

## SCS ENGINEERS, PC

Permit No.	Date	Document ID No.
14-01	October 15, 2008	5981

October 14, 2008

Project No. 02207016.02

Larry Frost

North Carolina Dept. of Environment and Natural Resources  
Asheville Regional Office / Division of Solid Waste  
2090 U.S. Highway 70  
Swannanoa, NC 28778

RECEIVED

**October 15, 2008**

Solid Waste Section  
Asheville Regional Office

Subject: Mount Herman Landfill Greenhouse Gas Project

Dear Mr. Frost:

SCS Engineers, PC (SCS) is pleased to submit this letter notifying the NCDENR Division of Solid Waste (DSW) of the potential cap disturbances related to the greenhouse gas (GHG) project at the Mount Herman Landfill (Landfill) in Hudson, North Carolina. SCS has attached drawings regarding landfill gas (LFG) collection and control system expansion for the Landfill. Currently, the Landfill has four (4) vertical LFG wells in place and SCS is planning to add nine (9) additional vertical LFG wells into the Landfill. This expansion will require drilling additional wells and shallow trenching for lateral and header piping. Also, please find attached drawings that provide detail on system elements such as well, lateral, and road crossing construction.

A 36-inch hole will be bored into the landfill for each of the nine additional LFG wells. All refuse removed during well drilling will be moved to a roll off container onsite and then properly disposed of at the Foothills landfill in Caldwell County. A 6-inch LFG well will be lowered in to the boring to collect gas. The remaining void around the pipe will be backfilled with washed 57-stone. Approximately 16 feet below the surface, soils will be brought in to fill the remaining void to the current grade and prevent air intrusion into the landfill. Within this soil backfill, a 2-foot bentonite plug will also be constructed. The soils will be compacted after placement in the void and the cap returned to the as-found condition.

The trenching will be approximately 24-inches deep and completed with either a 16-inch or 24-inch wide bucket. Assuming that the soil cap is 24-inches thick no waste will be excavated from the trench. However if waste is encountered and excavated it will be stored in a roll off container and properly disposed of at the Foothills landfill in Caldwell County. The pipe will be placed in the center of the trench and soils from the excavation will be placed in the trench. Additional soils will be brought in to fill any voids where waste was encountered and removed. The replaced soils will be compacted using on-site machinery and the cap returned to the as-found condition. All disturbed areas will be reseeded to prevent erosion.

SCS will design and construct the gas collection system to allow any condensate that drops out of the landfill gas to drain back into the landfill.



Mr. Larry Frost  
October 2, 2008  
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SCS very much appreciates the opportunity to work with the DSW on this project and requests a letter of approval from the DSW to complete the proposed work. If you have any questions or comments please contact Chad Leatherwood at 828-285-8951.

