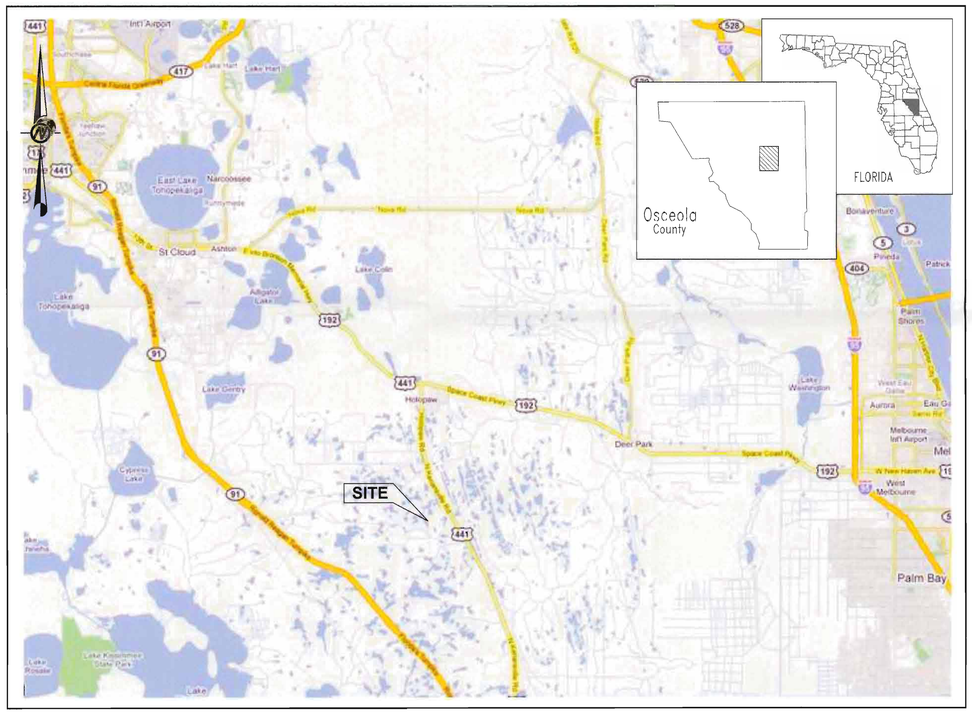
J.E.D. SOLID WASTE MANAGEMENT FACILITY
HORIZONTAL GAS COLLECTOR AND GCCS/LEACHATE SUMP CONNECTIONS
INTERMEDIATE PERMIT MODIFICATION

ST. CLOUD, OSCEOLA COUNTY, FLORIDA



SITE LOCATION MAP

INDEX TO DRAWINGS

Prepared for:

WSI Waste Services, Inc.

OMNI WASTE OF OSCEOLA COUNTY, LLC

1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

Prepared by:

Golder Associates
Jacksonville, Florida

COA No. 1670

July 2010

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

TITLE SHEET/LIST OF DRAWINGS

DRAWING 1

KEVIN C. BROWN LICENSE NO. 57019 STATE OF FLORIDA PROFESSIONAL ENGINEER

PROJECT No083-82734 FILE No.083827340001 CADD BCL DATE 07/15/10

Drawing file: 083827340001.dwg Jul 15, 2010 - 4:40pm

NORTH

0 300' 600'
SCALE IN FEET

LEGEND

120	TOP OF FINAL COVER (FEET, NGVD)
	MAIN HEADER LINE
	HDPE SOLID LATERAL PIPE
GEW-186	PROPOSED VERTICAL GAS EXTRACTION WELL
CT	CONDENSATE TRAP AT LOW POINT
	CONTROL VALVE/MONITORING PORT
	FLARE STATION
GW-1	GAS MONITORING PROBE
	HORIZONTAL GAS COLLECTOR (1st LEVEL)
	HORIZONTAL GAS COLLECTOR (2nd LEVEL)
	SIDESLOPE GAS COLLECTOR
	MAIN GAS HEADER
	LEACHATE COLLECTION SUMP

NOTES:

1. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE THE LAYOUT OF HORIZONTAL GAS COLLECTOR WELLS IN PHASE 2 AND 3, CELLS 7, 8, 9, & 10, IN RELATIONSHIP TO THE GAS COLLECTION AND CONTROL SYSTEM SHOWN ON PERMIT DRAWING 29.
2. AS WASTE FILLING OCCURS IN CELLS 7, 8, 9, & 10, THE HORIZONTAL GAS COLLECTORS WILL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON DRAWINGS 29B, 32A, AND 32B.
3. THE EXISTING VERTICAL WELL NETWORK AND MAIN GAS HEADER ARE DESIGNED BY OTHERS AND WILL BE INSTALLED ACCORDINGLY.

300 0 300 600
SCALE FEET

Golder Associates
Jacksonville, Florida
COA No. 1670

Kevin S. Brown, P.E.
P.E. License No. 57819

PROJECT
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

TITLE
GAS MANAGEMENT PLAN
HORIZONTAL GAS COLLECTORS

PROJECT No.		083-82734
FILE No.		08382734D029A
REV. 0	SCALE	AS SHOWN
DESIGN	DEG	03/23/10
CADD	BCL	07/15/10
CHECK	DEG	07/19/10
REVIEW	KSB	07/19/10

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- 80 EXISTING GROUND ELEVATION (FEET) (SEE NOTE 2)
- 80 SUBBASE ELEVATION (FEET)
- EXISTING FENCE
- WB1 WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
- WB2 WETLAND BOUNDARY PER BRA FLAGGING AND SURVEY BY JOHNSTON SURVEYING INC. (SEE NOTE 5)
- FP 100–YEAR FLOODPLAIN (SEE NOTE 6)
- STORMWATER MANAGEMENT BASINS
- BORROW AREA BOUNDARY
- MAIN HEADER LINE
- HORIZONTAL GAS COLLECTOR (1st LEVEL)
- HORIZONTAL GAS COLLECTOR (2nd LEVEL)
- SIDESLOPE GAS COLLECTOR
- SUMP LEACHATE COLLECTION SUMP

NOTES

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 OF 1929 (NGVD29) (FEET).

3. HORIZONTAL GAS COLLECTOR'S FIRST 120 FEET TO BE SOLID PIPE. SEE SHEET 32A FOR DETAILS

REFERENCES

1. THE PROPERTY BOUNDARY BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.

2. THE TOPOGRAPHIC INFORMATION SHOWN IN SECTION 11 AND THE NORTH HALF OF SECTION 14 WAS PROVIDED BY AERIAL CARTOGRAPHICS OF AMERICA, ORLANDO, FLORIDA BASED ON AN AERIAL PHOTOGRAPH FLOWN ON NOVEMBER 7, 2001. IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, TOPOGRAPHIC INFORMATION WAS ADDED FROM USGS QUAD MAP FOR HOLOPAW SE, FLORIDA.

3. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED MAY 15, 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC., TAMPA, FLORIDA (BRA), AND JDS PERMIT, COMBINED WITH A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OF THE SITE OUTSIDE THE LIMITS OF CONSTRUCTION.

4. THE 100–YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002.

LANDFILL - RELATED NOTES

1. PHASE 1 AND 2 (CELLS 1 THROUGH 6) HAVE BEEN CONSTRUCTED AND WASTE DISPOSAL ACTIVITIES ARE ACTIVE IN THESE CELLS.

2. PHASE 2 CELL 7 IS CURRENTLY UNDER CONSTRUCTION.

3. FUTURE CELLS (CELLS 7 THROUGH 21) WILL BE CONSTRUCTED IN ACCORDANCE WITH THE VERTICAL EXPANSION PERMIT DRAWINGS DATED SEPTEMBER 2007.

