



# ARM Group Inc.

Earth Resource Engineers and Consultants

November 11, 2013

Mr. Ed Rawski, P.E.  
Pennsylvania Department of Environmental Protection  
Bureau of Waste Management  
909 Elmerton Avenue  
Harrisburg, PA 17110-8200

Re: Minor Permit Modification Application  
Construction of Horizontal Gas Collector  
Frey Farm Landfill  
Manor Township, Lancaster County, PA  
Permit No. 101389  
ARM Project 13373

Dear Mr. Rawski:

On behalf of the Lancaster Solid Waste Management Authority (LCSWMA), ARM Group Inc. (ARM) is submitting two copies of a Minor Permit Modification Application to the Pennsylvania Department of Environmental Protection Agency (PADEP) for the construction of a horizontal gas collector at the Frey Farm Landfill in Manor Township, Lancaster County, Pennsylvania. The proposed horizontal gas collector will be installed in Cell 5 and Cell 6 of the Frey Farm Landfill and will be connected to the existing landfill gas collection system. The attached application includes a summary of the proposed horizontal gas collector, a drawing, and the applicable PADEP forms.

Please contact me if you have any comments or questions regarding the enclosed information.

Sincerely,  
ARM Group Inc.

Bryan M. Wehler, P.E., P.G.  
Vice President – Solid Waste Management

Enclosures

Cc: Brooks Norris, LCSWMA

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1. DEP Application Forms
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2. Drawings
  - Sheet 1 – Horizontal Gas Collection System Plan and Details
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## 1.0 INTRODUCTION

The following narrative describes the Minor Permit Modification Application (MPMA) for the proposed construction of a horizontal landfill gas collector at the Frey Farm Landfill (FFLF), located in Manor Township, Lancaster County, PA and owned by Lancaster County Solid Waste Management Authority (LCSWMA). FFLF has been permitted by the Pennsylvania Department of Environmental Protection (PADEP) through the (then) Bureau of Waste Management (permit number: 101389). The MPMA was prepared by ARM Group Inc. (ARM) on behalf of LCSWMA per the requirements of the PADEP.

FFLF established an active LFG collection system upon approval from the PADEP (per correspondence dated August 24, 2005). In doing so, LCSWMA and PPL Energy Plus LLC (PPL) entered into an agreement that would utilize LFG to generate both electrical power and steam for commercial purposes. The proposed modification to the permit involves the construction of a new horizontal gas collector within Cell 5 and Cell 6. The horizontal gas collector will connect to the existing FFLF gas collection system with the expectation that additional landfill gas will be collected and utilized by PPL for power generation purposes.

This submittal contains all the information required for a MPMA by the PADEP for the construction of a new horizontal gas collector. Section 2 (“Narrative”) is the technical work that provides support for the requested modifications to the FFLF permit. This section has been formatted in a manner consistent with PADEP Form K (Gas Management), included in Attachment 1. As per the PADEP requirements, Attachment 1 also includes the following “administrative” forms relative to a minor permit modification: general information form, Form 37, Form A, Form B, Form B1, and Form C1. Attachment 2 contains the drawing that depicts the work for which the modification is being requested.

## 2.0 FORM K NARRATIVE

The purpose of this attachment is to provide a narrative description of the information required by Form K Gas Management of the MPMA for the FFLF. The MPMA was prepared by ARM on behalf of LCSWMA. This information is required by the following sections of (§) *Pennsylvania Code*, Title 25. Environmental Protection (25 Pa Code), Chapter 273 (i.e., Municipal Waste Landfills):

- § 273.171 (i.e., Gas monitoring and control plan);
- § 273.292 (i.e., Gas control and monitoring); and
- § 273.293 (i.e., Gas recovery).

In this narrative, responses are provided for the sections and questions of Form K.

### 2.1 RESPONSES TO FORM K QUESTIONS

#### 2.1.1 SECTION B

*Response to Question B.1.:* This application is requested to modify the existing permit by constructing a horizontal gas collector at Frey Farm Landfill. The proposed horizontal gas collector will consist of solid wall and/or perforated HDPE pipe located in a gas collection trench. The new horizontal gas collector will be located in Cell 5 and Cell 6 and connect to the existing FFLF gas collection system.

*Response to Question B.2.:* The proposed gas management system is for a currently permitted active landfill in compliance with its existing permit.

*Response to Question B.3.:* There are no underground coal resources at this site.

*Response to Question B.4.:* Not applicable.

*Response to Question B.5.:* FFLF has entered into a contractual agreement with PPL. A copy of the contractual agreement between PPL and LCSWMA has not been included with the application, as it is considered proprietary and confidential. LCSWMA is and will continue to be responsible for compliance with its solid waste permit and applicable environmental statutes.

*Response to Question B.6.:* Construction of the proposed horizontal gas collectors will be limited to areas of waste placement.

*Response to Question B.7.:* No activity will take place adjacent to or outside of waste disposal areas. Activity will be limited to the proposed horizontal gas collector trenches located within the existing waste mass (i.e., Cell 5 and Cell 6).

*Response to Question B.8.:* There will be no well drilling or trenching activities performed below the waste disposal areas (i.e., below the primary liner).

*Response to Question B.9.:* The anticipated total linear footage of the proposed horizontal gas collectors is approximately 1,830 feet, which includes both solid wall and perforated pipe. The final length of the collector will be dictated, in part, by the cost of the project, but the maximum length will not exceed 1,830 feet. The collector system consists of one main collector (i.e., segment 1) and three branch collectors (i.e., segments 2, 3, & 4). The depth of the trench will vary throughout the collector system. The design drawing for the proposed horizontal gas collector and associated details are attached (Attachment 2).

*Response to Question B.10.:* There are no underground coal resources at this site.

*Response to Question B.11.:* No probe holes are currently proposed for the purpose of monitoring pressure during testing of the horizontal gas collector.

*Response to Question B.12.:* Not applicable.

*Response to Question B.13.:* Not applicable.

*Response to Question B.14.:* This application does not contain a “long-term operation, maintenance, closure, deactivation, and plugging” schedule.

*Response to Question B.15.:* Condensate, solid waste, liquids, and/or gases generated as a result of drilling, trenching, venting, and/or gas recovery operations of the proposed horizontal gas collector system will be managed in accordance with applicable regulations.

*Response to Question B.16.:* There has been no indication of off-site gas migration at this site. Accordingly, while the installation and/or expansion of an active landfill gas extraction system will, by its nature, tend to control such migration, the specific design of the proposed horizontal collector has not been oriented for off-site gas migration control. LCSWMA will continue to complete (and submit to PADEP) quarterly monitoring of LFG at perimeter locations to determine if off-site migration is occurring. To date, there has been no evidence of any such migration.

*Response to Question B.17.:* Gas enhancement procedures will be consistent with the existing operational agreement established with PPL to generate electricity. LFG is pretreated by PPL in accordance with the Plan Approval (issued by the Bureau of Air Quality) prior to the delivery to the engines (or flare). Although this may not necessarily be an “enhancement” procedure, PPL utilizes waste heat from the electrical generation of power to provide steam, which is sold to Turkey Hill Dairy.

*Response to Question B.18.:* During construction, the contractor is required to have a site-specific Health and Safety Plan (HASP) that will be kept at the facility and to which contractor personnel will adhere. The HASP provides all safety rules and procedures that are in effect during construction. Also, all employees utilize LCSWMA safety procedures and standard operating procedures during post-construction activities (i.e. monitoring, sampling, etc.). LCSWMA provides employees with on-going safety and job-related training.