Sincerely,



Chad Leatherwood, P.E.  
Project Manager  
**SCS ENGINEERS, PC**

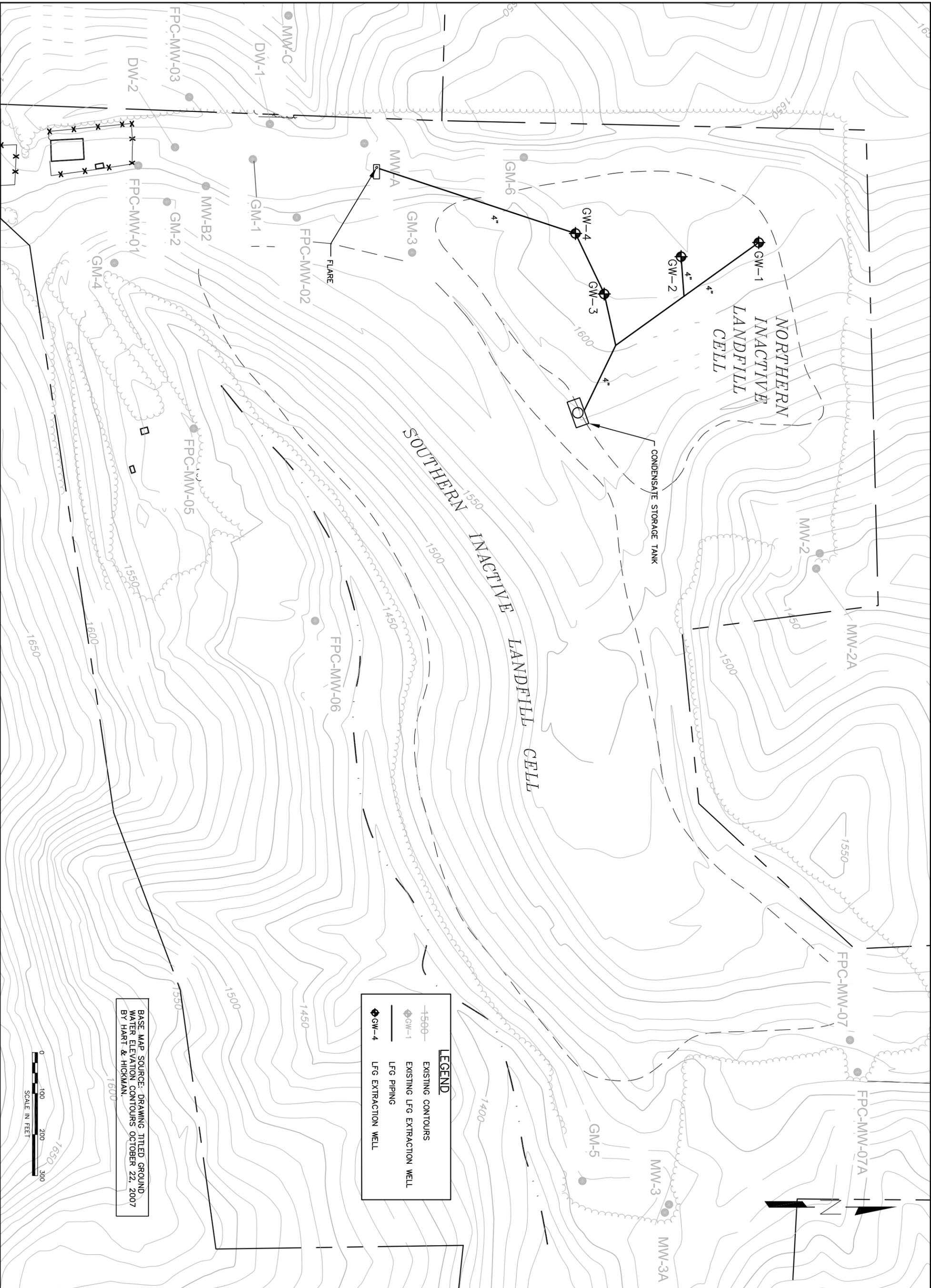


J Morgan, P.E.  
Project Engineer  
**SCS ENGINEERS, PC**

cc: Bobby White – Caldwell County  
Mike McLaughlin, SCS – Reston, VA  
Mark Wasilko, AES - Arlington, VA