200 0 200 400
SCALE FEET

Golder Associates
Jacksonville, Florida
COA No. 1670

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

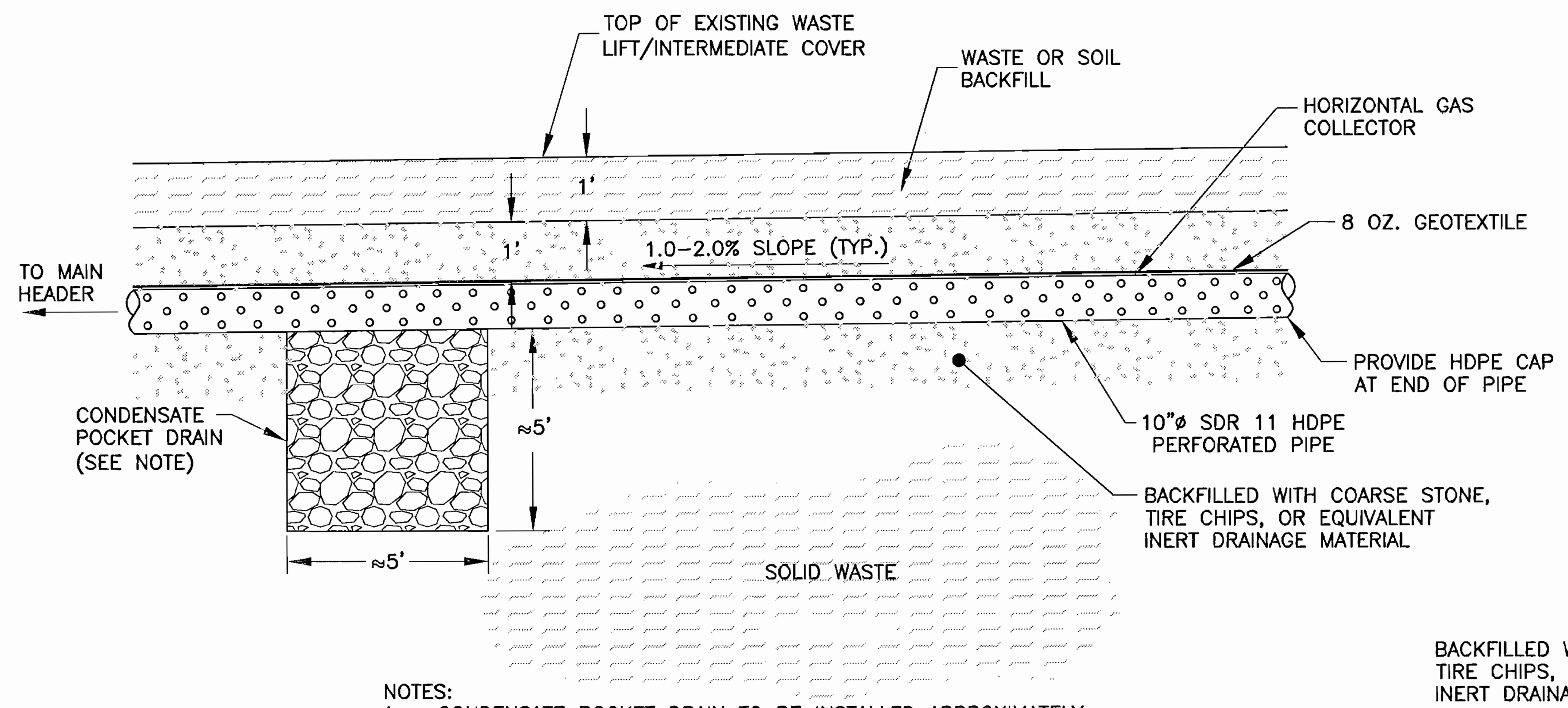
P.E. License No. 37649

PROJECT
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

TITLE
HORIZONTAL GAS COLLECTORS PLAN LAYOUT (CELL 7 TO CELL 10)

PROJECT No.	083–82734	
FILE No.	08382734D029B	
REV. 0	SCALE	AS SHOWN
DESIGN	DEG	03/23/10
CADD	BCL	07/19/10
CHECK	DEG	07/19/10
REVIEW	KSB	07/19/10

