

'JUL 26 2017

CERTIFIED MAIL NO 9171 9690 0935 0109 5392 00

Mr. James Warner, Chief Executive Officer
Lancaster County Solid Waste Authority
1299 Harrisburg Pike
PO Box 4425
Lancaster, PA 17604-4425

Re: Major Permit Modification
Vertical Expansion and Increase in Daily Volumes
Frey Farm Landfill
Permit No. 101389
APS ID No. 869714
Manor Township, Lancaster County

Dear Mr. Warner:

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 6018.501-6018.505.

This permit modification approves the expansion of the Frey Farm Landfill and an increase in daily volumes of waste accepted. The Harm vs. Benefit analysis, part of the Environmental assessment process, was completed on January 6, 2017. The Department concluded that the Lancaster County Solid Waste Management Authority (LCSWMA) has demonstrated that the proposed mitigation measures will adequately protect the environment and the public health, safety, and welfare. The Department concluded that the LCSWMA demonstrated that its application complied with Article 1, Section 27 of the Pennsylvania Constitution. The Department has also concluded the benefits of the project to the public clearly outweigh the known and potential environmental harms. A copy of this document is attached.

It should be noted that during the technical review, a very extensive site specific evaluation of the landfill stability was conducted. This evaluation indicated the landfill is stable in a seismic event and that the proposed design in many cases increased the overall stability of the landfill with the Mechanically Stabilized Earth (MSE) berms compared to the Frey Farm Landfill as it exists today.

Furthermore, during the technical review, LCSWMA independently and with no technical need, withdrew the MSE berm termination away from the west side (parallel to the Susquehanna River). This was to further address any visual aesthetic concerns, and is beyond the mitigations presented in the Harms Benefit Analysis. The LCSWMA opted in its design to build the MSE berm on the east side and to the north of the landfill, and to limit the additional height of waste to 50 feet to minimize any visual impacts.

Mr. Warner

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To further minimize visual impacts, the LCSWMA has committed to the development of a visual landscape synthesis plan, to incrementally blend the landfill into the surrounding countryside.

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.

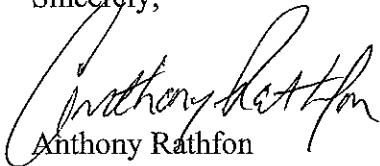
Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 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.

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. John Oren at 717.705.4907.

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 05/27/1988 to:

Lancaster County Solid Waste Management Authority
1299 Harrisburg Pike
PO Box 4425

Manor Township, Lancaster County

is hereby modified as follows:

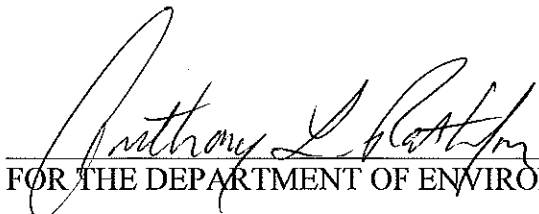
This permit modification is issued based on the following submissions:

1. Permit Modification Application Frey Farm landfill, prepared by ARM Group, Inc., received April 21, 2015 (date of LMIP meeting) consisting of the following:

Phase I Volume 1 of 3

Permit Application Summary
General Information Form
Form A, Application for Municipal Waste Permit
Form B, Professional Certification
Form B-1, Application for Certification
Form HW-C, Compliance History
Form D, Environmental Assessment for Municipal and Residual Waste Management Facilities
Form D associated drawings and supporting information

This modification shall be attached to the existing Solid Waste Permit described above and shall become a part thereof effective on JUL 26 2017.



FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Phase I Volume 2 of 3

Continuation of Form D, Environmental Assessment for Municipal and Residual
Waste Management Facilities
Form D associated drawings and supporting information
Form E, Contractual Consent of Landowner
Form F, Soils Information - Phase I
Form 1, Facility Plan
Supporting Information

Phase I Volume 3 of 3

Form 2, Map Requirements
Sheet 1, Cover Sheet
Sheet 2, Current Site Conditions
Sheet 3A, Proposed FFLF permit Area
Sheet 3B, Site Development Plan
Sheet 4, Site Investigation Map
Sheet 5, USDA Soils Map
Sheet 6, Top of Bedrock Contour Map
Sheet 7, Soils/Saprolite Isopach Map
Sheet 8, Geologic Map
Sheet 9A, Geologic Cross Sections (1 of 2)
Sheet 9B, Geologic Cross Sections (2 of 2)
Sheet 10, Composite Historic High Groundwater Contour Map
Sheet 11A, Hydrologic Cross Sections with Flow Nets (1 of 2)
Sheet 11B, Hydrologic Cross Sections with Flow Nets (2 of 2)
Sheet 12, Private and Public Well Locations
Sheet 13, Surface Water features
Sheet 14, Groundwater and Surface Water Monitoring Plan
Form 6, Geologic Information – Phase 1
Form 7, Hydrogeologic Information – Phase 1
Form 8, Municipal Waste Landfills Baseline Ground Water Analyses (several)
Form 11, Mineral Deposits Information – Phase I
Form 12, Alternative Water Supply – Phase 1
Form 45, Protection of Capacity
Form 46, Relationship Between Municipal Waste Management Plans and Permits
Form 54, Background Meteorological Monitoring
Supporting Information

Phase II Volume 1 of 4

Form G(A), Air Resources Protection Dust Emissions Estimate and Control Plan
Form G(B), Air Resources Protection NMOC Emissions Estimate and Control Plan
Form H, Revegetation
Form I, Soil Erosion and Sedimentation Controls
Form J, Soils Information
Form K, Gas Management
Form L, Contingency Plan for Emergency Procedures
Form Q, Request for Equivalency Review (several)
Form R, Waste Analysis and Classification Plan
Supporting Information