MT. HERMAN LANDFILL WELL-FIELD EXPANSION PLANS AND  
SYSTEM DETAILS





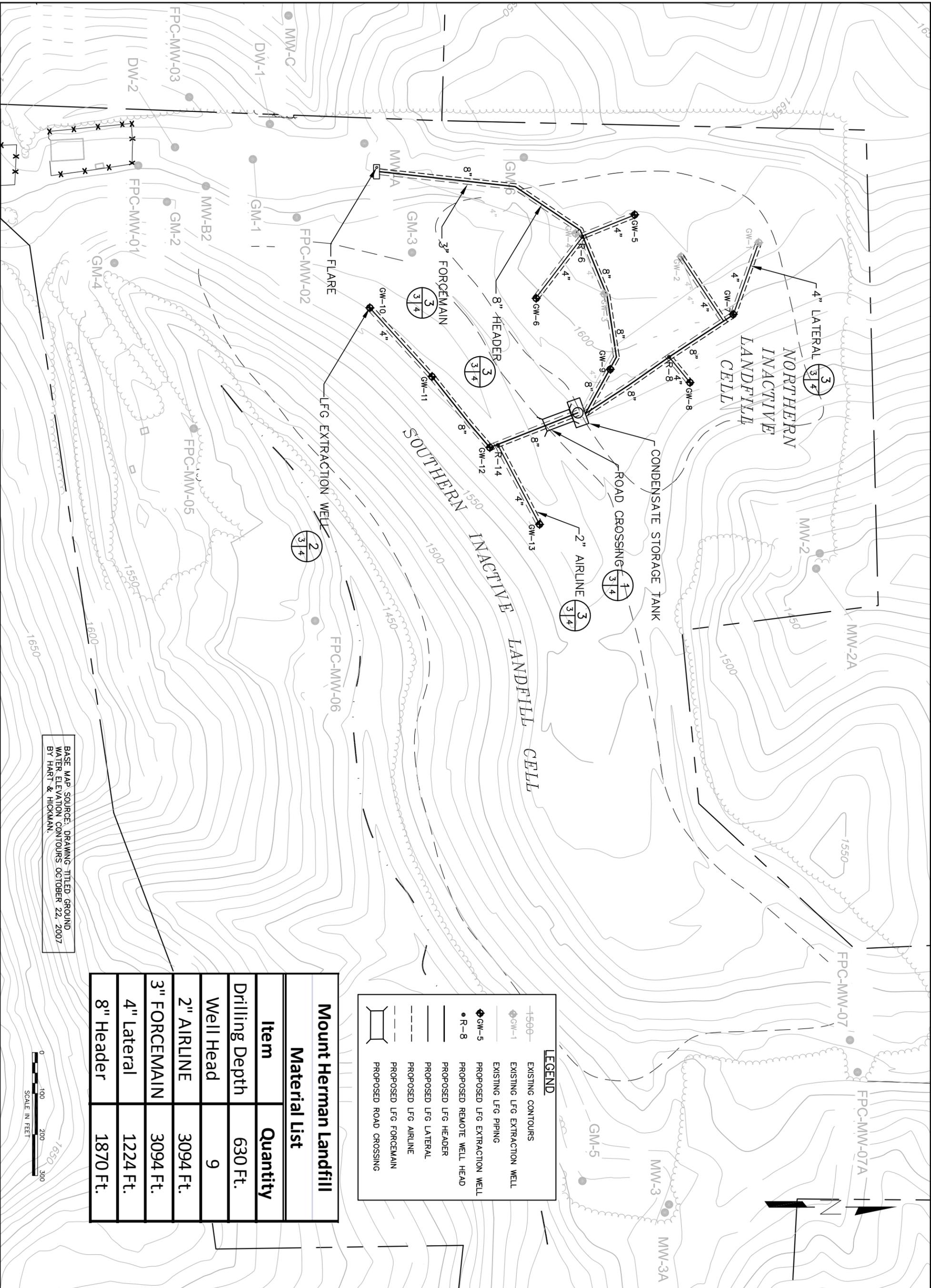
**LEGEND**

- 1500 — EXISTING CONTOURS
- ◆ GW-1 EXISTING LFG EXTRACTION WELL
- LFG PIPING
- ◆ GW-4 LFG EXTRACTION WELL

BASE MAP SOURCE: DRAWING TITLED GROUND WATER ELEVATION CONTOURS OCTOBER 22, 2007 BY HART & HICKMAN.



<b>SCS ENGINEERS, PC</b> 2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174	CLIENT <b>AES CORPORATION</b> 4300 WILSON BOULEVARD ARLINGTON, VA 22203	SHEET TITLE <b>EXISTING CONDITIONS</b>	NO. REVISION DATE
		PROJECT TITLE <b>MOUNT HERMAN LANDFILL GREENHOUSE GAS PROJECT</b>	
CADD FILE: EXISTING COND.	DATE: AUG. 2008	SCALE: AS SHOWN	DRAWING NO. <b>2</b>
PROJ. NO. 02207016.02	DWL BY: TAS	Q/A R/W BY: SRN	of 4
DSN. BY: JLM	CHK. BY: JLM	APP. BY: SCL	



