DETAILS WHILE KEEPING THE GENERAL CONCEPTS OF THE

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Kevin S. Brown, P.E.	Tel: 904/363-3430 Fax: 904/363-3445	ONEON				