Phase II Volume 2 of 4

Form 3, Map Requirements – Phase II
Sheet 1, Cover Sheet
Sheet 2, Existing Conditions Plan
Sheet 3, Site Development and Facility Plan
Sheet 4, Demolition Plan
Sheet 5, Subgrade Plan
Sheet 6, Construction and Filling Stage 1
Sheet 7, Construction and Filling Stage 2
Sheet 8, Construction and Filling Stage 3A
Sheet 9, Construction and Filling Stage 3B
Sheet 10, Final Grade Plan
Sheet 11, Landfill Cross Sections 1
Sheet 12, Landfill Cross Sections 2
Sheet 13, Landfill Cross Sections 3
Sheet 14, Critical Cross Sections and Typical MSE Berm
Sheet 15, MSE Berm Details
Sheet 16, Road Details
Sheet 17, MSE Berm Plan and Profiles 1
Sheet 18, MSE Berm Plan and Profiles 2
Sheet 19, MSE Berm Plan and Profiles 3
Sheet 20, MSE Berm Cross Sections 1
Sheet 21, MSE Berm Cross Sections 2
Sheet 22, MSE Berm Cross Sections 3
Sheet 23, MSE Berm Cross Sections 4
Sheet 24, Existing Landfill Gas Management System Modifications Plan
Sheet 25A, Existing Landfill Gas Management System Modification Details
Sheet 25B, Existing Landfill Gas Management System Modification Profiles 1
Sheet 25C, Existing Landfill Gas Management System Modification Profiles 2
Sheet 26, Existing Leachate Collection/Detection System Plan
Sheet 27, Leachate Collection/Detection System and Liner System Plan
Sheet 27A, Cell 1 Riser Modification Waste Excavation Plan
Sheet 28, Liner System and Cap Details 1
Sheet 29, Liner System and Cap Details 2
Sheet 30, Leachate Transmission Plan and Profile 1
Sheet 31, Leachate Transmission Plan and Profile 2

Phase II Volume 3 of 4

Sheet 32, Leachate Management Details 1
Sheet 33, Leachate Management Details 2
Sheet 34, Leachate Management Details 3
Sheet 35, Leachate Management Details 4
Sheet 36, Landfill Gas Management Plan
Sheet 36A, Landfill Gas Header Plan and Profile
Sheet 37, Landfill Gas Management Details 1
Sheet 38, Landfill Gas Monitoring Probe Plan and Details
Sheet 39, Existing FFLF Cover and Capping System Modifications Plan
Sheet 40, Litter Fence Details
Sheet ES-1, Stormwater Management and Erosion and Sediment Control Plan 1

Phase II Volume 3 of 4 continued

Sheet ES-2, Stormwater Management and Erosion and Sediment Control Plan 2
Sheet ES-3, Stormwater Management and Erosion and Sediment Control Plan 3
Sheet ES-4, Stormwater Management and Erosion and Sediment Control Plan 4
Sheet ES-5, Stormwater Management and Erosion and Sediment Control Plan 5
Sheet ES-6, Stormwater Management and Erosion and Sediment Control Details 1
Sheet ES-7, Stormwater Management and Erosion and Sediment Control Details 2
Sheet ES-8, Stormwater Management and Erosion and Sediment Control Details 3
Sheet ES-9, Stormwater Management and Erosion and Sediment Control Profiles
Sheet ES-10, Proposed Basins C and D Plans, Profiles and details
Sheet ES-11, Existing Culverts Modifications Plan
Sheet M-1, Leachate Transmission System Process Flow Diagram
Sheet M-2, Leachate Pump Station Plans
Sheet M-3, Wet Well and Pump Station Profiles
Sheet M-4, Wet Well and Pump Station Plans and Sections 2
Sheet M-5, Proposed Maintenance Building and Leachate Storage Tanks
Sheet M-6, Proposed Truck Wash
Sheet A-1, Ash Berm Footprint – Limit of Waste Plan
Sheet A-2, Ash Berm Footprint – Subgrade Plan
Sheet A-3, Ash Berm Footprint – Leachate Collection Plan
Sheet A-4, Ash Berm Footprint – Final Grade
Sheet A-5, Ash Berm Typical Section and Details 1
Sheet A-6, Ash Berm Typical Section and Details 2
Sheet A-7, Ash MSE Berm Cross Sections
Sheet A-8, Ash MSE Berm Cross Sections and Details

Phase II Volume 4 of 4

Form 14, Operation Plan – Phase II
Form 18, Water Quality Monitoring System Phase II
Form 24, Liner System – Phase II
Form 25, Leachate Management – Phase II
Form 28, Closure Post/Closure Land Use

2. Proof of public notifications and additional Form D notifications and information, prepared by ARM Group, Inc., received April 20, 2015.
3. Response to the Department's November 17, 2015 environmental assessment review letter, prepared by Arm Group, Inc., received March 10, 2016, consisting of the following:

LCSWMA Narrative response
Appendix A, ARM Comprehensive Technical Response
Attachment A, Heritage PA Economic Impact Study Executive Summary
Attachment B, Line of Site Study Supplement as follows:
LOS 1, USGS Map with Section Lines
LOS 2, Aerial Map with Section Lines
LOS 6A, Line of Sight Sections 3A-3B
LOS 7, Photographs 1 of 3
LOS 8, Photographs 2 of 3
LOS 9, Photographs 3 of 3
LOS 10, Rendered Photographs 1 of 4

LOS 11, Rendered Photographs 2 of 4
LOS 12, Rendered Photographs 3 of 4
LOS 13, Rendered Photographs 4 of 4
Attachment C, ARM Personnel Professional Resumes
Attachment D, Map of Earthquake Epicenters in and Near Pennsylvania
Attachment E, Articles Related to the 1984 earthquake and the Martic Line
Attachment F, USGS Seismic Mapping Technical Q & A
Attachment G, USGS Interactive Deaggregation Output Files
Attachment H, 2014 USGS Seismic Hazard Map
Attachment I, Earthquake Magnitude Probability Map
Attachment J, USGS Earthquake Hazards 101: The Basics
Appendix B, letter of support from Penn Manor School District
Appendix C, PADEP Waiver of Permit Requirements

4. Response to the Department's May 5, 2016 second environmental assessment review letter, submitted under LCSWMA cover, received June 21, 2016, consisting of the following:

Attachment #1, Kaufman Engineering Visuals
Attachment #2, Manor Township Letter Accepting Radar Sign
Attachment #3, Radar Sign Map
Attachment #4, LCSWMA Traffic Compliance Plan
Attachment #5, Penn Manor School District Letter with PPT
Attachment #6, ARM Group Responses to PADEP 2nd EA letter
Sheet 1, Section Location Plan
Sheet 2, Landfill Cross Sections
Sheet 14, Critical Cross Sections and Typical MSE Berm (revised 6/2/16)
Sheet 17, MSE Berm Plan and Profiles 1 (revised 6/2/16)
Sheet 18, MSE Berm Plan and Profiles 2 (revised 6/2/16)
Sheet 19, MSE Berm Plan and Profiles 3 (revised 6/2/16)
Attachment #7, HDR Kanishka Perera Ph.D. Seismic 2nd opinion
Attachment #8, HGS Gerald Ahnell P.G. Geologic 2nd opinion