*Response to Questions B.19 and B.20.:* The proposed horizontal gas collector design was completed to minimize the disturbance of the existing surface and subsurface facilities or control measures on or adjacent to FFLF. Known disturbances include:

- a. Cap  
As indicated on the drawing in Attachment 2, the horizontal gas collector will penetrate the existing in-place geomembrane cap (40 mil linear low density polyethylene geomembrane) prior to its connection to the existing FFLF gas collection system. This area will be repaired to new condition and will be monitored during construction activities to ensure final cap integrity.
- b. Liner  
Not applicable (no revisions required)
- c. Leachate control system  
Not applicable (no revisions required)
- d. Subbase  
Not applicable (no revisions required)
- e. Renovating soil  
Not applicable (no revisions required)
- f. Critical slope  
Not applicable (no revisions required)
- g. Surface water management facilities/structures  
The work will likely temporarily disturb existing final cover terraces, which are part of the overall stormwater management facilities. The temporary disturbance will consist of excavation across the terrace in locations indicated on the drawings. Upon completion of the installation of the collector, the terrace will be returned to existing conditions.
- h. Site access measures (roads, fences, gates, etc.)  
Not applicable (no revisions required)
- i. General, final site contours  
The work will likely temporarily disturb final site contours in previously capped areas. The disturbance will consist of excavation across the previously capped areas at the locations indicated on the drawings. Upon completion of the installation of the collector, the final site contours will be returned to existing conditions.
- j. Groundwater monitoring system  
Not applicable (no revisions required)
- k. other  
Not applicable

*Response to Question B.21:* All plans have been prepared by, or under the direction of, a Pennsylvania Registered Professional Engineer. The design plans bear the seal and signature of the Pennsylvania Registered Professional Engineer.

**2.1.2 SECTION C**

In order to monitor off-site migration, LCSWMA will continue to complete quarterly monitoring of peripheral locations to determine if off-site LFG migration is occurring. LCSWMA submits the quarterly monitoring reports to the PADEP, all of which have never indicated the presence of LFG in the monitored peripheral locations. As required by the Plan Approval and Title V Permits issued by the Bureau of Air Quality, LCSWMA will continue to complete monthly monitoring of all LFG wells and provide the results to the PADEP on a semi-annual basis.

**2.1.3 SECTION D**

No “gas recovery” operations are requested for modification in the scope of this MPMA.

### 3.0 SUMMARY

LCSWMA is requesting that the PADEP approve MPMA for the construction of the proposed horizontal gas collector at the existing Frey Farm Landfill. The addition of the gas collector should enhance landfill gas collection, as well as, assist PPL with its efforts to maximize utilization of this renewable fuel source for the purpose of generating electricity.

LCSWMA respectfully requests PADEP's timely consideration of this application and that LCSWMA be provided with the opportunity to clarify any questions that arise during the review process in order that the MPMA approval be issued in a timely manner.



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Attachment I  
PADEP Application Forms

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Form K

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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

Date Prepared/Revised  
November 2013

DEP USE ONLY

Date Received

## FORM K GAS MANAGEMENT

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form K, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: 273.171, 273.292, 273.293/277.171, 277.292, 288.262, 288.263, 289.282, 289.283

### SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Management Authority (LCSWMA)

Site Name: Frey Farm Landfill

Facility ID (as issued by DEP): 477357 (Permit No. 101389)

### SECTION B.

**Instructions:** All questions must be answered in the columns to the right. In addition, all responses must be addressed in a written narrative or on the submitted maps and/or plans. Attach appropriate documentation referencing this form number and title.

	Yes	No
1. Is this application for: <b>See Attached Narrative</b>		
a. landfill gas recovery wells/system	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. landfill gas control vents	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. landfill gas monitoring vents	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. natural gas or oil well not associated with the landfill	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. construction of gas vents not drilled	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the proposed gas management system for a/an:		
a. Permitted Inactive Landfill	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Permitted Active Landfill - In Compliance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Permitted Active Landfill - Not in Compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Unpermitted Landfill	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. New Application	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Will the well(s) intersect a workable coal seam?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. If the answer to 1(d) or 3 above is "yes" you must also apply to the Bureau of Oil & Gas Management. Have you done so? N/A	<input type="checkbox"/>	<input type="checkbox"/>
5. If the gas management operator is an entity other than the landfill permittee, a copy of the contractual agreement between the gas management operator, the solid waste permittee, and the landowner acknowledging liability for the various aspects of the project must be submitted with the application. This agreement shall clearly show that the solid waste disposal site permittee is ultimately responsible for maintaining compliance with the solid waste permit and environmental statutes at the site. The agreement shall also indicate that the parties thereto will not conduct any activities inconsistent with the DEP permit or authorizations to which the other parties are bound. Has a copy of this agreement been attached? <b>See response to Question B.5 in Section B of attached Narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Is the drilling activity limited both horizontally and vertically to the mass of the deposited waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SECTION B. (continued)		
	Yes	No
7. Will there be any well drilling activity adjacent to or surrounding the mass of the deposited waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Will there be any drilling activity below the mass of deposited waste? (At lined facilities, drilling below the mass of deposited waste is prohibited unless detailed assurance is provided on maintaining landfill integrity.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Is the anticipated total depth of drilling known?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Will the well(s) be drilled through a coal seam where the coal has been removed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Are there any probe holes proposed to monitor the pressure around the well during testing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. If response to item 11 is "yes", will the probe holes be capped, plugged, or sealed? <b>N/A</b>	<input type="checkbox"/>	<input type="checkbox"/>
13. If the response to Item 12 is "yes", have procedures for plugging or pulling casings been included in this submission? <b>N/A</b>	<input type="checkbox"/>	<input type="checkbox"/>
14. Is a schedule of long-term operation, maintenance, closure, deactivation, and plugging included herein?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Will the condensate and any other solid waste, liquids or gases generated as a result of drilling, venting or gas/energy recovery operations, be managed in accordance with the requirements of Act 97 and the rules and regulations of the Department listed below?		
a. generator requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. transporter requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. processing requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. treatment requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. disposal requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. air emission requirements of the Air Pollution Control Act	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. discharge requirements of the Clean Streams Law	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Does this project address off-site gas migration problems? Explain. <b>See Attached Narrative</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. Are any gas enhancement procedures proposed? If yes, explain in detail. <b>See Attached Narrative</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18. Have safety rules, procedures, or plans been developed and attached hereto for implementation at the project area? <b>See response to Question B.18 in Section B of attached Narrative</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SECTION B. (continued)		
	Yes	No
19. Will the wells or surface gas control equipment, or other structures intersect or otherwise disturb either surface or subsurface facilities or control measures on or adjacent to the solid waste facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, check the appropriate disturbed or modified facility/control measure:		
- cap	<input checked="" type="checkbox"/>	<input type="checkbox"/>
- liner	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- leachate control system	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- subbase	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- renovating soil	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- critical slope	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- surface water management facilities/structures	<input checked="" type="checkbox"/>	<input type="checkbox"/>
- site access measures (roads, fences, gates etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- general, final site contours	<input checked="" type="checkbox"/>	<input type="checkbox"/>
- groundwater monitoring system	<input type="checkbox"/>	<input checked="" type="checkbox"/>
- other (list in narrative)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20. For all items checked "yes" in question no. 19, provide a detailed description (in the narrative and, where appropriate, in the large scale plan or cross-section) of the following:		
a. the nature of the anticipated modification or disturbance to the control measures or facilities, and	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. how the modifications or disturbance will be implemented to assure that the landfill and drilling/gas recovery operations and all activities conducted incidental thereto are undertaken, constructed, or maintained in accordance with the provisions of Act 97 and the rules and regulations of the Department.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21. Have all design plans or operational plans relative to this project been prepared by, or under the direction of a Pennsylvania Registered Professional Engineer? Do such documents bear the seal and signature of a Registered Professional Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SECTION C. GAS MONITORING AND CONTROL PLAN		
The plan should address the following:		
<input checked="" type="checkbox"/> 1. Procedures to monitor and record off-site migration and gas accumulation on and off the site, including within structures. <b>See Attached Narrative</b> <hr/>		
<input checked="" type="checkbox"/> 2. Design drawings for the gas control system, indicating the location and scheduling of construction, and the design of vents, barriers, collection pipes, manifolds or other control measures that will be in place. <b>See Attached Narrative</b> <hr/>		
<input checked="" type="checkbox"/> 3. Analytical procedures for gases to be tested for as part of the monitoring program.		
<input checked="" type="checkbox"/> 4. The frequency of monitoring and individuals who will be responsible.		

**SECTION D. GAS RECOVERY**

- 1. Drawings and a narrative detailing the location and design of the proposed gas recovery system and the major on-site components of the system.

**See Attached Narrative**

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- 2. Plans and designs to address special storage, transportation, processing, treatment or disposal measures anticipated or required in the management of the generated gases, condensates or other residues.

**See Attached Narrative**

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- 3. Plan to monitor and record off-site gas migration and gas accumulation on and off the site, including within structures.