DRAWING 29B OF 40

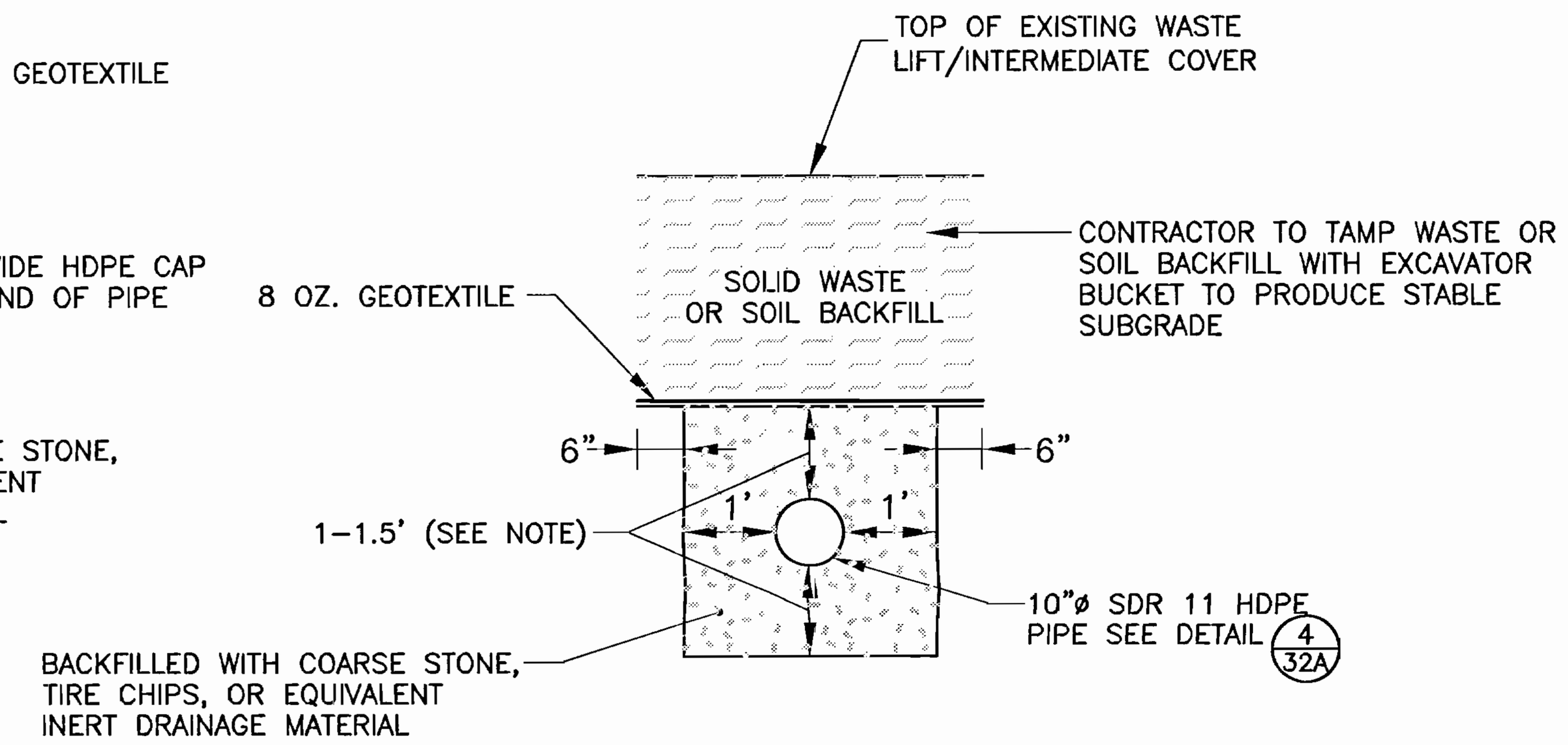


NOTES:
1. CONDENSATE POCKET DRAIN TO BE INSTALLED APPROXIMATELY EVERY 150 LINEAR FEET ALONG HORIZONTAL GAS COLLECTOR. DRAINS TO BE APPROXIMATELY 5'x5'x5' AND BACKFILLED WITH COARSE STONE, TIRE CHIPS, OR EQUIVALENT INERT DRAINAGE MATERIAL.

2. TO ALLOW FOR INCREASED SETTLEMENT AND COMPRESSIBILITY WHEN USING TIRE CHIPS AS BACKFILL MEDIA, INCREASE DEPTHS TO 1.5' ABOVE AND BELOW PIPE. DIMENSIONS OF TRENCH ARE MINIMUM. OWNER MAY INCREASE SIZE OF TRENCH BASED ON MATERIAL USED.

1/32A TYPICAL PROFILE OF HORIZONTAL GAS COLLECTOR

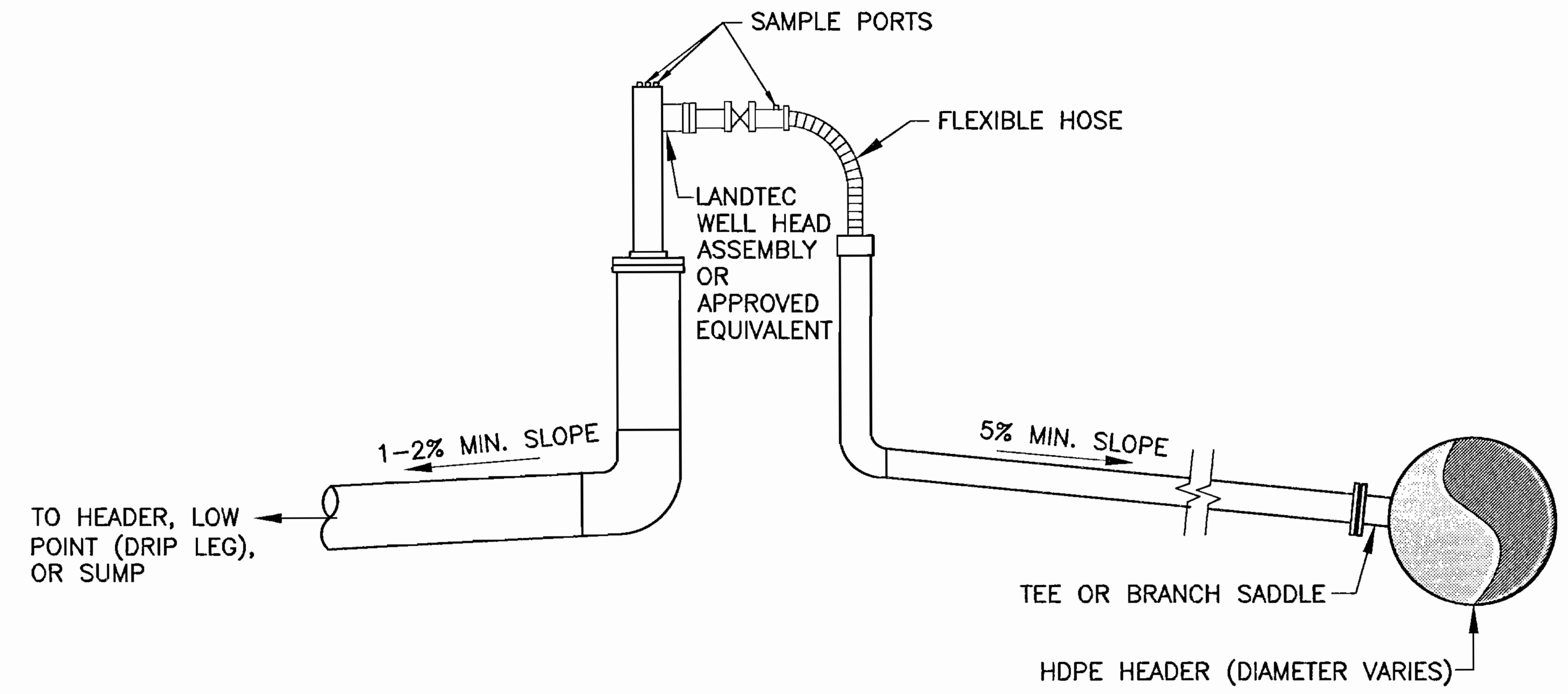
NTS



NOTE: TO ALLOW FOR INCREASED SETTLEMENT AND COMPRESSIBILITY WHEN USING TIRE CHIPS AS BACKFILL MEDIA, INCREASE DEPTHS TO 1.5' ABOVE AND BELOW PIPE. DIMENSIONS OF TRENCH ARE MINIMUM. OWNER MAY INCREASE SIZE OF TRENCH BASED ON MATERIAL USED.

2/32A TYPICAL SECTION OF 10"Ø HDPE HORIZONTAL GAS COLLECTOR

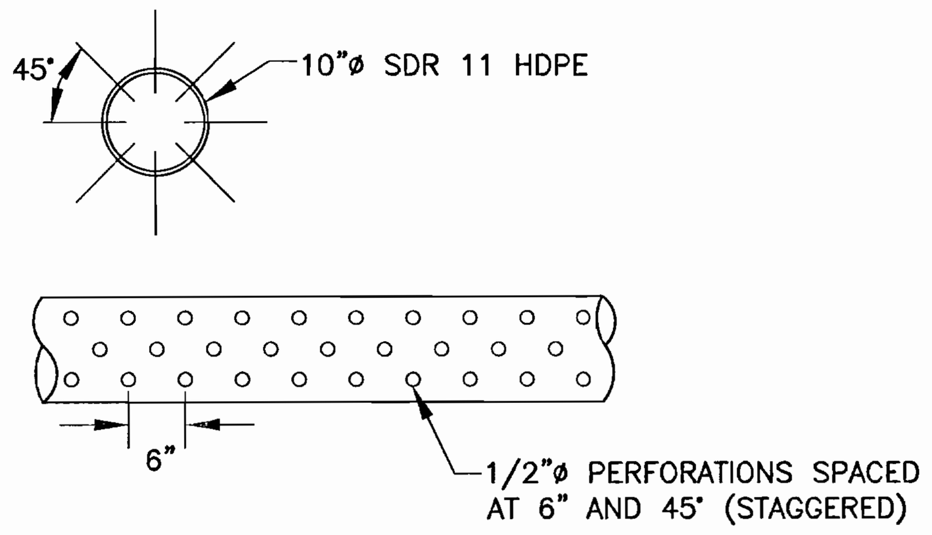
NTS



NOTE: ACTUAL CONNECTION MAY VARY BASED UPON FILL OPERATIONS AND LOCATION OF CONNECTION.