5. Response to the Department's August 8, 2016 request for additional information, prepared by LCSWMA and ARM Group, Inc., received August 23, 2016, consisting of the following:

LCSWMA narrative response
Attachment #1, ARM corrected page 9
Attachment #2, ARM Geotechnical Engineering Report for the Proposed Frey Farm Landfill Wind Energy Project dated April 2010
Attachment #3, LCSWMA Transportation Compliance Plan Driver Packet Series of maps showing locations of school bus stops and stop times

6. LCSWMA response to the Departments September 13, 2016 letter regarding additional environmental assessment information received October 7, 2016
7. Response to the Department's January 25, 2017 technical review, submitted under LCSWMA cover, received April 4, 2017, consisting of the following:

Narrative letter

Attachment #1, USGS 2014 Seismic Hazard Map 2% exceedance in 50 years PGA

Attachment #2, ARM Response (including HDR response)

Exhibit 1, Seismic & Stability Summary

Exhibit 2, Updated Site Deterministic Seismic Analysis

Exhibit 3, Updated Embankment Loading Calculations

Exhibit 4, Liquefaction Analysis

Exhibit 5, Updated Stability Analysis

Exhibit 6, Final Cover Veneer Stability

Exhibit 7, Alternative Capping Materials Minor Modification

Exhibit 8, New Drawing: Sheet 1, Form I – Drainage Areas and Drainage Divides

Exhibit 9, Updated Soils Construction Quality Assurance Plan

Exhibit 10, Updated CQA Plan

Exhibit 11, MSE Berm Inspection Form

Exhibit 12, Updated Monitoring Well Information

Exhibit 13, Groundwater Sampling and Analysis Plan, including Sheet 1, Frey Farm

Landfill Groundwater Sampling and Analysis Plan,

Exhibit 14, Form I Calculations

Supporting Information

8. Revised drawings reflecting the revised location of the Mechanically Stabilized Earth Berm (MSE), submitted by Arm Group Inc., received April 25, 2017. All the following drawings were revised 3/30/2017:

Sheet 1, Cover Sheet

Sheet 3, Site Development and Facility Plan

Sheet 5, Subgrade Plan

Sheet 6, Construction and Filling Stage 1

Sheet 7, Construction and Filling Stage 2

Sheet 8, Construction and Filling Stage 3A

Sheet 9, Construction and Filling Stage 3B

Sheet 10, Final Grade Plan

Sheet 17, MSE Berm Plan and Profiles 1

Sheet 18, MSE Berm Plan and Profiles 2

Sheet 19, MSE Berm Plan and Profiles 3

Sheet 20, MSE Berm Cross Sections 1

Sheet 21, MSE Berm Cross Sections 2

Sheet 22, MSE Berm Cross Sections 3

Sheet 23, MSE Berm Cross Sections 4

Sheet 24, Existing Landfill Gas Management System Modifications Plan

Sheet 27, Leachate Collection/Detection System and Liner System Plan

Sheet 29, Liner System and Cap Details 2

Sheet 36, Landfill Gas Management Plan

Sheet 37, Landfill Gas Management Details 1

Sheet 38, Landfill Gas Monitoring Probe Plan and Details

Sheet 39, Existing FFLF Cover and Capping System Modifications Plan

Sheet ES-1, Stormwater Management and Erosion and Sediment Control Plan 1

Sheet ES-2, Stormwater Management and Erosion and Sediment Control Plan 2

Sheet ES-3, Stormwater Management and Erosion and Sediment Control Plan 3

Sheet ES-4, Stormwater Management and Erosion and Sediment Control Plan 4

Sheet ES-5, Stormwater Management and Erosion and Sediment Control Plan 5

Sheet ES-6, Stormwater Management and Erosion and Sediment Control Details 1
Sheet ES-7, Stormwater Management and Erosion and Sediment Control Details 2
Sheet ES-10, Basins C and D Plans, Profiles and Details
Sheet ES-11, Existing Culverts Modifications Plan

9. 2017 Benthic Macroinvertebrate Assessment Manns Run and its Tributaries, prepared by ARM Group, Inc., received May 18, 2017.
10. Response to the Department's May 4, 2017 technical review letter, prepared by ARM Group, Inc., received May 31, 2017 consisting of the following:

Narrative response

Exhibit 1, April 2017 Benthic Macroinvertebrate Assessment Report

Exhibit 2, MASW & ER Profile Location Figure

Exhibit 3, Revised Drawings

Sheet 8, Geologic Map (Revised 5/16/17)

Sheet 10, Composite Historic High Groundwater Contour Map (Revised 5/16/17)

Sheet 14, Critical Cross Sections and Typical MSE Berm (Revised 5/16/17)

Sheet 17, MSE Berm Plan and Profiles 1 (Revised 5/16/17)

Sheet 18, MSE Berm Plan and Profiles 2 (Revised 5/16/17)

Sheet 19, MSE Berm Plan and Profiles 3 (Revised 5/16/17)

Sheet 21, MSE Berm Cross Sections 2 (Revised 5/16/17)

Sheet 1, Section Location Plan (Revised 5/16/17)

Sheet 2, Landfill Cross Sections (Revised 5/16/17)

Exhibit 4, Letter Addressing Site Deterministic Seismic Analysis Table for LCSZ-3
Column Accelerations (HDR)

Exhibit 5, Revised Form 18 Tables

Exhibit 6, Revised Groundwater Sampling and Analysis Plan

Exhibit 7, Updated Bonding Worksheets

Exhibit 8, FFMP002W Modification Form 37

11. Groundwater Sampling and Analysis Plan, prepared by ARM Group, Inc., received June 7, 2017. This submission also includes revised Sheet 1, Groundwater and Surface Water Monitoring Plan (revised 6/5/17) and a description of inclinometers that may be used to monitor the MSE berm.
12. Revised Form 14 - narrative, prepared by LCSWMA received June 27, 2017. Clarification related to the MSE berm monitoring.