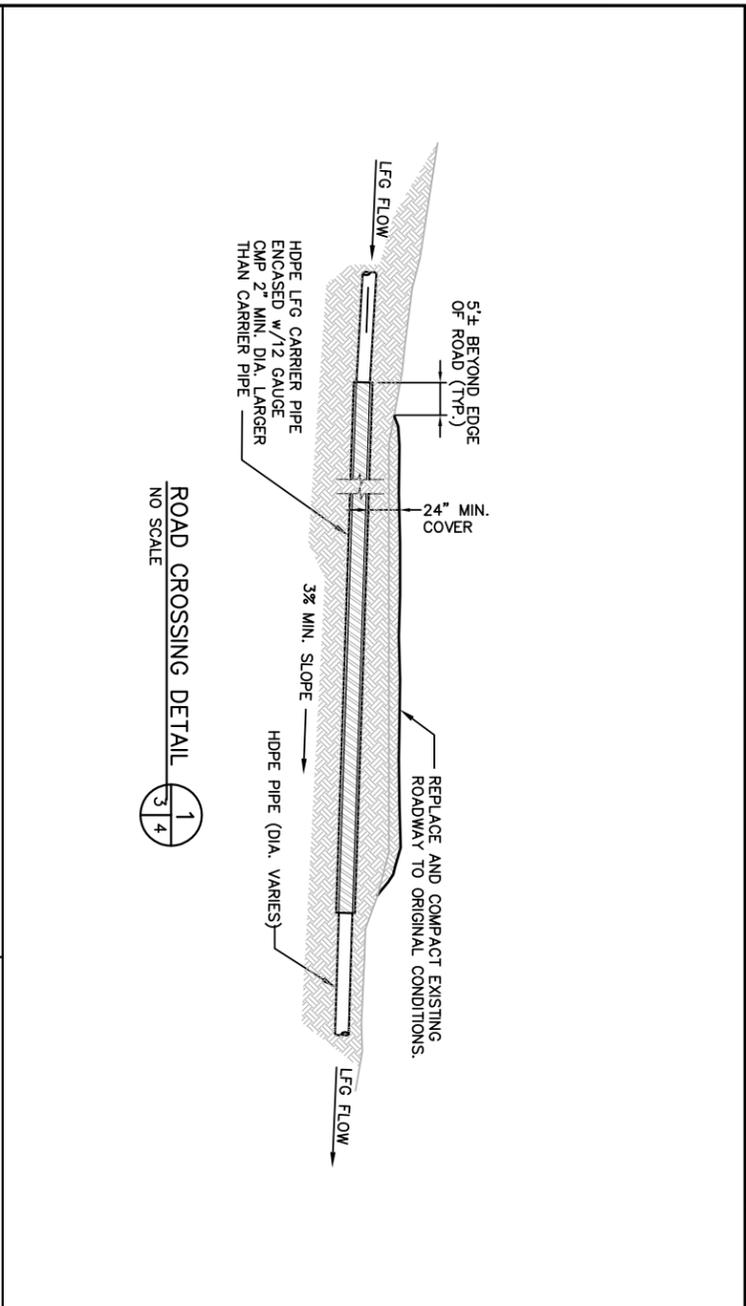
BASE MAP SOURCE: DRAWING TITLED GROUND WATER ELEVATION CONTOURS OCTOBER 22, 2007 BY HART & HICKMAN.

Mount Herman Landfill	
Item	Quantity
Drilling Depth	630 Ft.
Well Head	9
2" AIRLINE	3094 Ft.
3" FORCEMAIN	3094 Ft.
4" Lateral	1224 Ft.
8" Header	1870 Ft.

LEGEND	
	EXISTING CONTOURS
	EXISTING LFG EXTRACTION WELL
	EXISTING LFG PIPING
	PROPOSED LFG EXTRACTION WELL
	PROPOSED REMOTE WELL HEAD
	PROPOSED LFG HEADER
	PROPOSED LFG LATERAL
	PROPOSED LFG AIRLINE
	PROPOSED LFG FORCEMAIN
	PROPOSED ROAD CROSSING