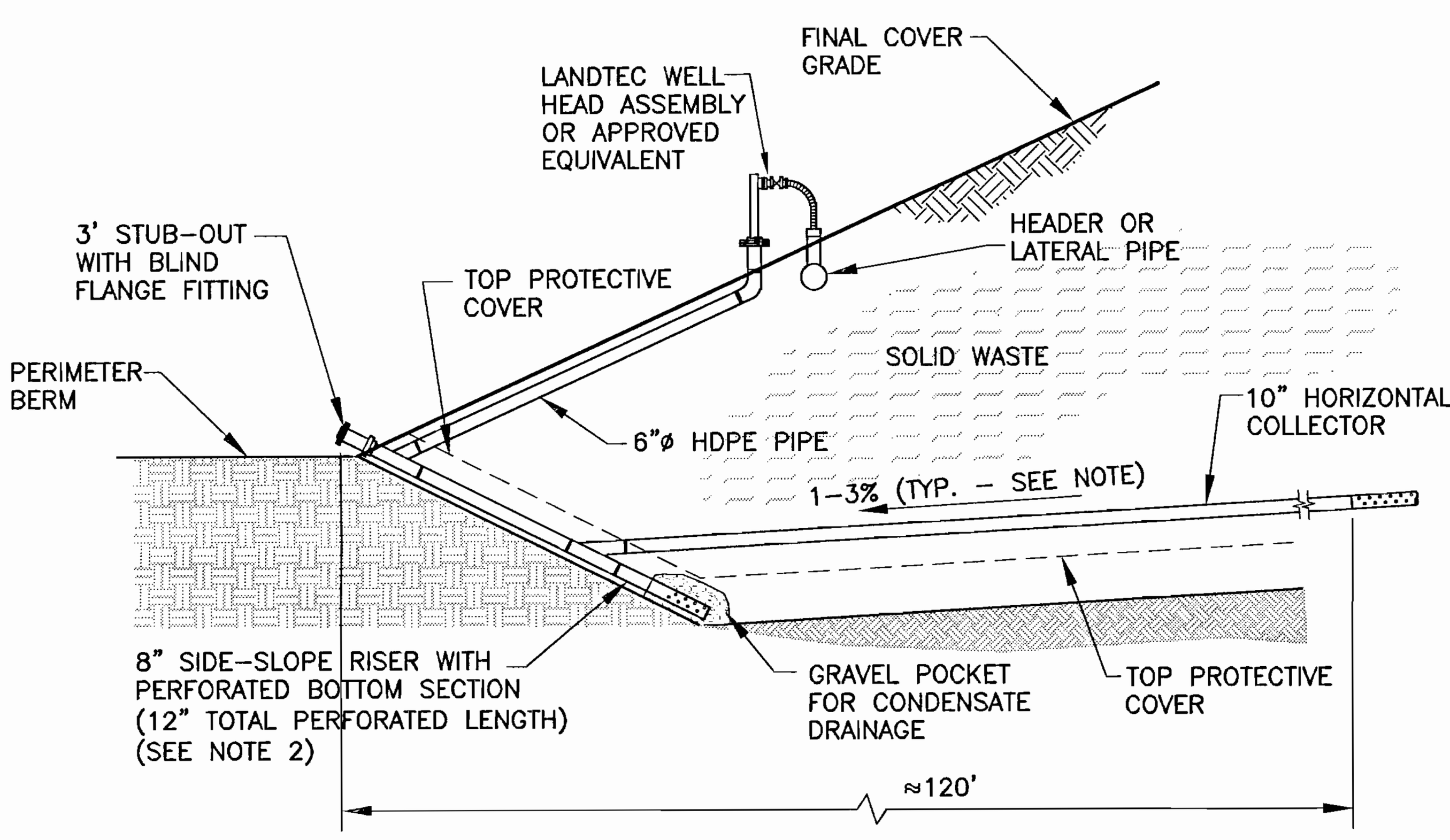
3/32A STUB-OUT & CONNECTION DETAIL FOR 10"Ø HDPE HORIZONTAL GAS COLLECTOR

NTS



4/32A HDPE PERFORATED PIPE DETAIL

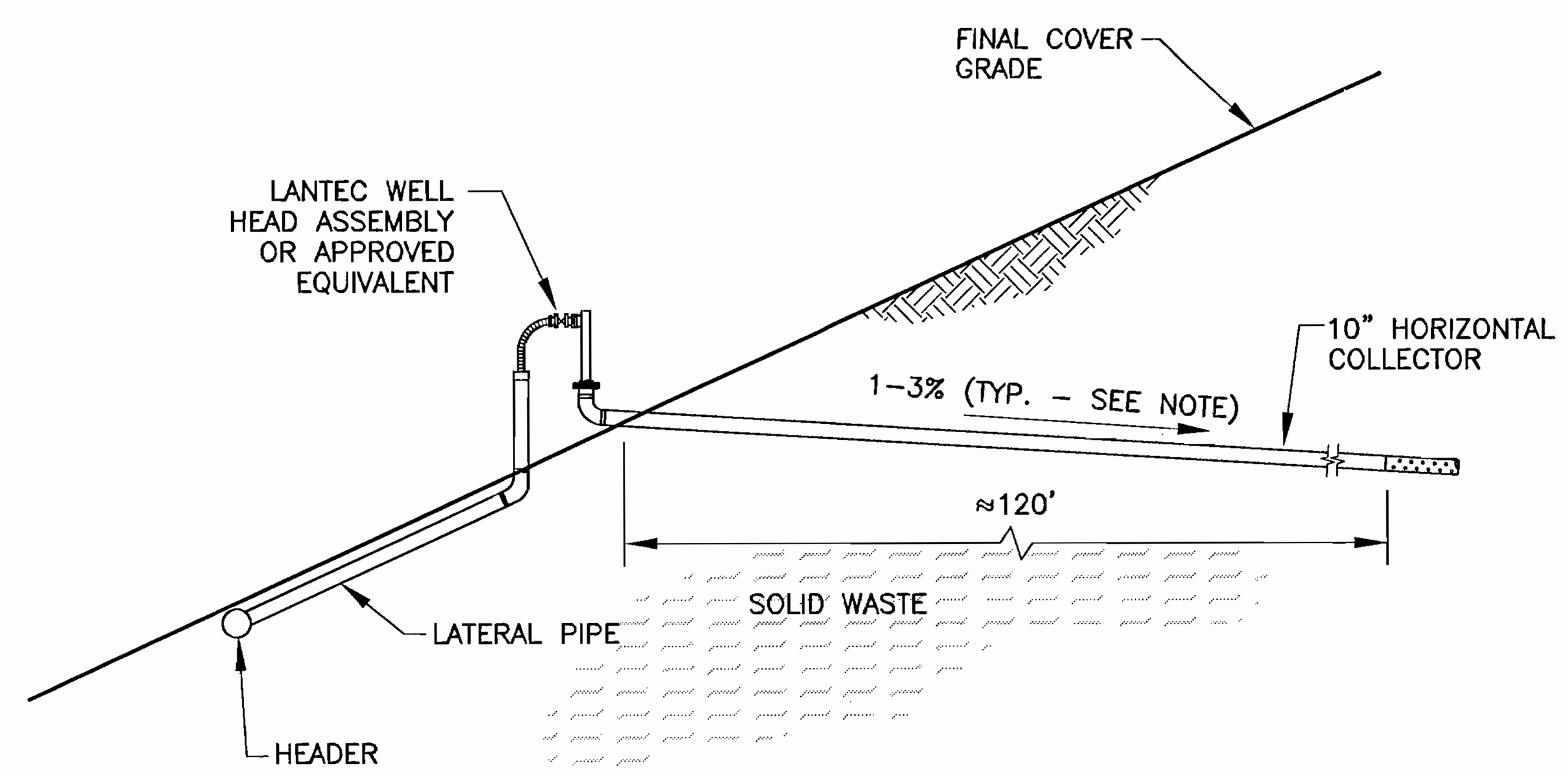
NTS



NOTES:
1. SLOPE DIRECTION AND GRADE OF HORIZONTAL GAS COLLECTOR WILL BE BASED ON SLOPE DIRECTION AND GRADE OF FILL OPERATIONS.