Permit Conditions:

1. No more than 2500 tons of approved waste may be received at this facility on an average daily volume basis over a standard calendar quarter. The average daily volume for the quarter is calculated by dividing the total number of tons of waste received at the landfill by the number of **actual** operating days during that quarter. If waste is not received on a permitted operating day, that day cannot be counted in the calculation. Section 1112 of Act 101, the Municipal Waste Planning, Recycling, and Waste Reduction Act, mandates a civil penalty of \$100.00 per ton for all excess waste received. Waste received is waste, as defined in the Municipal Waste Regulations, that is received for disposal, used as alternative cover materials, or for landfill construction.

2. No more than 3000 tons of approved waste may be received at this facility on any operating day. Section 1112 of Act 101, the Municipal Waste Planning, Recycling, and Waste Reduction Act, mandates a civil penalty of \$100.00 per ton for all excess waste received. Waste received is waste, as defined in the Municipal Waste Regulations, that is received for disposal, used as alternative cover materials, or for landfill construction.
3. LCSWMA has proposed mitigation of harms and has identified benefits of the project to the public as indicated in the application submissions included as part of this permit modification. Based upon the Department's evaluation of the environmental assessment, of which the harms/benefits analysis is part, it has been determined that the benefits of the project clearly outweigh the known and potential harms as required by 25 Pa. Code Section § 271.127(c) of the Municipal Waste Regulations. Failure to complete mitigation measures or failure to provide for all the benefits described in the permit modification submissions on which the Department based its analysis may result in suspension or revocation of the permit. The Department may also take additional appropriate enforcement actions.
4. A report must be included with the annual report due by June 30, 2018 describing all mitigation measures initiated and/or completed, and all benefits provided to date. Thereafter, a report must be included with each subsequent annual report.
5. An annual inspection report of the Mechanically Stabilized Earth (MSE) Berm must be submitted along with the annual report. The inspection must be completed by or under the direction or supervision of a Professional Engineer licensed in the Commonwealth of Pennsylvania who specializes in geotechnical engineering and possesses at least three (3) years of experience designing MSE berms and/or providing construction-phase engineering for MSE Berm Projects. The approved inspector shall document each inspection using an approved MSE Berm Inspection Form.
6. LCSWMA must submit an application for a minor permit modification for the Visual Landscape Synthesis Plan (LSPlan) within 1 year of the date of issuance of this permit. This comprehensive plan must include a detailed incremental implementation and yearly evaluation of the success of the project. LCSWMA must give consideration to any public input for the LSPlan. If the Department does not approve of the LSPlan, it will send a technical deficiency notification to the LCSWMA and identify the deficient part(s) of the LSPlan. LCSWMA shall have 90 business days of date of notification from the Department to amend and resubmit the LSPlan to the Department, for Department review and approval. If LCSWMA fails to correct the deficiencies noted by the Department in its technical deficiency letter, LCSWMA shall be in violation of this permit condition.
7. Every section of the MSE berm shall be constructed in accordance with the design calculations, design specifications, and quality control procedures approved herein and under the oversight of a licensed professional engineer who is registered to practice in the Commonwealth of Pennsylvania. The construction of every section of the MSE Berm shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, upon completion of the section of the MSE Berm for Department approval.
8. The MSE Berm proposed in the application to be constructed with processed municipal incinerator ash is not approved as part of this permit modification. A minor permit modification may be submitted to continue the review of the MSE Berm constructed with processed municipal incinerator ash.

9. Every abandonment of a landfill gas collection well shall be under the oversight of a licensed professional engineer who is registered to practice in the Commonwealth of Pennsylvania. The abandonment shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, upon completion of the abandonment of the landfill gas collection well for Department approval.
10. Any section of geosynthetic cap removal shall be under the oversight of a licensed professional engineer who is registered to practice in the Commonwealth of Pennsylvania. The removal of any geosynthetic cap shall be documented, and this documentation shall be submitted with a Form 37, *Certification of Facility Construction Activity*, upon completion of the removal of geosynthetic cap for Department approval.
11. LCSWMA shall perform benthic macroinvertebrate surveys every 5 years in accordance with PADEP's benthic macroinvertebrate protocol so that any possible impacts to the community, due to the Frey Farm Landfill, can be monitored. The last survey was conducted in April 2017. The surveys shall be coordinated with a Department aquatic biologist and submitted along with the subsequent Groundwater Monitoring Report (i.e., quarterly or annual). Within the 5-year period, if degradation is documented in surface waters downgradient of the Frey Farm Landfill, more frequent benthic macroinvertebrate assessments may be required by PADEP via written request. A permit modification will not be required for additional monitoring.
12. All groundwater monitoring well drilling and abandonments shall be consistent with Act 610 *Water Well Drillers License Act* and the Department's Municipal Waste Regulations for approval.

Specifically:

- a. When a well is to be abandoned, at least 10 days before the wellbore is sealed or filled, the Department shall be informed and a notice of intent to abandon shall be sent to the Bureau of Topographic Survey's (BTGS) Water Well Licensing Service Department as follows:

- Water Well Licensing Service
Pennsylvania Geological Survey
3240 Schoolhouse Road
Middletown, PA 17057

- Guidelines:

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_006802.pdf

- b. A Water Well Abandonment Form must be submitted upon completion of a well abandonment. The form can be downloaded from the Internet links noted above or below. The original driller's well log shall be included, if it is existing. A reference map, surveyed well location, and photograph indicating the abandoned well location shall be included in the report.