**See Attached Narrative**

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## CALCULATION WORKSHEET

Proj No: 13238 Sheet 1 of 4 By: KAN Date: 10/29/13  
Calc Title: Horizontal Collector – Frey Farm Landfill Ch: TMA Date: 10/29/13

### DESIGN OBJECTIVE & PROBLEM

Evaluate design parameters for the horizontal collector.

### RADIUS OF INFLUENCE

- The radius of influence (ROI) is the radial distance from a point at which collection of landfill gas will be influenced by application of vacuum to that point. The extent of the ROI is established where the pressure/vacuum measured radially from the well is zero.
- The recommended spacing of horizontal collectors is 30 to 50 feet vertically and 150 to 300 feet horizontally. This would be equivalent to a vertical radius of influence of 15 to 25 feet and a horizontal radius of influence of 75 to 150 feet. The average radius of influence is 66 feet, and this radius of influence was used for calculation purposes with respect to the proposed Frey Farm horizontal collector.

### GAS GENERATION CALCULATION

- Using a 66-foot radius of influence, the area of waste under the influence of the proposed horizontal collector was determined.

$$A = \pi r^2$$
$$A = \pi 66^2 = 13,685 \text{ ft}^2$$

The proposed Frey Farm horizontal collector will consist of a 765 foot lateral pipe that will branch into two legs of perforated pipe. The 765 foot lateral pipe will be composed of seven 20-foot sections and one 15-foot section of perforated pipe, which totals 155 feet of perforated pipe, with the remaining 610 feet being solid wall pipe.

The west branch or leg of the horizontal collector will be 400 feet of perforated pipe. The east branch will be 383 feet of perforated pipe. Approximately 16 feet from the end of the east branch, a perforated "T" will be connected to the branch, with 164 feet of perforated pipe to the south of the east branch and 117 feet north of the east branch.

- Using these lengths and the area of influence, the volume of waste under the influence of the proposed horizontal collector was determined.

$$V = (A) (l)$$
$$V = (13,685 \text{ ft}^2) (400 \text{ ft}) = 5,474,000 \text{ ft}^3$$
$$V = (13,685 \text{ ft}^2) (383 \text{ ft}) = 5,241,355 \text{ ft}^3$$
$$V = (13,685 \text{ ft}^2) (164 \text{ ft}) = 2,244,340 \text{ ft}^3$$

## CALCULATION WORKSHEET

Proj No: 13238 Sheet 2 of 4 By: KAN Date: 10/29/13  
Calc Title: Horizontal Collector – Frey Farm Landfill Ch: TMA Date: 10/29/13

$$V = (13,685 \text{ ft}^2) (117 \text{ ft}) = 1,601,145 \text{ ft}^3$$

$$V = (13,685 \text{ ft}^2) (155 \text{ ft}) = 2,121,175 \text{ ft}^3$$

- Density of waste material is 2,400 lb/yd<sup>3</sup>, which is equivalent to 88.9 lb/ft<sup>3</sup>.
- The mass of waste under the influence of the horizontal collector can be determined by multiplying the waste volume by the waste density.

$$\text{Mass} = (5,474,000 \text{ ft}^3) (88.9 \text{ lb/ft}^3) = 486,638,600 \text{ lb}_m$$

$$\text{Mass} = (5,241,355 \text{ ft}^3) (88.9 \text{ lb/ft}^3) = 465,956,460 \text{ lb}_m$$

$$\text{Mass} = (2,244,340 \text{ ft}^3) (88.9 \text{ lb/ft}^3) = 199,521,826 \text{ lb}_m$$

$$\text{Mass} = (1,601,145 \text{ ft}^3) (88.9 \text{ lb/ft}^3) = 142,341,791 \text{ lb}_m$$

$$\text{Mass} = (2,121,175 \text{ ft}^3) (88.9 \text{ lb/ft}^3) = 188,572,458 \text{ lb}_m$$

- A typical value for landfill gas generation rate is  $4.756 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}$ .
- EPA LandGEM Model specifies two values for Potential Methane Generation Capacity ( $L_0$ ), 170 m<sup>3</sup>/MG and 100 m<sup>3</sup>/MG. The average is 135 m<sup>3</sup>/MG. The  $L_0$  used for the Frey Farm Landfill is 54 m<sup>3</sup>/MG. The ratio of the Frey Farm  $L_0$  to commonly used average  $L_0$  is 0.4.
- If the typical value for landfill gas generation rate,  $4.756 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}$ , is multiplied by 0.4, the landfill gas generation rate becomes  $1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}$ .
- Using this typical rate in conjunction with the mass influenced by the horizontal collector allows an estimate to be made relative to the gas collected by each branch of the horizontal collector.

$$(486,638,600 \text{ lb}_m) (1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}) = 0.9258 \text{ ft}^3/\text{sec} = 55.55 \text{ ft}^3/\text{min}$$

$$(465,956,460 \text{ lb}_m) (1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}) = 0.8864 \text{ ft}^3/\text{sec} = 53.19 \text{ ft}^3/\text{min}$$

$$(199,521,826 \text{ lb}_m) (1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}) = 0.3796 \text{ ft}^3/\text{sec} = 22.78 \text{ ft}^3/\text{min}$$

$$(142,341,791 \text{ lb}_m) (1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}) = 0.2708 \text{ ft}^3/\text{sec} = 16.25 \text{ ft}^3/\text{min}$$

$$(188,572,458 \text{ lb}_m) (1.9024 \times 10^{-9} \text{ ft}^3/\text{lb}_m/\text{sec}) = 0.3587 \text{ ft}^3/\text{sec} = 21.52 \text{ ft}^3/\text{min}$$

$$\text{Total} = 169.29 \text{ ft}^3/\text{min}$$

### SIZING OF HORIZONTAL COLLECTOR

- Two design criteria were utilized for calculating the minimum acceptable size for the pipe diameters of the horizontal collector:
  1. The gas velocity should be in the range of 1,200 to 2,400 feet per minute within the pipe.



## CALCULATION WORKSHEET

Proj No: 13238 Sheet 3 of 4 By: KAN Date: 10/29/13  
Calc Title: Horizontal Collector – Frey Farm Landfill Ch: TMA Date: 10/29/13

2. The maximum allowable pressure drop within the pipe should not be greater than 1 inch water column per 100 feet of header.
- The calculated gas collection rates for each branch of the horizontal collector were used to verify that sufficient vacuum is available at GW-52 for the horizontal collector to function as designed.
  - The pipes within the horizontal collection system will be sloped at a 4% grade to provide for gravity drainage of liquid gas condensate, and to minimize blockages resulting from differential settlement of the landfill.
  - Calculations for pressure losses in the header pipe are based on the Spitzglass equation for flow of compressible fluids:

$$Q = 3550K \left( \frac{h}{SL} \right)^{1/2}$$

Where: Q = Flow rate (ft<sup>3</sup>/hour)  
h = Pressure loss (in inches w.c.)  
S = Specific gravity of the flowing fluid (i.e., landfill gas) (0.98 unit less)  
L = Length of pipe (feet)  
K = Spitzglass pipe constant

The Spitzglass pipe constant K is:

$$K = \left( \frac{d^5}{1 + (3.6/d) + (0.03)d} \right)^{1/2}$$

Where: d = Inside diameter of pipe

When the Spitzglass equation is rearranged and solved in terms of pressure drop, it becomes:

$$h = \left( \frac{Q(SL)^{1/2}}{3550 K} \right)^2$$

## CALCULATION WORKSHEET

Proj No: 13238 Sheet 4 of 4 By: KAN Date: 10/29/13  
Calc Title: Horizontal Collector – Frey Farm Landfill Ch: TMA Date: 10/29/13

Calculations for flow velocity are based on the following equation:

$$V = \frac{Q}{A}$$

Where: V = Velocity of the flowing fluid (ft/sec)  
Q = Flow rate (ft<sup>3</sup>/sec)  
A = Cross sectional area of the pipe (ft<sup>2</sup>)

- Results of these calculations for both the east and west branches of the horizontal collector are contained in the attached spreadsheets.
- At the calculated flow rate, both the east and west branch are generally within acceptable criteria for the gas velocity and pressure drop. To avoid large pressure drops, the gas velocity is slightly below the recommended range.
- The vacuum required for the horizontal collector is available at GW-52.