2. 8" SIDESLOPE RISER TO BE INSTALLED DIRECTLY ON UNDERLYING BASE OF GEOCOMPOSITE LINER DURING CELL CONSTRUCTION. PLACE ADDITIONAL STRIP OF GEOCOMPOSITE BENEATH PIPE FOR ADDITIONAL CUSHION.

5/32A CONNECTION DETAIL HORIZONTAL GAS COLLECTOR 1ST LEVEL

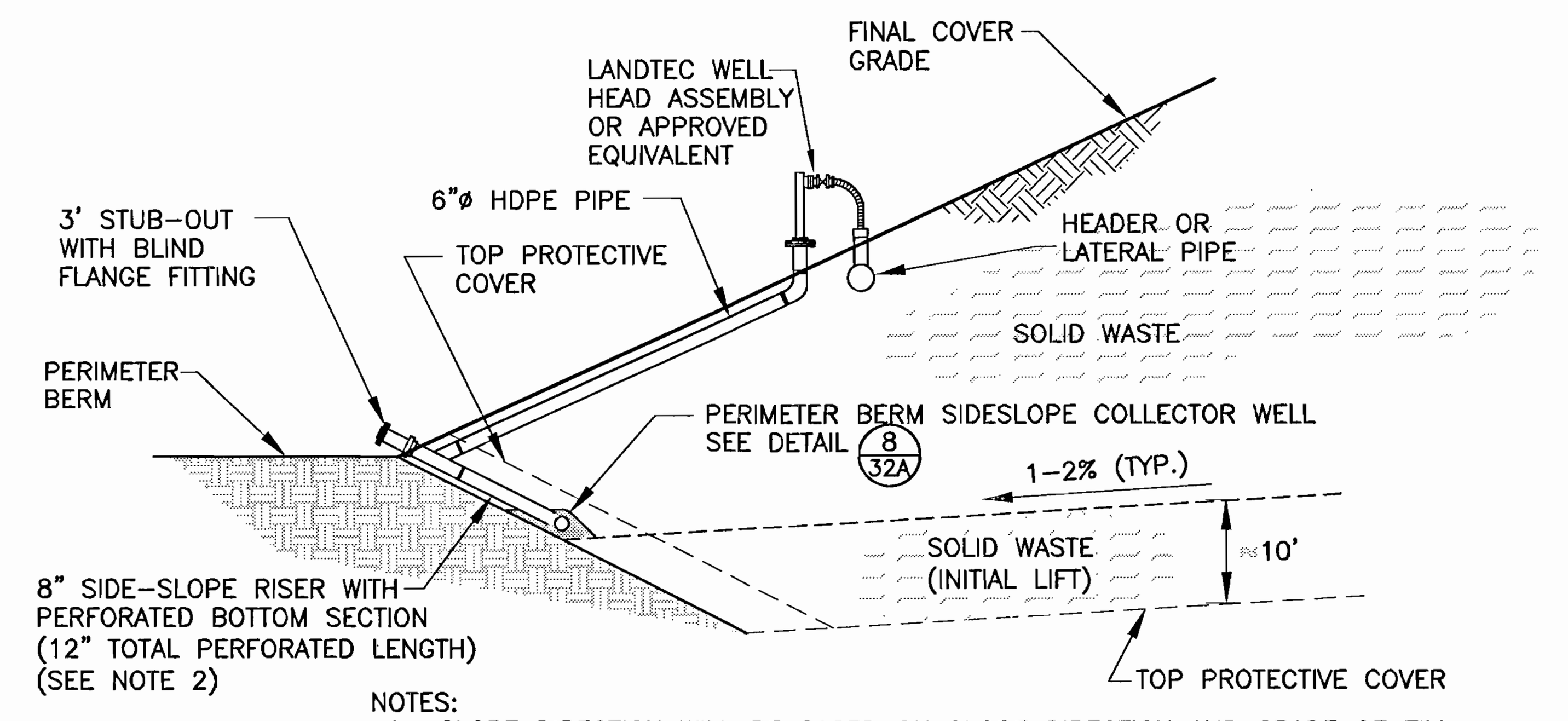
NTS



NOTE: SLOPE DIRECTION AND GRADE OF HORIZONTAL GAS COLLECTOR WILL BE BASED ON SLOPE DIRECTION AND GRADE OF FILL OPERATIONS.