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_006801.pdf

- c. When a well is drilled, a copy of the *Water Well Completion Report* shall be submitted per Act 610 requirements.
 - d. Form 37, *Certification of Facility Construction Activity*, completed and sealed by a Pennsylvania licensed professional geologist, shall be submitted to the Department within 30 days of completion of well drilling or abandonment. The Form 37 submission shall include: the well drilling or well abandonment report; an updated Form 18, *Water Quality Monitoring System*; well construction and lithologic logs indicating depth to water, well yield, dedicated pump depth, and other pertinent information for each well location. The Department must approve Form 37 before a replacement Form 18 groundwater monitoring well can be put into service.
 - e. Replacement wells FFMP033W and FFMP034W shall be installed at least one year prior to landfill encroachment upon this area. The wells shall be installed and monitored for Form 8, *Municipal Waste Landfill Baseline Groundwater Analysis*, baseline parameters for at least two consecutive quarters prior to abandonment of the well being replaced.
13. The Department's Southcentral Regional Office Waste Management Program maintains a groundwater information database. To reduce the transfer and storage of paper, a compact disc (CD) containing an electronic data delivery (EDD) of the Departmental groundwater monitoring report and data evaluation shall be submitted quarterly in lieu of a paper copy; however, the Department requests that LCSWMA submit a hard copy and EDD of the annual submittal. The CD shall be attached to a signed cover letter indicating that it represents an official submission of water quality monitoring data to the Department and shall include:
- a. The appropriate Departmental groundwater monitoring report forms:
 - i. Form 8, *Municipal Waste Landfill Baseline Groundwater Analyses* (the first two quarters for the newly drilled wells);
 - ii. Form 19, *Municipal Waste Landfill Quarterly and Annual Water Quality Analyses*;
 - iii. Form 50, *Municipal Waste Landfill Leachate Analyses*;
 - iv. Form 52, *Municipal Waste Landfill Private Water Supply Quarterly Water Quality Analyses*; and
 - v. Discharge Monitoring Report (DMR) – Semi-annual.
 - b. Field data sheets (i.e., field notes and purge records).
 - c. Laboratory analytical datasheets.
 - d. Laboratory chain of custody documents.
 - e. An EDD spreadsheet containing all groundwater, leachate, Form 52 private water supply well, and DMR sampling/analytical data in an appropriate format for downloading into the Department's database, which is currently a 22-column comma separated value (*.csv) format.
 - f. The Data Evaluation.

- g. Regulatory reports are to be submitted within sixty (60) days following completion of the sampling associated with the report or thirty (30) days after receiving laboratory results related to the report. In all cases, LCSWMA shall submit reports to PADEP no later than thirty (30) days following the end of the quarterly monitoring period (i.e. reports for first quarter sampling are due to be submitted, at the latest, by April 30th, reports for the second quarter sampling are due to be submitted by July 30th, etc.).

14. The Quarterly/Annual Data Evaluation shall include:

- a. Per 25 Pa. Code §273.288 of the Department's Municipal Waste Regulations, quarterly/semi-annual/annual evaluations of monitoring data and groundwater elevations shall be submitted to the Department. These data evaluations shall be submitted to ensure that solid waste, solid waste constituents, leachate, contaminants or constituents of decomposition are not degrading groundwater or surface waters near landfill operations per 25 Pa. Code §§273.281 and 273.286 of the Department's Municipal Waste Regulations. For constituents indicating exceedances or increasing trends, please include trend plots.
- b. An evaluation pertaining to the groundwater monitoring wells indicating if any exceedances were documented above background in any of the samples that could reasonably be attributed to the facility. The data evaluation shall also indicate if there are any upward trends.
- c. An evaluation pertaining to the laboratory analytical groundwater data from the private water supply wells indicating if any exceedances were documented above background, USEPA Public Drinking Water Standards and Health Advisories (i.e., MCLs, SMCLs, and HAs) in any of the samples that could reasonably be attributed to the facility. The data evaluation shall also indicate if there are any upward trends.
- d. A summary of the leachate and leachate detection zone (LDZ) analytical data. Include information documenting flow via trend plots (i.e., no flow, steady flow, increasing flow, and/or decreasing flow). As required by Form 50, *Municipal Waste Landfill Leachate Analyses*, when the quarterly flow in a LDZ monitoring point exceeds 10 gallons per acre per day (weekly average for the quarter) for the cell(s) served by that monitoring point and when MCL's (where established) of any LDZ analytes on this form are exceeded, annual groundwater monitoring must include the Subtitle D detection zone add-on list analytes found on Form 19, *Quarterly and Annual Water Quality Analyses*. The data evaluation shall also indicate if there are any upward trends.
- e. A summary of surface waters downgradient of the Frey Farm Landfill. The evaluation shall indicate if there are any upward trends that could be reasonably attributed to the facility.
- f. LCSWMA began pumping water from Well FFMP016W in May 2011 to be used for dust control purposes. The quarterly/annual groundwater data evaluations shall include a running total of the pumped groundwater (e.g. gallons per day/month/quarter) from Well FFMP016W. If the well is not pumped during the quarter, LCSWMA shall indicate zero gallons in the report.

- g. The annual groundwater data evaluation shall indicate if the currently permitted groundwater monitoring wells are appropriately located for monitoring the area for contamination, or if additional wells need to be installed. The annual groundwater data evaluation and flow interpretations shall be prepared by a professional geologist licensed in the Commonwealth of Pennsylvania.
15. Well FFMP02SW will eventually replace Well FFMP014W, which will be abandoned due to encroachment of the vertical expansion footprint. If Well FFMP02SW becomes dry due to its total depth being more shallow than Well FFMP014W, well deepening will be required to monitor the shallow groundwater in this area in close proximity of the original Spring SP-01 location, unless otherwise approved by the Department.
16. The Groundwater Sampling and Analysis Plan (SAP) for the landfill must be kept current, available for reference, and followed by landfill personnel or contractors who collect water quality samples for submission to the Department. An updated copy of the SAP shall be forwarded to the Department when revisions are made. The SAP may be altered with written approval from the Department, without a permit modification.
17. 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.
18. 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 – 6018.1003.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

January 6, 2017

Mr. James D. Warner, Executive Director
Lancaster County Solid Waste Management Authority
1299 Harrisburg Pike
Lancaster, PA 17604-4425

Re: Environmental Assessment
Major Permit Modification
Application for Vertical Expansion & Increase in Daily Volumes
Frey Farm Landfill
Permit No. 101389
Manor Township, Lancaster County

Dear Mr. Warner:

The Department of Environmental Protection (Department) has completed its environmental assessment review of LCSWMA's application for a vertical expansion, small lateral expansion, and increase in the average and maximum daily volumes at Frey Farm Landfill. The environmental assessment is required pursuant to the Department's Municipal Waste Regulations, particularly 25 Pa. Code §§ 271.126-127. The Department has concluded that (LCSWMA) has demonstrated that the proposed mitigation measures will adequately protect the environment and the public health, safety, and welfare. The Department has also concluded the benefit of the project to the public clearly outweighs the known and potential environmental harms. A summary outlining the Department's review and analysis of the Environmental Assessment is enclosed.

The Department will complete the technical review of this permit application and will forward any questions or comments to you if needed.

If you have any questions regarding this, please do not hesitate to contact this office.