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Form GIF

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Form



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

## GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the Department.

<b>Related ID#s (If Known)</b>		<b>DEP USE ONLY</b>	
<b>Client ID#</b> 4660	<b>APS ID#</b> _____	Date Received & General Notes	
<b>Site ID#</b> 450744	<b>Auth ID#</b> _____		
<b>Facility ID#</b> 477357			

### CLIENT INFORMATION

<b>DEP Client ID#</b> 4660	<b>Client Type / Code</b> Authority/AUTH		
<b>Organization Name or Registered Fictitious Name</b> Lancaster County Solid Waste Management Authority		<b>Employer ID# (EIN)</b> 23-6006036	<b>Dun &amp; Bradstreet ID#</b> 06-709-5828
<b>Individual Last Name</b>	<b>First Name</b>	<b>MI</b>	<b>Suffix SSN</b>
<b>Additional Individual Last Name</b>	<b>First Name</b>	<b>MI</b>	<b>Suffix SSN</b>
<b>Mailing Address Line 1</b> 1299 Harrisburg Pike		<b>Mailing Address Line 2</b> P.O. Box 4425	
<b>Address Last Line – City</b> Lancaster		<b>State</b> PA	<b>ZIP+4</b> 17604-4425
<b>Client Contact Last Name</b> Norris		<b>First Name</b> Brooks	<b>MI</b> K
<b>Client Contact Title</b> Senior Manager, Technical Services		<b>Phone</b> 717-397-9968	<b>Suffix</b> Ext
<b>Email Address</b> bnorris@lcswwa.org		<b>FAX</b> 717-397-9973	

### SITE INFORMATION

<b>DEP Site ID#</b> 450744	<b>Site Name</b> Frey Farm Landfill		
<b>EPA ID#</b>	<b>Estimated Number of Employees to be Present at Site</b>		16
<b>Description of Site</b> Solid Waste Landfill			
<b>County Name</b> Lancaster	<b>Municipality</b> Manor	<b>City</b> <input type="checkbox"/>	<b>Boro</b> <input type="checkbox"/>
<b>County Name</b>	<b>Municipality</b>	<b>City</b> <input type="checkbox"/>	<b>Twp</b> <input checked="" type="checkbox"/>
<b>County Name</b>	<b>Municipality</b>	<b>City</b> <input type="checkbox"/>	<b>State</b> <input type="checkbox"/>
<b>Site Location Line 1</b> 3049 River Road		<b>Site Location Line 2</b>	
<b>Site Location Last Line – City</b> Conestoga		<b>State</b> PA	<b>ZIP+4</b> 17516
<b>Detailed Written Directions to Site</b> Route 441 South (of Columbia, PA) 8.5 miles to landfill entrance on right			
<b>Site Contact Last Name</b> Eshbach	<b>First Name</b> Robert	<b>MI</b>	<b>Suffix</b>
<b>Site Contact Title</b> Landfill Manager		<b>Site Contact Firm</b> LCSWMA	
<b>Mailing Address Line 1</b> 3049 River Road		<b>Mailing Address Line 2</b>	
<b>Mailing Address Last Line – City</b> Conestoga		<b>State</b> PA	<b>ZIP+4</b> 17516

<b>Phone</b> 717-871-6420	<b>Ext</b>	<b>FAX</b> 717-871-6425	<b>Email Address</b> beshbach@lcswwa.org
<b>NAICS Codes</b> (Two- & Three-Digit Codes – List All That Apply) 56; 561/562			<b>6-Digit Code</b> (Optional) 562212

**Client to Site Relationship**  
OWNOP

### FACILITY INFORMATION

<b>Modification of Existing Facility</b>	<b>Yes</b>	<b>No</b>
1. Will this project modify an existing facility, system, or activity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Will this project involve an addition to an existing facility, system, or activity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>If "Yes", check all relevant facility types and provide DEP facility identification numbers below.</i>		

Facility Type	DEP Fac ID#	Facility Type	DEP Fac ID#
<input type="checkbox"/> Air Emission Plant	_____	<input type="checkbox"/> Industrial Minerals Mining Operation	_____
<input type="checkbox"/> Beneficial Use (water)	_____	<input type="checkbox"/> Laboratory Location	_____
<input type="checkbox"/> Blasting Operation	_____	<input type="checkbox"/> Land Recycling Cleanup Location	_____
<input type="checkbox"/> Captive Hazardous Waste Operation	_____	<input type="checkbox"/> MineDrainageTrmt/LandRecyProjLocation	_____
<input type="checkbox"/> Coal Ash Beneficial Use Operation	_____	<input checked="" type="checkbox"/> Municipal Waste Operation	477357
<input type="checkbox"/> Coal Mining Operation	_____	<input type="checkbox"/> Oil & Gas Encroachment Location	_____
<input type="checkbox"/> Coal Pillar Location	_____	<input type="checkbox"/> Oil & Gas Location	_____
<input type="checkbox"/> Commercial Hazardous Waste Operation	_____	<input type="checkbox"/> Oil & Gas Water Poll Control Facility	_____
<input type="checkbox"/> Dam Location	_____	<input type="checkbox"/> Public Water Supply System	_____
<input type="checkbox"/> Deep Mine Safety Operation -Anthracite	_____	<input type="checkbox"/> Radiation Facility	_____
<input type="checkbox"/> Deep Mine Safety Operation -Bituminous	_____	<input type="checkbox"/> Residual Waste Operation	_____
<input type="checkbox"/> Deep Mine Safety Operation -Ind Minerals	_____	<input type="checkbox"/> Storage Tank Location	_____
<input type="checkbox"/> Encroachment Location (water, wetland)	_____	<input type="checkbox"/> Water Pollution Control Facility	_____
<input type="checkbox"/> Erosion & Sediment Control Facility	_____	<input type="checkbox"/> Water Resource	_____
<input type="checkbox"/> Explosive Storage Location	_____	<input type="checkbox"/> Other:	_____

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	57	20	-76	27	11

<b>Horizontal Accuracy Measure</b>	Feet	--or--	Meters
------------------------------------	------	--------	--------

<b>Horizontal Reference Datum Code</b>	<input type="checkbox"/> North American Datum of 1927
	<input checked="" type="checkbox"/> North American Datum of 1983
	<input type="checkbox"/> World Geodetic System of 1984

<b>Horizontal Collection Method Code</b>	ITPMP
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<b>Reference Point Code</b>	CNTR
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<b>Altitude</b>	Feet	varies	--or--	Meters
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<b>Altitude Datum Name</b>	<input checked="" type="checkbox"/> The National Geodetic Vertical Datum of 1929
	<input type="checkbox"/> The North American Vertical Datum of 1988 (NAVD88)

<b>Altitude (Vertical) Location Datum Collection Method Code</b>	PHGRM
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<b>Geometric Type Code</b>	POINT
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<b>Data Collection Date</b>	December 2012
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<b>Source Map Scale Number</b>	1	Inch(es)	=	200	Feet
	--or--	Centimeter(s)	=		Meters

### PROJECT INFORMATION

<b>Project Name</b>	Minor Permit Modification - Modifications to existing landfill gas collection system
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<b>Project Description</b>	Installation of new horizontal gas collector within Cell 5 and Cell 6
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<b>Project Consultant Last Name</b>	<b>First Name</b>	<b>MI</b>	<b>Suffix</b>
Wehler	Bryan	M	

<b>Project Consultant Title</b>	<b>Consulting Firm</b>
Vice President	ARM Group Inc.

<b>Mailing Address Line 1</b>	<b>Mailing Address Line 2</b>
1129 West Governor Road	PO Box 797

<b>Address Last Line – City</b>	<b>State</b>	<b>ZIP+4</b>
Hershey	PA	17033-0797

<b>Phone</b> 717-533-8600	<b>Ext</b> 1139	<b>FAX</b> 717-533-8605	<b>Email Address</b> bwehler@armgroup.net
<b>Time Schedules</b> 2014	<b>Project Milestone (Optional)</b> Install horizontal gas collector		

1. Have you informed the surrounding community and addressed any concerns prior to submitting the application to the Department?  Yes  No

2. Is your project funded by state or federal grants?  Yes  No

**Note:** If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

Aspect of Project Related to Grant

Grant Source: \_\_\_\_\_

Grant Contact Person: \_\_\_\_\_

Grant Expiration Date: \_\_\_\_\_

3. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions)  Yes  No

**Note:** If "No" to Question 3, the application is not subject to the Land Use Policy.

If "Yes" to Question 3, the application is subject to this policy and the Applicant should answer the additional questions in the Land Use Information section.