6/32A CONNECTION DETAIL HORIZONTAL GAS COLLECTOR 2ND LEVEL

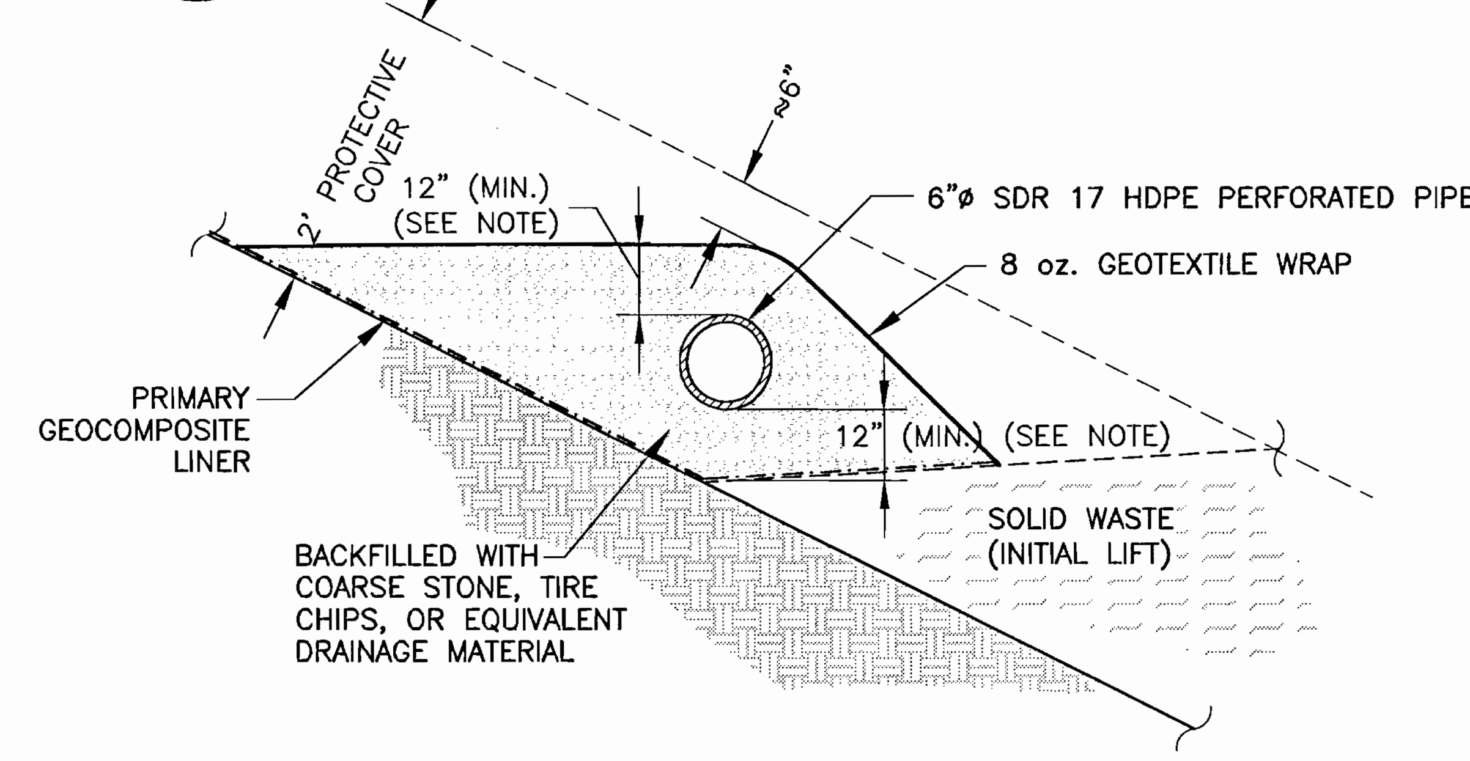
NTS



NOTES:
1. SLOPE DIRECTION WILL BE BASED ON SLOPE DIRECTION AND GRADE OF FILL OPERATIONS.
2. 8" SIDESLOPE RISER TO BE INSTALLED DIRECTLY ON UNDERLYING BASE OF GEOCOMPOSITE LINER DURING CELL CONSTRUCTION. PLACE ADDITIONAL STRIP OF GEOCOMPOSITE BENEATH PIPE FOR ADDITIONAL CUSHION.

7/32A CONNECTION DETAIL PERIMETER BERM SIDESLOPE GAS COLLECTOR

NTS



NOTE: TO ALLOW FOR INCREASED SETTLEMENT AND COMPRESSIBILITY WHEN USING TIRE CHIPS AS BACKFILL MEDIA, INCREASE DEPTHS TO 1.5' ABOVE AND BELOW PIPE.

8/32A TYPICAL SECTION OF 6"Ø HDPE PERIMETER BERM SIDESLOPE GAS COLLECTOR

NTS

Golder Associates
Jacksonville, Florida

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

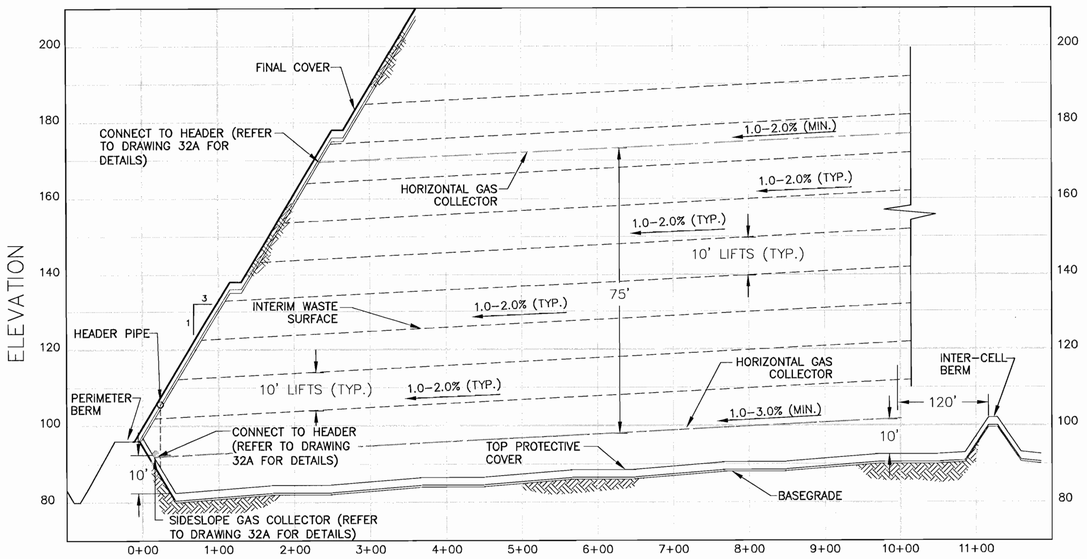
Kevin Brown, P.E.
P.E. License No.

PROJECT
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

TITLE
HORIZONTAL GAS COLLECTORS DETAILS

PROJECT No.		083-82734
FILE No.		08382734D032A
REV. 0	SCALE	AS SHOWN
DESIGN	DEG	03/23/10
CADD	BCL	07/19/10
CHECK	DEG	07/19/10
REVIEW	KSB	07/19/10

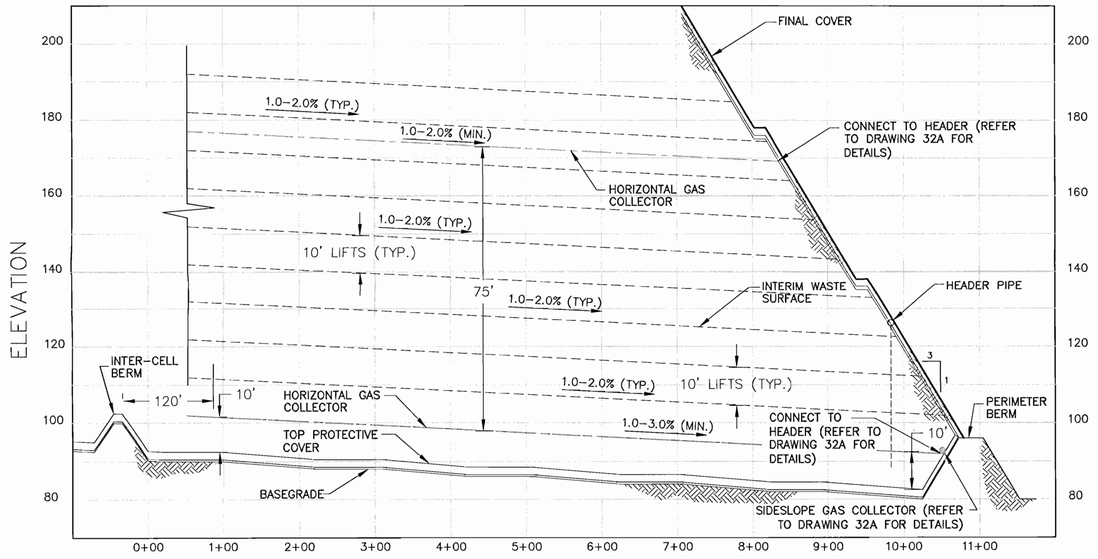
DRAWING 32A OF 40



NOTE: ACTUAL SLOPE DIRECTION MAY VARY BASED ON FILL OPERATIONS.