Sincerely,

Anthony L. Rathfon
Program Manager
Waste Management Program

cc: Manor Township
Lancaster County Planning Commission

Frey Farm Landfill

Application for expansion and increase in the average and maximum daily volume Environmental Assessment Analysis

Project Description

Lancaster County Solid Waste Management Authority (LCSWMA) submitted an application for a major permit modification on February 4, 2015. LCSWMA is proposing a vertical expansion to Frey Farm Landfill (FFL) over approximately 66.8 acres of existing landfill and an additional approximately 32.0 acres of new permit area, of which approximately 9.0 acres are for disposal. The vertical expansion will increase the elevation of the landfill by about 50 feet. In addition, LCSWMA is requesting an increase in the average daily volume (ADV) of waste received for disposal from 1,500 tons/day to 2,500 tons/day, and an increase in the maximum daily volume (MDV) from 2,000 tons/day to 3,000 tons/day.

The permit for the FFL expires May 26, 2021, unless an application for a permit renewal is submitted to the Department to extend the permit term. FFL has approximately 76 months of disposal capacity remaining (as of December 1, 2016), at which time it must close, unless this expansion application is approved by the Department. The application submitted is for a landfill design of 10 years of disposal capacity based upon the requested average daily volume.

The application was deemed administratively complete by the Southcentral Regional Office on April 30, 2015. The Department has negotiated with LCSWMA, Manor Township, and Lancaster County Planning Commission 493 business days (720 calendar days) to complete the review of the application, beginning on April 21, 2015.

A Local Municipal Involvement Process meeting (LMIP) was held on April 21, 2015. A public meeting was held on June 18, 2015, and a public hearing was held on July 28, 2015.

The scope of this environmental assessment review will be the impacts that would result from the applicant's request for expansion and traffic volumes that would result from the increase in the ADV and MDV.

Environmental Assessment Process

The following is a condensed summary of the Department's Environmental Assessment (EA) process. For further details, see the Department's guidance document entitled "Environmental Assessment Process, Phase I Review" (Document No. 254-2100-101), available on the Department's internet site. The Department referred to this guidance document when analyzing the applicant's EA.

The Department conducts the EA review under 25 Pa. Code §§ 271.126–127 (EA regulations). Applications subject to the EA regulations must: (1) include a detailed analysis of the potential impact of the proposed facility on the environment, public health and public safety; (2) describe the known and potential harms of the proposed project; (3) include a written mitigation plan that

explains how the applicant will mitigate each known or potential harm and the extent to which any known or potential harms remain after mitigation; and (4) demonstrate that the benefits of the project to the public clearly outweigh the known and potential environmental harms that will remain after the proposed mitigation. Benefits as well as known and potential harms can be identified by the applicant, the Department or other agencies, and any municipality or person.

The harms and benefits of the project can be: (1) social and economic, and/or (2) environmental. To determine whether an impact is harm or a benefit, and the extent of that harm or benefit, the Department compares the conditions that would result from the applicant's proposed project to the conditions that would exist if the proposed project does not go forward. Where appropriate, past performance may be used to predict future results related to a harm or benefit. The Department will consider only benefits related to the project.

Social and economic (SE) benefits are evaluated after offsetting them with SE harms. Environmental harms are evaluated after offsetting them with acceptable mitigation plans. When balancing the harms and benefits, the Department considers harm only to the extent that the harm would remain after mitigation. The Department evaluates the mitigation measures to ensure that, individually and collectively, they adequately protect the environment and the public health, safety, and welfare. The remaining environmental harms are then balanced against the benefits to determine if the benefits clearly outweigh the harms.

Among other things, the degree to which a harm or benefit affects the Department's balancing turns on the following factors:

1. *For harms, is the harm a "known" harm or a "potential" harm?* A known harm is one that the Department concludes is certain to occur in the future. A potential harm is one that would result from the proposed project under some circumstances, but not others. All other things being equal, known harms affect the Department's balancing more than potential harms.
2. *What is the duration, frequency, and intensity of the benefit or harm?* "Duration" refers to how long a harm or benefit continues. "Frequency" refers to how often it will occur; it can be measured on a daily, weekly, or yearly basis, or it may be constant. "Intensity" refers to how much the harm or benefit will be if or when it occurs. For example, a loud noise is more intense than a softer noise. All other things being equal, the longer harm or benefit lasts, the more frequently it occurs, and the more intense it is, the more it will affect the Department's balancing.
3. *How many people are impacted by a benefit or harm?* All other things being equal, the more people impacted by a harm or benefit, the more that harm or benefit will affect the Department's balancing.
4. *How sensitive are the receptors?* All other things being equal, the more sensitive the receptors are to a harm or benefit, the more that harm or benefit will affect the Department's balancing. For example, if a harm would impact children more than adults, and the proposed project is in an area with a high population of children, that harm would affect the Department's balancing for that project more than if the project would be located in an area without children nearby.

EA Evaluation – Harms

The Department considered the following to be harms for purposes of the EA evaluation:

Off-Site Noise

Residents who are contiguous to the landfill, may at times experience noise related to the operations of the landfill.

Mitigation

FFL conducts semi-annual noise level testing at the working face. The latest test included the use of three pieces of equipment (dozer, loader, and compactor) including noise from the back-up alarms. The 8-hour time weighted average noise level at the working face was approximately 85 decibels. There are nine property owners located adjacent to the landfill, the closest resident located approximately 1800 feet from the proposed footprint of the expansion. FFL offers essentially normal landfill operations to mitigate noise, such as compact working face, operating hours, distance to residents, back-up alarms set at minimum OSHA levels, and the construction of a mechanically stabilized earthen (MSE) berm. A MSE berm is a berm made out of earthen construction materials that is reinforced with geosynthetic materials. MSE berms are typically used at landfills to add height in order to achieve additional capacity.

DEP Determination of Remaining Impacts

The Department believes that the mitigation measures offered to reduce noise has minimal impact. However, due to the location of residents, the maximum noise levels (based upon the conclusions of the noise test) at their properties range between 15 and 32 decibels. These noise levels are very low, however, wind directions can affect the level of noise heard offsite. Therefore, the Department considers off-site noise related to working face operations to be a minor environmental harm, lasting 10 years and occurring daily during operations.

Reduction of Baseflow to Manns Run

LCSWMA indicates that the only potential indirect impact to surface waters will be a reduction of stream baseflow due to the placement of an additional nine acres of impermeable cap and liner for the proposed disposal area. Two streams are located in close proximity of the proposed expansion as follows: an unnamed tributary to Manns Run (i.e. Stream F) and the Manns Run perennial stream.