**LAND USE INFORMATION**

**Note:** Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1. Is there an adopted county or multi-county comprehensive plan?  Yes  No

2. Is there an adopted municipal or multi-municipal comprehensive plan?  Yes  No

3. Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?  Yes  No

**Note:** If the Applicant answers "No" to either Questions 1, 2 or 3, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 4 and 5 below.

If the Applicant answers "Yes" to questions 1, 2 and 3, the Applicant should respond to questions 4 and 5 below.

4. Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? If zoning approval has been received, attach documentation.  Yes  No

5. Have you attached Municipal and County Land Use Letters for the project?  Yes  No



<b>COORDINATION INFORMATION</b>
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**Note:** The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 and the accompanying Cultural Resource Notice Form.

**If the activity will be a mining project** (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

**If the activity will not be a mining project**, skip questions 1.0 through 2.5 and begin with question 3.0.

<b>1.0</b>	Is this a coal mining project? If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
<b>1.1</b>	Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>1.2</b>	Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>1.3</b>	Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>1.4</b>	For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>1.5</b>	Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>1.6</b>	Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>2.0</b>	Is this a non-coal (industrial minerals) mining project? If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
<b>2.1</b>	Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>2.2</b>	Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>2.3</b>	Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>2.4</b>	For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
<b>2.5</b>	Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

3.0	Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well? If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
3.1	Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.2	Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system? If "Yes", discuss in <i>Project Description</i> .	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.3	Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0	Will the project involve a construction activity that results in earth disturbance? If "Yes", specify the total disturbed acreage. 4.0.1 Total Disturbed Acreage 0	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.0	Does the project involve any of the following? If "Yes", respond to 5.1-5.3. If "No", skip to Question 6.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.1	Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.2	Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.3	Floodplain Projects by the commonwealth, a Political Subdivision of the commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
6.0	Will the project involve discharge of stormwater or wastewater from an industrial activity to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
7.0	Will the project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
8.0	Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations? If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the <i>Project Description</i> , where applicable. 8.0.1 Estimated Proposed Flow (gal/day)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
9.0	Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
9.0.1	Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
10.0	Is this project for the beneficial use of biosolids for land application within Pennsylvania? If "Yes" indicate how much (i.e. gallons or dry tons per year). 10.0.1 Gallons Per Year (residential septage) 10.0.2 Dry Tons Per Year (biosolids)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
11.0	Does the project involve construction, modification or removal of a dam? If "Yes", identify the dam. 11.0.1 Dam Name	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No

12.0	Will the project interfere with the flow from, or otherwise impact, a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
12.0.1	Dam Name				
13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)? If "Yes", identify each type of emission followed by the amount of that emission.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
13.0.1	Enter all types & amounts of emissions; separate each set with semicolons.				
14.0	Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year? If "Yes", check all proposed sub-facilities.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
14.0.1	Number of Persons Served				
14.0.2	Number of Employee/Guests				
14.0.3	Number of Connections				
14.0.4	Sub-Fac: Distribution System	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.5	Sub-Fac: Water Treatment Plant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.6	Sub-Fac: Source	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.7	Sub-Fac: Pump Station	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.8	Sub Fac: Transmission Main	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.9	Sub-Fac: Storage Facility	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
15.0	Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0	Is your project to be served by an existing public water supply? If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0.1	Supplier's Name				
16.0.2	Letter of Approval from Supplier is Attached	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
17.0	Will this project involve a new or increased drinking water withdrawal from a stream or other water body? If "Yes", should reference both Water Supply and Watershed Management.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
17.0.1	Stream Name				
18.0	Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste? If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0.1	Type & Amount				
19.0	Will your project involve the removal of coal, minerals, etc. as part of any earth disturbance activities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
20.0	Does your project involve installation of a field constructed underground storage tank? If "Yes", list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
20.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
21.0	Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility? If "Yes", list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0.1	Enter all substances & capacity of each; separate each set with semicolons.				

22.0 Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724? If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.  Yes  No

22.0.1 Enter all substances & capacity of each; separate each set with semicolons.

23.0 Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons? If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit.  Yes  No

23.0.1 Enter all substances & capacity of each; separate each set with semicolons.

24.0 Will the intended activity involve the use of a radiation source?  Yes  No

**CERTIFICATION**

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

Type or Print Name Brooks K. Norris

*Brooks K Norris*  
Signature

Senior Manager; Technical Services

Title

11/1/13  
Date

---

Form A

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Coordination #

**FORM A**  
**APPLICATION FOR MUNICIPAL OR RESIDUAL WASTE PERMIT**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided herein. Replacement/substitution of or attachment to this form is prohibited. Improperly completed forms may be rejected by the Department, may be considered to be violations of the Department's Rules and Regulations, and may result in assessment of fines and penalties.

**SECTION A. APPLICANT IDENTIFIER (Check one of the boxes and identify both)**

Owner      Name: Lancaster County Solid Waste Management Authority      Phone #: (717) 397-9968  
 Address: 1299 Harrisburg Pike; P.O. Box 4425; Lancaster, PA 17604      Email: bnorris@lcswma.org

Operator      Name: Lancaster County Solid Waste Management Authority      Phone #: (717) 397-9968  
 Address: 1299 Harrisburg Pike; P.O. Box 4425; Lancaster, PA 17604      Email: bnorris@lcswma.org

**SECTION B. TYPE OF FACILITY**

Municipal Waste Landfill.....	<input checked="" type="checkbox"/>	Residual Waste Landfill .....	<input type="checkbox"/>
Construction/Demolition Waste Landfill.....	<input type="checkbox"/>	Class I.....	<input type="checkbox"/>
Municipal Waste Composting Facility.....	<input type="checkbox"/>	Class II.....	<input type="checkbox"/>
Municipal Waste Incinerator or Resource Recovery Facility ..	<input type="checkbox"/>	Class III.....	<input type="checkbox"/>
Municipal Waste Demonstration Facility.....	<input type="checkbox"/>	Residual Waste Disposal Impoundment	
Municipal Waste Transfer Facility .....	<input type="checkbox"/>	Class I.....	<input type="checkbox"/>
Municipal Waste Processing Facility.....	<input type="checkbox"/>	Class II.....	<input type="checkbox"/>
Other, Specify .....	<input type="checkbox"/>	Residual Waste Composting Facility.....	<input type="checkbox"/>
		Residual Waste Demonstration Facility .....	<input type="checkbox"/>
		Residual Waste Transfer Facility .....	<input type="checkbox"/>
		Residual Waste Incinerator or Other Processing Facility....	<input type="checkbox"/>
		Residual Waste Agricultural Utilization .....	<input type="checkbox"/>
		Residual Waste Land Reclamation.....	<input type="checkbox"/>
		Other, Specify .....	<input type="checkbox"/>

**SECTION C. MAP LOCATION**

U.S.G.S. Map Location of Facility (attach the map and identify location on the USGS map)

7.5" Map Name Safe Harbor

Center of Facility:

Latitude      39°      57'      19"      Longitude      76°      26'      48"

**SECTION D. GENERAL INFORMATION**

Number of New Acres Proposed for Permit (Issued)	Number of Acres Proposed for Permit (New)
<u>Not Applicable •</u>	<u>Not Applicable •</u>
Total Acres of the Property	
<u>568 • 7</u>	
Number of Previously Permitted Acres	Current Permit ID Number(s) <u>101389</u>
<u>223 • 5</u>	

SECTION E. AFFIDAVIT

COMMONWEALTH/STATE OF Pennsylvania

COUNTY OF Lancaster SS: \_\_\_\_\_

Sworn and subscribed to before me this Fifth day of November 10 2013

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
KELLY HOPE RAMSDEN-HERR, Notary Public  
Conestoga Twp., Lancaster County  
My Commission Expires June 13, 2017

Kelly Hope Ramsden-Herr  
NOTARY PUBLIC

My Commission Expires  
June 13, 2017

Print or type name to be Signed: James D. Warner, Chief Executive Officer Date 11/06/13

Date: \_\_\_\_\_

I, James D. Warner do hereby certify pursuant to the penalties of 18 Pa. C.S.A.  
(Signature of Applicant)

Section 4904 to the best of my knowledge, information, and belief that the information contained in this application is true and correct and is in conformance with 25 PA. Code Chapters 271 or 287, whichever is applicable, of the rules and regulations of the Department of Environmental Protection.