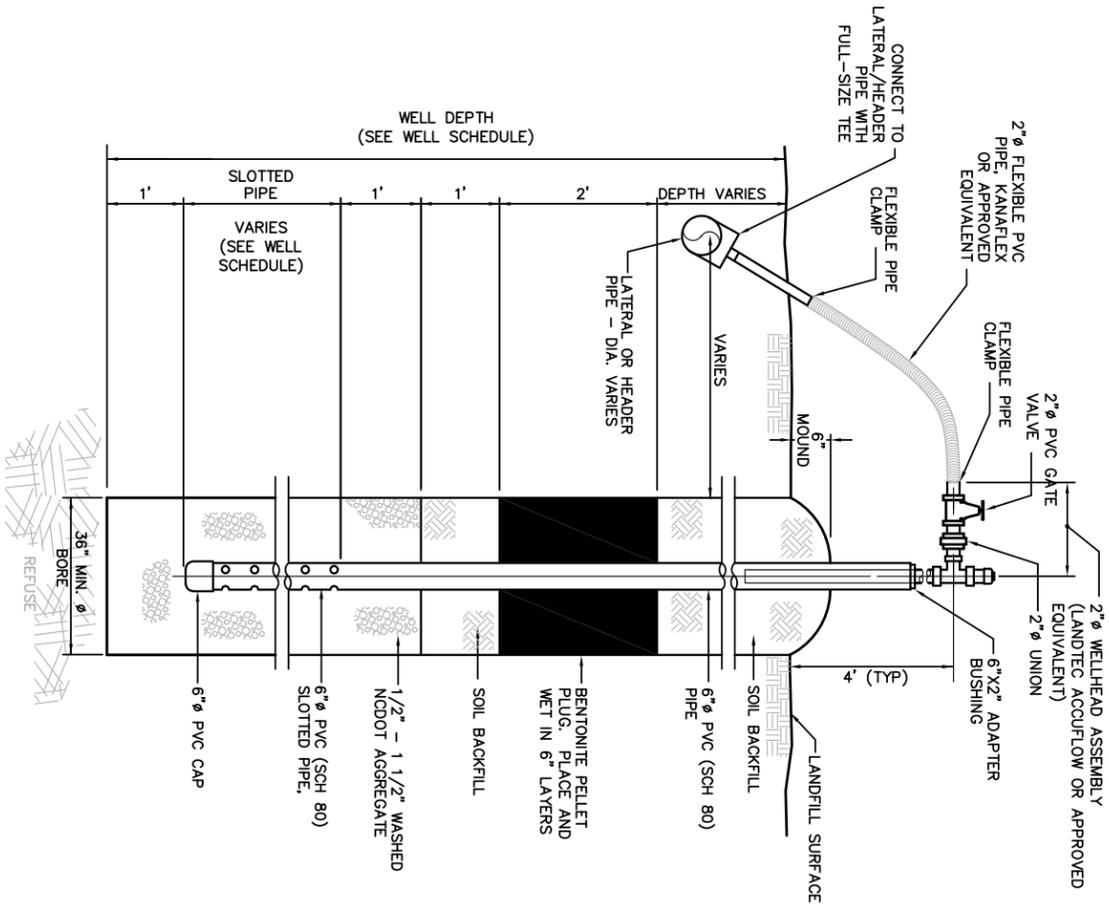
<b>SCS ENGINEERS, PC</b> 2520 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NORTH CAROLINA 28273 PHONE: (704) 504-3107 FAX: (704) 504-3174	CLIENT <b>AES CORPORATION</b> 4300 WILSON BOULEVARD ARLINGTON, VA 22203	SHEET TITLE <b>SITE PLAN</b>	NO.      REVISION      DATE ▲ ▲ ▲ ▲ ▲
		PROJECT TITLE <b>MOUNT HERMAN LANDFILL GREENHOUSE GAS PROJECT</b>	
CAD FILE: SITE PLAN	DATE: AUG. 2008	SCALE: AS SHOWN	DRAWING NO. <b>3</b>