Mitigation

Rationale provided by LCSWMA for the potential harm to be mitigated include: 1) No measurable impact to stream flow due to the total drainage acreage of 90 acres for Stream F being much smaller in comparison to the total drainage acreage for the Manns Run perennial stream, which is greater than 595 acres; 2) The FFL vertical expansion area being only 1.5% of the Manns Run drainage area; 3) The liner will be placed incrementally over the life of the vertical expansion and 4) After the disposal area is capped, vertical expansion stormwater runoff will be diverted to Basin C and subsequently discharged to Stream F and Manns Run.

DEP Determination of Remaining Impacts

The Department believes the reduction of baseflow is a potential environmental harm to the Manns Run perennial stream. Due to the upper reaches of Stream F already being managed as stormwater conveyance channels, the baseflow has already been altered in this area. Therefore, the Department believes the reduced baseflow as a result of an additional 9 acres of impermeable cap and liner to be a potential environmental harm, lasting indefinitely. LCSWMA acknowledges that at any time Manns Run appears to be affected by the proposed vertical expansion activities, additional surface water, macroinvertebrate sampling and/or mitigation measures will be required per permit condition.

Aesthetics

Residents and various organizations have indicated their concerns at both a public meeting and a public hearing, as well as by e-mails and letters, regarding the impact of the proposed height increase of the Frey Farm Vertical Expansion, if approved. The primary concern is the visual impact on the Susquehanna River from the Lake Clark and Long Level areas, and on those recreating on or near the Susquehanna River. In addition, there is concern that there would be a negative impact on businesses and real estate values in those areas due to the increased height of the landfill. The Department of Conservation and Natural Resources has also stated concerns regarding the increased height of the landfill on the viewshed, especially the river facing slope. The Department of Conservation and Natural Resources also requested that landfill only expand to the east of the hill outside of the river viewshed. The Department of Conservation and Natural Resources noted that if this is not possible, it requested that after closure, the area be restored to its natural setting.

Proposed Mitigation

In order to mitigate the area of concern, LCSWMA stated that final cover will be applied as soon as practical to areas that reach final grade, and that those areas will be revegetated to achieve ground cover composed of vegetative species that are indigenous to Lancaster County, thereby providing a permanent, aesthetically pleasant appearance.

ARM Group Inc., LCSWMA's engineering consultant, prepared a *Line of Sight Study* for an area within a 3-mile radius of the landfill. This study included both topographic map and aerial photo color-coded overlays, with 20 corresponding cross-sectional view analyses within the 3-mile study area. The study also included 58 photographs that were taken from various locations within the 3-mile study area. Select photographs were annotated and digitally enhanced to portray current views, future views at currently permitted final grades, and projected views at the proposed vertical expansion heights.

Based upon the *Line of Sight Study*, LCSWMA concluded that the currently permitted final grades of the landfill will impact approximately 1,071 people living within 30 percent of the 3-mile radial study area, while the proposed vertical expansion height will only further impact an additional 72 people within an additional four (4) percent of the study area.

At the Department's request, ARM submitted 18 additional photographs that were taken from six (6) new locations not included in the aforementioned 58 photographs. Five of these locations were greater than three (3) miles from the landfill, with the furthest location at 5.26 miles from the landfill. Select photographs from all six of these new locations were annotated and digitally enhanced to portray current views, future views at currently permitted final grades, and projected views at the proposed vertical expansion heights.

The Department can only consider the impacts from the final elevations of the proposed FFL expansion. The proposed elevations are for a 50 foot increase, with most of the volume on the east side of the landfill, not on the west side of the landfill towards the river. Lastly, LCSWMA submitted a preliminary visual concept plan to blend the view of the landfill into the surrounding country side.

DEP Determination of Remaining Impacts

Although LCSWMA asserts that the *Line of Sight Study* shows that the proposed vertical expansion will not have a significant visual impact on the 3-mile study area, the documentation does not support this assertion. Nearly all 20 of the aforementioned cross-sectional view analyses concluded minimal view impacts due to heavy reliance on visual obstruction from dense forest. The Department finds that tree obstruction, while potentially effective when in place, is not a permanent mitigation. The Department also finds that tree obstruction of the visual impacts may be compromised in several areas with seasonal leaf loss. This is particularly concerning when considering the visual impacts on several hiking trails and natural recreation areas within the study area.

Although LCSWMA asserts that the *Line of Sight Study* shows only a small, 4% increase in viewing area impacted by the proposed expansion, the evaluation had no way of assessing the increased visual impact on the current viewing area.

Although LCSWMA proposes to have a visual concept plan developed to blend the appearance into the surrounding countryside, the Department finds that this proposal will serve as only a nominal mitigation to the visual aesthetic impact of the proposed expansion, as the increased height of the landfill will still have a remaining visual impact, particularly when viewed from west of the landfill in the recreational area of Long Level.

The Department believes that the elevation of the current landfill and the wind turbines are prominent from the vantage points along the Susquehanna River from the Lake Clark and Long Level areas. The wind turbines especially call attention to the area of the current landfill. Since the Department can only consider the additional approximate 50 feet in height of landfill expansion in the harms/benefits analysis, the visual impact of the 50 feet dissipates over distance. The Department does, however, consider this a moderate environmental harm due to its permanent nature. The impact will be greater during operations of the landfill, but will decrease after closure. The harm has a definite, though unquantifiable, intensity, as well as a duration and a frequency that are both permanent. The Department believes that this harm has not been fully mitigated.

Traffic-Related Harms

Description of Haul Routes

FFL utilizes 5 haul routes.

Haul Route 1 begins at the LCSWMA Transfer Station Complex located outside of the City of Lancaster. Trash trucks travel along SR4020 to Route 30, then to SR441 through Columbia then to River Road (SR3030) to the FFL. This haul route is approximately 18 miles long. The majority of truck traffic from the transfer facility will travel to LCSWMA's waste to energy facility in Bainbridge. The ash will then be transported to FFL. It is indicated that in the event that the LCSWMA waste to energy facility in Bainbridge becomes unavailable for waste processing, that the entire 900 tons per day would be transferred from the transfer facility to the FFL.

Haul Route 2 begins at the square in Millersville along SR999 to the intersection of SR441, along SR441 to River Road (SR3030) to FFL, but is only for local deliveries. The haul route is approximately 10.3 miles long. It is indicated that this route will not be used by tractor trailers that routinely bring waste to FFL. It is noted that some haulers carrying materials such as roofing debris, sludge, etc. do use the haul route to bring waste to FFL.