SECTION F. APPLICATION FEE

A. Municipal Facilities

i. Application for new permit, or repermitting. (ref. 271.128)

- \$18,500 - Municipal Waste Landfill
- \$19,250 - Construction/Demolition Waste Landfill
- \$4,400 - Transfer Facility
- \$1,900 - Incinerator or Resource Recovery Facility
- \$4,000 - Other Municipal Waste Processing Facility, including Composting Facility
- \$17,300 - Demonstration Facility

ii. Application for a major permit modification.

- \$300 - Addition of types of waste not approved in the permit
- \$7,800 - Municipal Waste Landfill and Construction/Demolition Waste Landfill
- \$700 - Transfer Facility
- \$1,500 - Incinerator or Resource Recovery Facility
- \$700 - Other Municipal Waste Processing Facility, including Composting Facility
- \$6,700 - Demonstration Facility

iii.  \$300 - Permit Reissuance

iv.  \$300 - Permit Renewal

v.  \$300 - Minor Permit Modification

**SECTION F. APPLICATION FEE (Continued)**

**A. Residual Facilities**

i. Application for new permit, or repermitting. (ref. 287.141)

- \$25,900 – Residual Waste Landfill
- \$8,500 – Residual Waste Disposal Impoundment
- \$5,200 – Residual Waste Transfer Facility
- \$8,300 – Residual Waste Noncaptive Incinerator
- \$2,200 – Residual Waste Captive Incinerator
- \$5,200 – Other Waste Processing Facility, including Composting Facility
- \$8,500 – Residual Waste Demonstration Facility
- \$5,100 – Residual Waste Land Reclamation
- \$5,100 – Residual Waste Agricultural Utilization

ii. Application for a major permit modification.

- \$600 – Addition of types of waste not approved in the permit
- \$7,800 – Residual Waste Landfill
- \$600 – Residual Waste Agricultural Utilization
- \$1,900 – Residual Waste Land Reclamation
- \$1,500 – Residual Waste Incinerator Facility
- \$700 – Residual Waste Transfer or Other Processing Facility, including Composting Facility
- \$5,800 – Residual Waste Demonstration Facility
- \$4,600 – Residual Waste Disposal Impoundment

iii.  \$400 – Residual Waste Permit Reissuance

iv.  \$300 – Residual Waste Permit Renewal

v.  \$300 – Residual Waste Minor Permit Modification

**SECTION G. PUBLIC NOTICE - SECTION 271.141 (MUNICIPAL), 287.151 (RESIDUAL)**

For a new permit, major permit modification, permit renewal, permit reissuance, and submission of a closure plan, attach the proof of public notice for each of the following:

1. Newspaper - Attach the name of the newspaper, circulation location, copies of the notice, and dates of publication.
2. Municipality - Attach copies of the written notices sent to the host township and host county, and copies of the returned certified mail signature cards.
3. Contiguous Landowners - Attach copies of the written notice(s) sent to each landowner and copies of the returned certified mail signature cards.

**SECTION H. MUNICIPAL WASTE MANAGEMENT PLANS AND PERMITS**

For a new permit, major permit modification, permit renewal, or permit reissuance of a municipal waste landfill or resource recovery facility permit, is the proposed facility located in a county that has an approved municipal waste management plan that complies with Section 513 of Act 101? Yes  No

If the above answer is "yes", the applicant must complete form 46 - Relationship between Municipal Waste Management Plans and Permits.

NOTE: For each permit application, please submit the original (mark as such) and additional copies as requested by the Department's regional office.





## MINOR MODIFICATION TO A MUNICIPAL WASTE LANDFILL PERMIT OR A RESIDUAL WASTE LANDFILL OR IMPOUNDMENT PERMIT

This checklist is to assist the Department and the Applicant in assuring that all the forms, notices, documentation and fees required for an application for a minor modification to a municipal waste landfill permit or a residual waste landfill or impoundment permit have been addressed. This checklist should be signed by the Applicant and submitted to the Department as part of the application package. Failure to do so may cause the application to be administratively incomplete and ineligible for Permit Decision Guarantee (PDG).<sup>1</sup>

This checklist will be utilized by the Department and Applicant during the pre-application meeting to indicate the forms which must be included in the application. The Department will check the appropriate box in the first two columns to indicate the forms required ("Req") or not applicable ("N/A"). The Applicant will then ensure the required forms are included in the application by checking the corresponding box in the third column.

In cases where no pre-application meeting is held, the Applicant will indicate what forms are included in the application by checking the appropriate boxes in the third column.

The most current version of the forms found on the Department's online eLibrary should be utilized.

### Standard Permit Forms

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	GIF - General Information Form	8000-PM-IT0001	8000-PM-IT0001
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form A - Application	2540-PM-BWM0357	2540-PM-BWM0357
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form B - Professional Certification	2540-PM-BWM0358	2540-PM-BWM0358
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form B1 - Application for Certification	2540-PM-BWM0359	2540-PM-BWM0359
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form C1 - Compliance History Certification <sup>2</sup>	2540-PM-BWM0351	2540-PM-BWM0351
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form HW-C - Compliance History <sup>2</sup>	2540-FM-BWM0058	2540-FM-BWM0058

<sup>1</sup>DISCLAIMER: The process and procedures outlined in this Checklist are intended to supplement existing requirements. Nothing in the Checklist shall affect regulatory requirements.

The process, procedures and interpretations herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in this Checklist that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

DEP reserves the right to supplement the list of forms included on this Checklist at any time during the permit review process. This Checklist should not be construed as an exhaustive list of forms to be submitted by the Applicant.

<sup>2</sup>Either Form C1 OR Form HW-C should be submitted depending on the modification requested.

**Additional Forms Required Based on the Modification Requested**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form F – Soils Information – Phase I	2540-PM-BWM0371	2540-PM-BWM0371
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form G (A) - Air Resource Protection	2540-FM-BWM0391a	2540-FM-BWM0391a
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form G(B) - Non Methane Organic Compounds (NMOC) Emissions Estimate	2540-FM-BWM0391b	2540-FM-BWM0391b
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form H - Revegetation Plan	2540-PM-BWM0375	2540-PM-BWM0375
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form I - Soil Erosion and Sedimentation Control	2540-PM-BWM0390	2540-PM-BWM0390
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form J - Soils Phase II	2540-PM-BWM0376	2540-PM-BWM0376
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Form K - Gas Management	2540-PM-BWM0379	2540-PM-BWM0379
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form L - Contingency Plan	2540-PM-BWM0384	2540-PM-BWM0384
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form Q - Equivalency Review Request <sup>3</sup>	2540-PM-BWM0386	2540-PM-BWM0386
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form R - Waste Analyses/Classification	2540-PM-BWM0396	2540-PM-BWM0396
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form R1 - Waste Analysis and Classification	2540-PM-BWM0001	2540-PM-BWM0001
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form V - Storage Impoundment Application Form		4000-FM-DFO0019
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form X - Radiation Protection Action Plan	2500-FM-BWM0430	2500-FM-BWM0430
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 1 - Facility Plan	2540-PM-BWM0170	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 1R - Facility Plan		2540-PM-BWM0355
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 2 - Map Requirement - Phase I	2540-PM-BWM0173	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 2R - Map Requirements, Phase I		2540-PM-BWM0360
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 3 - Map Requirement - Phase II	2540-PM-BWM0007	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 3R - Map Requirement - Phase II		2540-PM-BWM0361

<sup>3</sup>A request for a new equivalency review is a major modification to the facility permit; see Checklist for Major Modification to a Municipal Waste Landfill Permit or a Residual Waste Landfill or Impoundment Permit.