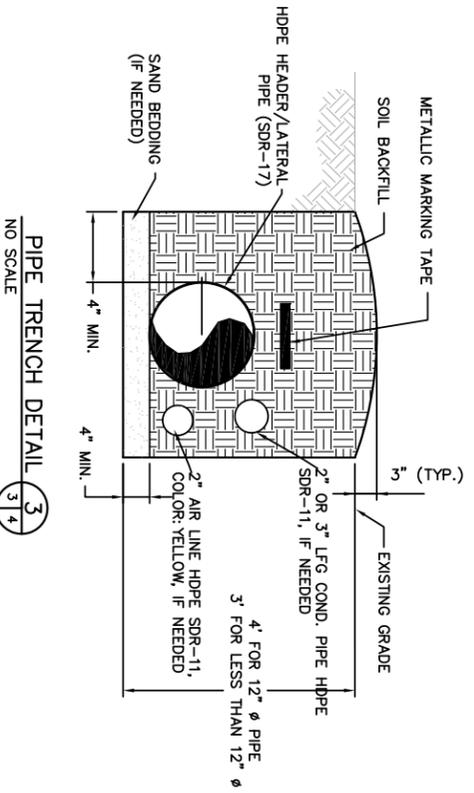
ROAD CROSSING DETAIL  
NO SCALE

WELL SCHEDULE

Well ID	Northing	Easting	Approx. Ground Surface (ft)	Well Depth "D" (ft)	Slotted Pipe Length, "S" (ft)	Solid Pipe Length Below Grade (ft)
EW-5	785,304	1,270,045	1618	70	49	20
EW-6	785,065	1,270,249	1598	70	49	20
EW-7	785,544	1,270,289	1596	70	49	20
EW-8	785,439	1,270,454	1575	70	49	20
EW-9	785,245	1,270,422	1594	70	49	20
EW-10	784,661	1,270,272	1590	70	49	20
EW-11	784,812	1,270,439	1585	70	49	20
EW-12	784,952	1,270,612	1580	70	49	20
EW-13	785,073	1,270,799	1572	70	49	20
<b>TOTALS</b>				560	392	160



EXTRACTION WELL DETAIL  
NOT TO SCALE



PIPE TRENCH DETAIL  
NO SCALE

- NOTES:**
1. WELLS SHALL BE TERMINATED A MINIMUM 15-FT ABOVE THE BOTTOM LINER SYSTEM.
  2. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND CONDITIONS DEPICTED IN THESE PLANS PRIOR TO BEGINNING WORK.
  3. CONTRACTOR SHALL PROVIDE SURVEY INFORMATION TO ENGINEER FOR POSSIBLE ADJUSTMENTS TO WELL DRILLING DEPTHS.
  4. FOLLOWING REVIEW OF SURVEY DATA, CONTRACTOR SHALL GET AUTHORIZATION FROM ENGINEER PRIOR TO DRILLING.

CERTIFYING ENGINEER \_\_\_\_\_ CONTRACTOR \_\_\_\_\_ OWNER \_\_\_\_\_

- NOTES**
1. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS TO PERFORM THE WORK DESCRIBED HEREIN.
  2. ALL BOLTS, NUTS AND WASHERS SHALL BE ZINC COATED STEEL. IF A FLANGE OR A VALVE IS USED AND IT IS BURIED, THE FLANGE AND/OR VALVE MUST BE WRAPPED WITH A 5-MIL PLASTIC SHEETING.
  3. CONTRACTOR SHALL PROVIDE TO OWNER AS-BUILT DRAWINGS INCLUDING DETAILED SURVEY OF THE VERTICAL WELLS, LFG HEADER PIPE, ISOLATION VALVES, CONDENSATE FORCEMAIN, AND PNEUMATIC SUPPLY LINES.
  4. CONTRACTOR TO USE FACTORY MOLDED TEE AND REDUCERS FOR CONNECTIONS. BRANCH SADDLE CONNECTIONS ARE NOT TO BE USED, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
  5. CONTRACTOR TO USE FACTORY PERFORATED PIPE FOR VERTICAL WELLS, UNLESS OTHERWISE APPROVED BY ENGINEER.
  6. CONTRACTOR RESPONSIBLE FOR DAMAGES INCURRED TO LANDFILL CAP DURING EXCAVATION OF TRENCH.
  7. CONTRACTOR MUST REPLACE AND COMPACT SOIL BACKFILL ON LANDFILL CAP TO SPECIFICATIONS AND SATISFACTION OF THE OWNER.

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		<p><b>DETAILS</b></p> <p>PROJECT TITLE</p> <p><b>MOUNT HERMAN LANDFILL GREENHOUSE GAS PROJECT</b></p>	<p>4</p>		