A 32B CELLS 7 & 8 TYPICAL CROSS SECTION

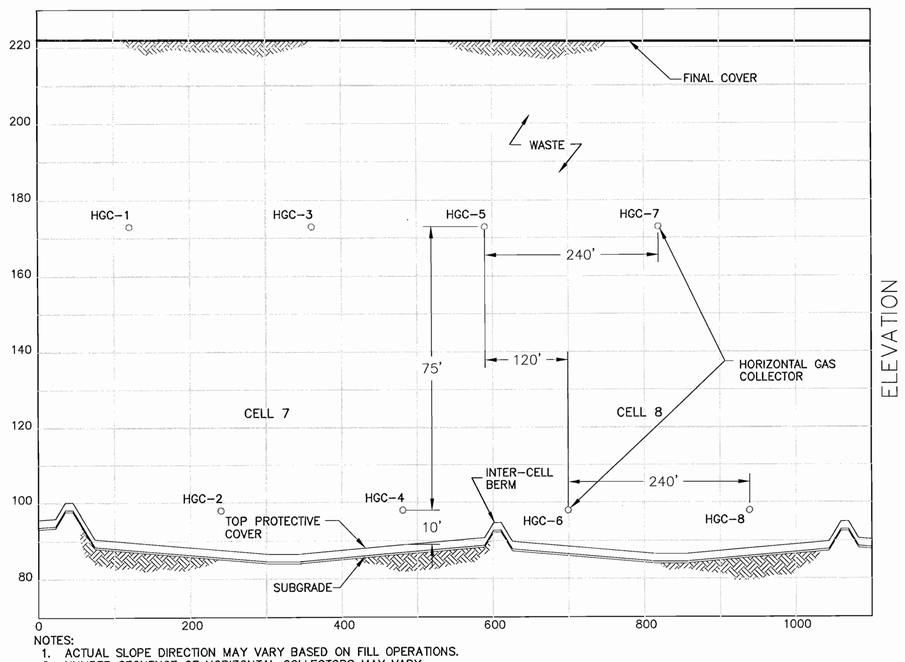
20 0 20
VERTICAL SCALE FEET
100 0 100
HORIZONTAL SCALE FEET



NOTE: ACTUAL SLOPE DIRECTION MAY VARY BASED ON FILL OPERATIONS.

B 32B CELLS 9 & 10 TYPICAL CROSS SECTION

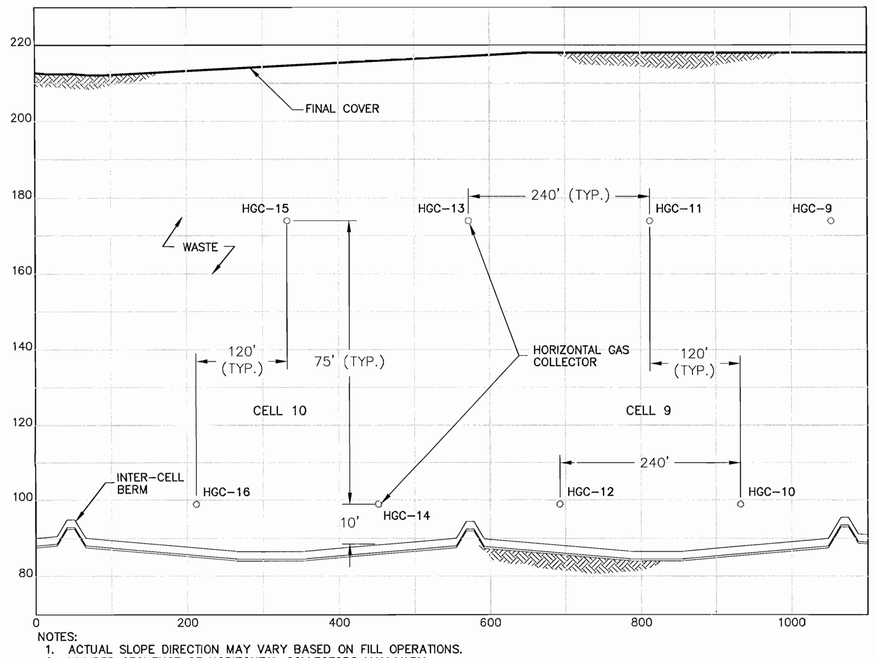
20 0 20
VERTICAL SCALE FEET
100 0 100
HORIZONTAL SCALE FEET



NOTES:
1. ACTUAL SLOPE DIRECTION MAY VARY BASED ON FILL OPERATIONS.
2. NUMBER SEQUENCE OF HORIZONTAL COLLECTORS MAY VARY DEPENDING ON ORDER OF INSTALLATION. NUMBERING WILL BE CONSECUTIVE AS INSTALLATION OCCURS.

C 32B SECTION THRU CELLS 7 AND 8

20 0 20
VERTICAL SCALE FEET
100 0 100
HORIZONTAL SCALE FEET



NOTES:
1. ACTUAL SLOPE DIRECTION MAY VARY BASED ON FILL OPERATIONS.
2. NUMBER SEQUENCE OF HORIZONTAL COLLECTORS MAY VARY DEPENDING ON ORDER OF INSTALLATION. NUMBERING WILL BE CONSECUTIVE AS INSTALLATION OCCURS.

D 32B SECTION THRU CELLS 9 AND 10

20 0 20
VERTICAL SCALE FEET
100 0 100
HORIZONTAL SCALE FEET

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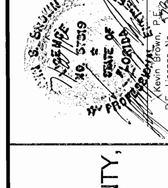
Jacksonville, Florida



Kevin Brown, P.E. License No. 57339

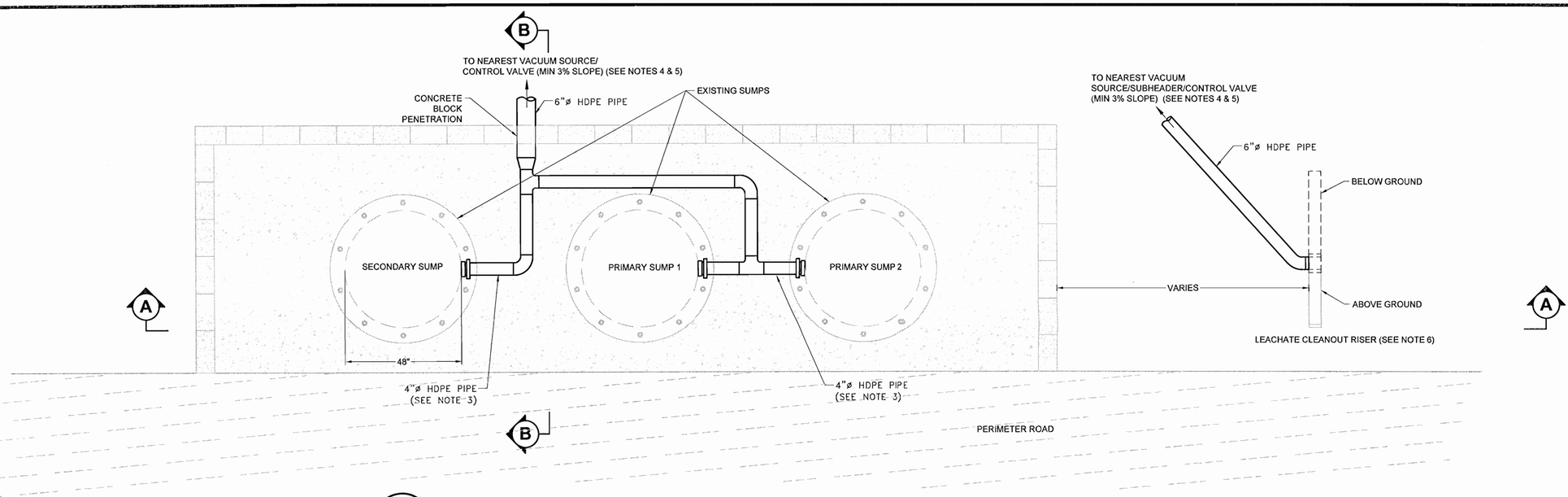
PROJECT
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