**Additional Forms Required Based on the Modification Requested (cont.)**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 5 - Map Requirements	2540-PM-BWM0154	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 5R - Map Requirements		2540-PM-BWM0363
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 8 - Baseline Groundwater Analysis, Phase I	2540-PM-BWM0178	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 8R - Baseline Groundwater Analysis		2540-PM-BWM0367
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 12R - Operation Plan		2540-PM-BWM0081
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 13R - Water Quality Monitoring System, Phase II		2540-PM-BWM0372
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 14 - Operation Plan	2540-PM-BWM0011	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 14R - LFs and Impoundments Water Quality Analyses Quarterly/Annually		2540-PM-BWM0373
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 16R - Liner System		2540-PM-BWM0393
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 17R - Leachate Management		2540-PM-BWM0378
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 18 - Water Quality Monitoring System, Phase II	2540-PM-BWM0040	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 18R - Closure-Post Closure Land Use Plan		2540-PM-BWM0385
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 21R - Groundwater Assessment Plan		2540-PM-BWM0388
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 23R - Control Plans		2540-PM-BWM0392
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 24 - Liner System, Phase II	2540-PM-BWM0150	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 24R - Residual Waste Disposal Impoundments		2540-PM-BWM0500
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 25 - Leachate Management, Phase II	2540-PM-BWM0152	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 25R - Source Reduction Strategy		2540-PM-BWM0349
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 28 - Closure-Post Closure Land Use Plan	2540-PM-BWM0153	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 51 - Municipal Waste Landfill Groundwater Assessment Plan	2540-PM-BWM0005	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Form 54 - Background Meteorological Monitoring	2540-PM-BWM0503	

**Bonding Worksheets**

Req.	N/A	√	Name	Form No. (Municipal)	Form No. (Residual)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bonding Worksheet Instructions	2540-FM-BWM0580	2540-FM-BWM0580
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landfills and Disposal Impoundments	2540-FM-BWM0581	2540-FM-BWM0581

**Application Fee**

Required	√	Authorization Type	Amount
	<input checked="" type="checkbox"/>	Minor Modification	\$300

**Additional Application Copies**

Req.	N/A	√	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	One original and <u>one</u> additional copies of the application

Signature of Applicant or Authorized Representative: Brooks K Norris Date: 11/1/13

Printed Name: Brooks K. Norris Title: Senior Manager – Technical Services

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Form B

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Date Prepared/Revised November 2013
<b>DEP USE ONLY</b>
Date Received

## FORM B PROFESSIONAL CERTIFICATION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form B, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 271.122, 287.122

### SECTION A. SITE IDENTIFIER

Applicant/permittee: Lancaster County Solid Waste Management Authority

Site Name: Frey Farm Landfill - Horizontal Gas Collector Minor Permit Modification Application

Facility ID (as issued by DEP): 477357 (Permit No. 101389)

### SECTION B. REGISTERED PROFESSIONAL ENGINEER

I, Bryan M. Wehler

(Engineer's Name - Print or Type)

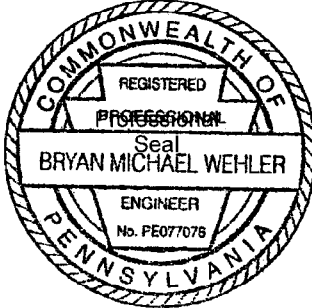
being a Registered Professional Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law, do hereby certify to the best of my knowledge, information, and belief that the information contained in the accompanying application, plans, specifications, and reports has been prepared in accordance with accepted practice of engineering, are true and correct, and are in accordance with the Rules and Regulations of the Department of Environmental Protection. I also certify that those individuals indicated in the following paragraphs prepared this application under my supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature  Date 11/11/13

License Number PE - 077076 - E Expiration Date September 30, 2015

Address ARM Group Inc.  
1129 West Governor Road, P.O. Box 797  
Hershey, PA 17033-0797

Telephone No. ( 717 ) 533-8600



**SECTION C. SOIL SCIENTIST PROVIDING SOILS INFORMATION**

I, N/A do hereby certify  
(Soil Scientists Name – Print or Type)

to the best of my knowledge, information, and belief that the soils information contained in this application has been prepared in accordance with accepted practices of soil science and in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone No. ( ) \_\_\_\_\_

**SECTION D. REGISTERED PROFESSIONAL GEOLOGIST**

I, N/A being a  
(Hydrogeologist's Name – Print or Type)

Registered Professional Geologist in accordance with the Pennsylvania Professional Geologists Registration Law, do hereby certify to the best of my knowledge, information, and belief that the hydrogeology information contained in this application has been prepared in accordance with the accepted practices of hydrogeology and in accordance with the Rules and Regulations of the Department of Environmental Protection. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature \_\_\_\_\_ Date \_\_\_\_\_

License Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Professional Seal

Telephone No. ( ) \_\_\_\_\_

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Form B1

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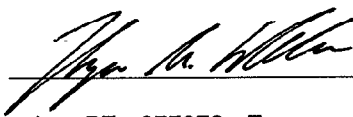


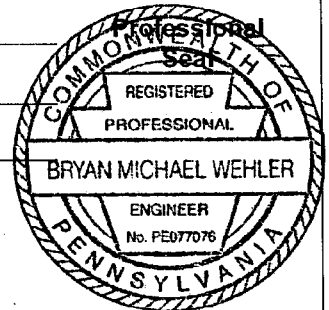


Date Prepared/Revised November 2013
<b>DEP USE ONLY</b>
Date Received

## FORM B1 APPLICATION FORM CERTIFICATION

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form B1, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

<b>SECTION A. SITE IDENTIFIER</b>	
Applicant/permittee:	Lancaster County Solid Waste Management Authority
Site Name:	Frey Farm Landfill - Horizontal Gas Collector Minor Permit Modification Application
Facility ID (as issued by DEP):	477357 (Permit No. 101389)
<b>SECTION B. CERTIFICATION</b>	
<b>Professional Engineer</b>	
I, <u>Bryan M. Wehler</u> <span style="display: block; text-align: center; font-size: small;">(Engineer's Name -Print or Type)</span>	
<p>being a Registered Professional Engineer in accordance with the Pennsylvania Professional Engineer's Registration Law, do hereby certify that the forms used in the accompanying application have been reproduced under my supervision and have the same exact content and the same format as the forms prepared by the Department. I am aware that there are significant penalties for altering the content of the Department's forms, including the possibility of fines and imprisonment.</p>	
Signature <u></u>	Date <u>11/11/13</u>
License Number <u>PE - 077076 - E</u>	Expiration Date <u>September 30, 2015</u>
Address <u>ARM Group Inc.</u>	
<u>1129 West Governor Road, P.O. Box 797</u>	
<u>Hershey, PA 17033-0797</u>	
Telephone No. <u>( 717 ) 533-8600</u>	



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Form C1

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DEP USE ONLY  
Date Received

**FORM C1  
COMPLIANCE HISTORY CERTIFICATION**

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided herein. Improperly completed forms may be rejected by the Department, may be considered to be violations of the Department's Rules and Regulations, and may result in assessment of fines and penalties.

**Instructions:**

If your last Form HW-C does not require to be amended, execute the certification Form C1 Compliance History Certification (2540-PM-BWM0351 Rev. 6/2006) indicating that the Form HW-C, on file is complete and current. Be sure the form is properly signed, sealed, and notarized. Please note that the date on the certification Form C1 must be the date the HW-C, on file, was notarized.

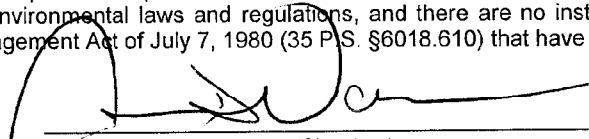
If the applicant, permittee, or licensee ("application") is a corporation, this form must be signed by two corporate officers (a president or vice-president and a secretary or treasurer) authorized to execute the form or by one corporate officer and one corporate employee in Pennsylvania with sufficient authority over the solid waste management activity being licensed or permitted to execute this form on behalf of the corporation. **ATTACH A COPY OF THE ARTICLES OF INCORPORATION OF THE APPLICANT.**

**SECTION A. APPLICANT IDENTIFIER**

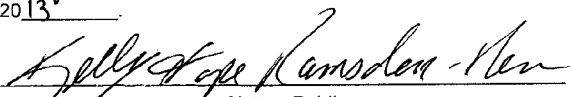
Facility Name: LCSWMA Frey Farm Landfill

**SECTION B. CERTIFICATION**

This is to certify that no changes, additions, or other supplemental data are required to amend the most recent form HW-C, Compliance History dated June 14, 2013 and submitted to the Pennsylvania Department of Environmental Protection by LCSWMA (Annual Operating Report), which amendments would update and make current and complete all the information provided therein. The Compliance History now in the Department's possession reflects the Company's current status of officers, corporate structure as applicable, and compliance with environmental laws and regulations, and there are no instances of unlawful conduct as defined by the Pennsylvania Solid Waste Management Act of July 7, 1980 (35 P.S. §6018.610) that have not been corrected to the satisfaction of the Department.

  
\_\_\_\_\_  
(Signature)  
  
Name: James D. Warner  
\_\_\_\_\_  
(Print or Type Name)  
  
Title: Chief Executive Officer  
\_\_\_\_\_  
(Print or Type Title)

Sworn to and subscribed before me this  
Fifth day of November  
2013

  
\_\_\_\_\_  
Notary Public

**COMMONWEALTH OF PENNSYLVANIA**  
**NOTARIAL SEAL**  
KELLY HOPE RAMSDEN-HERR, Notary Public  
Conestoga Twp., Lancaster County  
My Commission Expires June 13, 2017

SECTION B. (Continued)

*Brooks K Norris*

(Signature)

Name: Brooks K. Norris

(Print or Type Name)

Title: Senior Manager, Technical Services

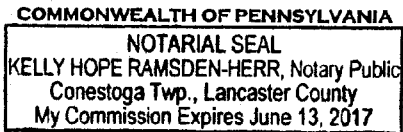
(Print or Type Title)

Sworn to and subscribed before me this

Fifth day of November  
2013

*Kelly Hope Ramsden-Herr*  
Notary Public

Attach copy of Articles of Incorporation



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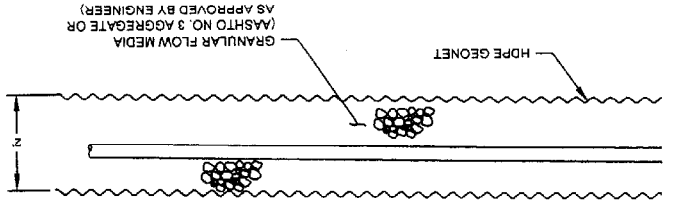
Attachment II  
Drawings

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**CONNECTION**



This drawing, its contents, and each component of this drawing are the  
 property of and proprietary to ARM Group Inc. and shall not be reproduced  
 or used in any manner except for the purpose identified on the Title Block,  
 and only by or on behalf of this client for the identified project unless  
 otherwise authorized by the express, written consent of ARM Group Inc.

Sheet <b>1</b>	drawing title <b>HORIZONTAL GAS COLLECTION SYSTEM PLAN AND DETAILS</b>
	project title <b>HORIZONTAL GAS COLLECTION SYSTEM FREY FARM LANDFILL</b>
	<b>MANOR TOWN LANCASTER COUN</b>

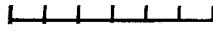
Z:\Projects\2011\2238 [CSM]M4 Horizontal Gas Collection\_Dwg\Production\Horizontal Gas Collection\112238-C-101.dwg Project November 13, 2013

4" DIA. HDPE SDR-11

This drawing, its contents, and each component of this drawing are the property of and proprietary to ARM Group Inc. and shall not be reproduced or used in any manner except for the purpose identified on the Title Block, and only by or on behalf of this client for the identified project unless otherwise authorized by the express, written consent of ARM Group Inc.

Sheet <b>2</b>	drawing title <b>HORIZONTAL GAS COLLECTION SYSTEM PROFILES</b>	
	project title HORIZONTAL GAS COLLECTION SYSTEM FREY FARM/LANDELL	MANOR TOWNS LANCASTER COUN

Z:\Project\01112318 ICSNMAA Horizontal Gas Collection\Drawg\Production\Horizontal Gas Collection\112318-C-101.dwg Plot: November 12, 2013





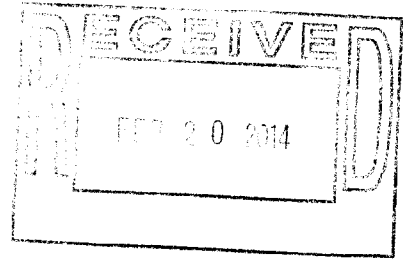
# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WASTE MANAGEMENT PROGRAM

FEB 18 2014

**CERTIFIED MAIL NO. 9171 9690 0935 0033 0084 76**

Mr. Brooks Norris, Senior Manager, Technical Services  
Lancaster County Solid Waste Authority  
1299 Harrisburg Pike  
P.O. Box 4425  
Lancaster, PA 17604-4425



Re: Minor Permit Modification  
Horizontal Gas Collector  
Frey Farm landfill  
Permit No. 101389  
APS ID No. 828991  
Manor Township, Lancaster County

Dear Mr. Norris:

Enclosed is a permit modification to Solid Waste Permit No. 101389 for the operation of Frey Farm Landfill, issued in accordance with Article V of the Solid Waste Management Act, 35 P.S. Sections 6018.101, et seq.

This permit modification approves the use of a horizontal landfill gas collector (perforated 6-inch HDPE, SDR-11) in Cells 5 and 6 of the Frey Farm Landfill.

Compliance with the terms and conditions set forth in the permit is mandatory. You have the right to file an appeal as to these terms and conditions.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

Southcentral Regional Office | 909 Elmerton Avenue | Harrisburg, PA 17110-8200

717.705.4706 | Fax 717.705.4930

[www.depweb.state.pa.us](http://www.depweb.state.pa.us)



Mr. Brooks Norris

- 2 -

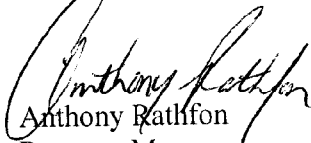
FEB 18 2014

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions about the enclosed permit or requirements of the Solid Waste Management Act, please call Mr. Edward Rawski at 717.705.6637.

Sincerely,



Anthony Rathfon  
Program Manager  
Waste Management Program

Enclosure(s)

cc: Manor Township, Lancaster County  
Lancaster County Planning Commission  
ARM Group Inc. (William Tafuto)

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WASTE MANAGEMENT PROGRAM  
SOUTHCENTRAL REGION

FORM NO. 13-A

MODIFICATION TO SOLID WASTE DISPOSAL AND/OR PROCESSING PERMIT

Under the provisions of Act 97, the Solid Waste Management Act of July 7, 1980, as amended, Solid Waste Permit Number 100389, issued on 06/4/1981 to:

Lancaster County Solid Waste Management Authority  
1299 Harrisburg Pike  
P.O. Box 4425

Manor Township, Lancaster County

is hereby modified as follows:

This permit modification is issued based on the following submissions:

1. Minor Permit Modification, prepared by ARM Group, Inc., received November 14, 2013, consisting of the following:

Introduction

General Information Form

Form A, Application for Municipal Waste Permit

Form B, Professional Certification

Form B-1, Application for Certification

Form C,1 Compliance History Certification

Form K, Gas Management

Sheet 1, Horizontal Gas Collection System Plan and Details

Sheet 2, Horizontal Gas Collection System Profiles

2. Revised Sheet 1, Horizontal Gas Collection System Plan and Details & Sheet 2, Horizontal Gas Collection System Profiles, (both revised 12/12/2013), received December 23, 2013.

his modification shall be attached to the existing Solid Waste Permit described above and shall become a part thereof effective on FEB 18 2014.

  
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Permit Conditions:

FEB 18 2014

1. Any final operation, design, or other plan developed subsequent to permit issuance which exhibits changes in the structures, locations, specifications, control measures or other changes of substance shall be submitted to the Department for subsequent permit action. Any deviation of plans herein approved shall not be implemented before first obtaining a permit modification or written approval from the Department.
2. Nothing herein shall be construed to supersede, amend or authorize violation of the provisions of any valid and applicable local law ordinance, or regulation, provided that said local law, ordinance or regulation is not preempted by the Pennsylvania Solid Waste Management Act, the Act of July 7, 1980, Act 97, 35 P.S. § 6018.101, et seq.