TITLE
HORIZONTAL GAS COLLECTORS CROSS SECTIONS

PROJECT No.		083-82734
FILE No.		08382734D032B
REV. 0	SCALE	AS SHOWN
DESIGN	DEG	03/23/10
CADD	BCL	07/19/10
CHECK	DEG	07/19/10
REVIEW	KSB	07/19/10

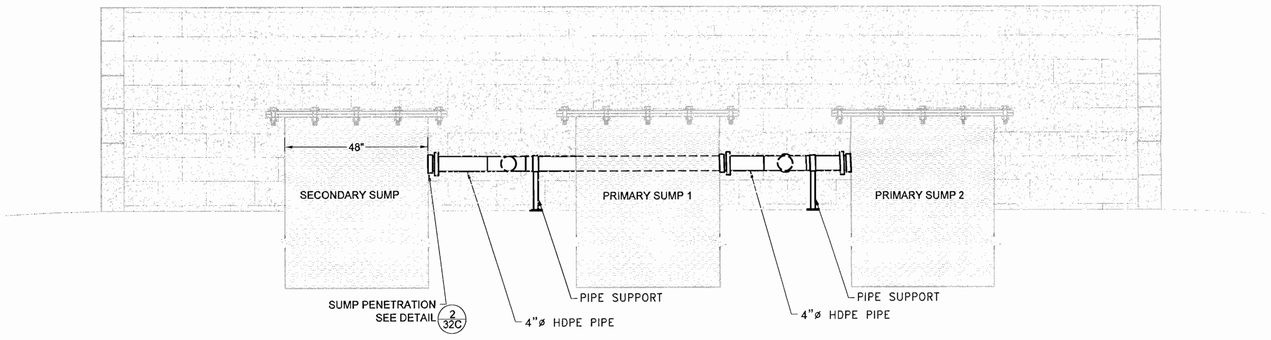
DRAWING 32B OF 40

Drawing File: 08382734D032B.dwg Jul 19, 2010 - 4:07pm



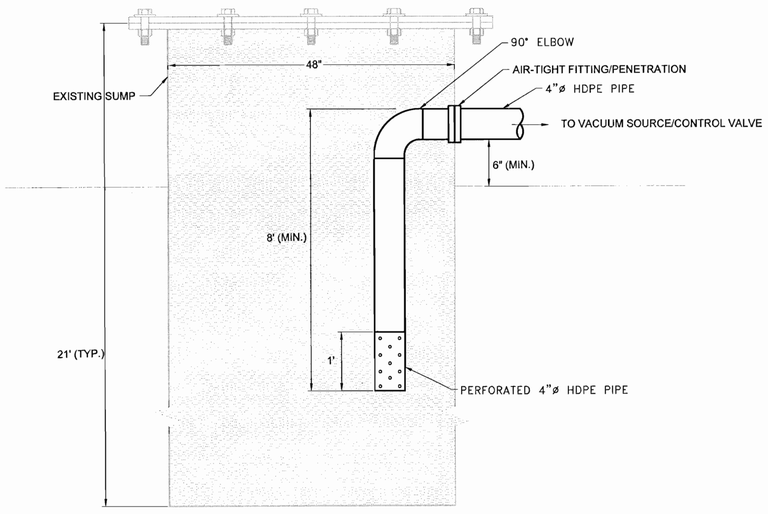
1/32C LFG TYPICAL SUMP CONNECTION

NTS



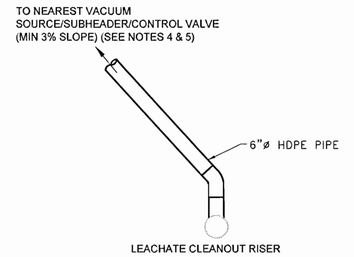
SECTION A-A

NTS



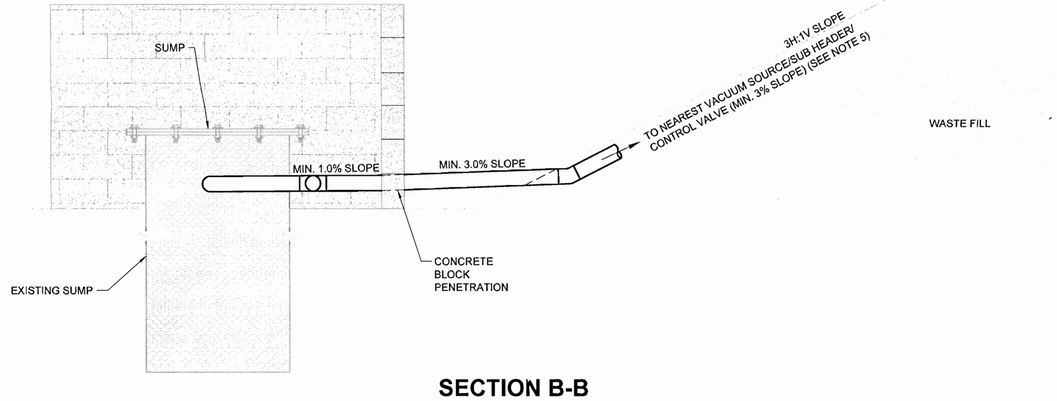
2/32C SUMP DETAIL

NTS



NOTES

1. LFG PIPES WITHIN SUMP AREA TO BE SLOPED MINIMUM 1.0% TOWARDS SUMPS.
2. LEACHATE PIPE CONTROLS, METERS, VALVES, AND PIPING AT SUMP PADS NOT SHOWN FOR CLARITY.
3. ORIENTATION OF LFG PIPING AT SUMP PAD MAY VARY DEPENDING ON ORIENTATION OF LEACHATE PIPE, METERS, AND VALVES AT EACH SUMP LOCATION.
4. LATERAL PIPES LOCATED IN AREAS WITH FINAL COVER SHALL BE BURIED NO MORE THAN 12 INCHES BELOW TOP OF FINAL COVER VEGETATION LAYER. LATERAL PIPES LOCATED ON AREAS WITH NO FINAL COVER SHALL BE BURIED A MINIMUM OF 2 FEET BELOW EXISTING WASTE/INTERMEDIATE COVER GRADE.
5. PIPING FROM SUMPS AND LEACHATE CLEANOUT RISER WILL BE CONNECTED TO NEAREST UPSLOPE SUB HEADER OR LATERAL RISER. A LANDTEC CONTROL VALVE WILL BE INSTALLED AT THE CONNECTION LOCATION FOR MONITORING PURPOSES.
6. CONNECTION TO A LEACHATE CLEANOUT RISER WILL ONLY BE MADE IF THE RISER IS LOCATED ADJACENT TO THE SUMP PAD.



SECTION B-B

NTS

Golder Associates
Jacksonville, Florida

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
J.E.D. SOLID WASTE
MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

TITLE
LFG TYPICAL SUMP
CONNECTION DETAILS

PROJECT No.		083-82734
FILE No.		08382734D032C
REV. 0	SCALE	AS SHOWN
DESIGN	DEG	03/23/10
CADD	BCL	07/19/10
CHECK	DEG	07/19/10
REVIEW	KSB	07/19/10

DRAWING
32C OF 40

Drawing File: 08382734D032C