Haul Route 3 begins in Conestoga Township to FFL, but is only for local deliveries. This haul route is approximately 9.5 miles long. It is indicated that this route will not be used by tractor trailers that routinely bring waste to FFL. It is noted that some haulers carrying materials such as roofing debris, sludge, etc. do use the haul route to bring waste to FFL.

Haul Route 4 begins at the LCSWMA Waste to Energy Facility along SR441 to River Road (SR3030) to FFL. This route passes through a portion of Marietta and Columbia, as well as smaller towns. The haul route is approximately 15.5 miles long. This route is used primarily to transport ash to the FFL.

Haul Route 5 begins at the Susquehanna Resource Management Complex (SRMC) located at 1670 South 19th Street, Harrisburg, along Gibson Street to SR230 to truck route SR441 to River Road (SR3030) to FFL. This route passes through Steelton, Highspire, Middletown, Royalton, Marietta, Columbia, and some smaller towns. The haul route is approximately 34.2 miles long. Ash is transported from SRMC to the FFL and other non-combustible refuse facilities. In the event that SRMC becomes unavailable for waste processing, the waste would be transported to Bainbridge, as putrescible waste generated outside of Lancaster County may not be delivered directly to FFL.

Residents are concerned regarding the increase in trash truck traffic primarily along SR 441. Residents are concerned that truck traffic, which will increase substantially, will impact public health, safety, and the quality of life for people living along the approach route to the landfill. Residents also note that there are no sidewalks where the schoolchildren can walk to get to their school bus stops and no shoulders along the road.

The Department of Conservation and Natural Resources has also stated concerns regarding the safety of the large number of people turning into the Manor Rail Trail entrance, which is the entrance for several trails, at the bottom of Turkey Hill along SR441 due to increased landfill truck traffic.

Mitigation

A full Traffic Impact Study was prepared for FFL and submitted to the Pennsylvania Department of Transportation (PaDOT) for review. After several revisions to the study, PaDOT found the study to be acceptable by correspondence dated February 26, 2016.

As part of its permit application, FFL has included a Transportation Compliance Plan (TCP) which outlines a comprehensive plan to ensure trash truck compliance and safety. The plan was revised and resubmitted on June 21, 2016.

The Authority has designated a Transportation Compliance Manager to oversee the TCP.

The Weighmaster at the scale house monitors vehicles for weight and registration. Any overweight load will be noted on the weight ticket as "overweight." All overweight vehicle information will be forwarded to the Transportation Compliance Manager for inclusion into a database, which is used to track transporter regulatory compliance. All vehicles that are overweight by 2000 pounds and up, will incur time penalty delays that vary based upon the amount the load is overweight. The penalty ranges from 30 minutes to 75 minutes, with the right of LCSWMA to suspend facility usage by the offending party. In addition repeat offenders will also incur time penalties.

LCSWMA staff will conduct weekly visual observations of traffic on restricted township roads for waste hauling vehicles. Penalties will be assessed based upon the number of offenses.

LCSWMA staff will spend a minimum of two (2) hours per day along designated haul routes using a radar gun to monitor waste hauling truck speeds. Time spent monitoring speed may be reduced if other monitoring systems become available. Varying time delay penalties will be assessed to the drivers that speed, based upon number of infractions. In addition, LCSWMA will purchase on behalf of Manor Township, a portable radar-based speed messaging sign. The sign will be positioned at various locations along the designated haul routes to advise vehicles of their speed.

An Authority Compliance Officer will randomly inspect waste hauling trucks daily for proper signage, tarps, and to ensure they are not leaking. Proper tarping prevents litter, dust, odors, leakage, vectors, and other nuisances. It is also indicated that a high percentage of waste received is inorganic, which is less prone to cause litter or odors. Any discrepancies found during inspections will be relayed to the Weighmaster who will record the information on the LCSWMA Truck Log Sheet available for DEP inspection. Vehicles that are not in compliance within (1) week will be excluded from using the landfill until they come into compliance.

Semi-annual safety inspections are conducted by State Police and Local Police inspecting trucks for items listed above, as well as checking the fire extinguishers, transporter's daily operational record, contingency plan, protective clothing, equipment, and first aid supplies for residual waste haulers, and absorbent mats/material to absorb liquids for transporters hauling liquid wastes. The findings of these inspections will be tracked in the transportation compliance database. The database contains the following information:

Load information:

LCSWMA Facility
Truck Permit No. / Truck No.
Box/Container No.
Transaction No. / Date
Transporter Name / Address / Phone / License Number / State
Vehicle Weight
Material Type / G-Code / H-Code

Violation Type:

Overweight Vehicle Violations
Load Violation (leaking; not secured)
Tarp Violation (no tarp; holes in tarp; tarp not securely fastened)
Sign Violation (no sign on vehicle; lettering not 6"; no waste type on sign)
Fire Extinguisher Violation (no extinguisher; extinguisher not charged)
No Transporter's Daily Operational Record
No Contingency Plan / Spill Kit (for residual waste transporters only)
No copy of a Residual Waste Transportation PPC Plan
Speeding Violations
Designated Haul Route Violations

Periodically, information from the transportation compliance database will be evaluated to determine the compliance status of each hauler. This data may be used to inform haulers of persistent issues, if they arise. Depending on the infractions there are time outs, possible notification to the police, and operator suspensions from LCSWMA facilities .

LCSWMA will distribute biannually (January 2nd and July 1st) an information packet to all waste haulers using LCSWMA facilities, which will provide details of allowable haul routes to access LCSWMA facilities, posted speed limits on those roadways, school bus stops, and highlight safety related concerns along the designated roads. Facility scale attendants will distribute this packet to any new driver they encounter during the year. Copies will also be available to waste hauling companies using LCSWMA facilities to distribute to new drivers during their new employee orientation. Written notice of any infractions to designated haul routes will be provided to the vehicle owner. A second infraction by the same vehicle operator will result in a thirty minute delay time penalty and forwarding of information to the Manor Township Police. A third infraction will result in a one-week ban of the vehicle operator from the landfill. A fourth offense will result in a one year ban of the vehicle operator from the landfill.

It is indicated that if road deterioration occurs on the haul routes, the deterioration is mitigated by road use and fuel taxes used to repair roads. DEP notes that the road use and fuel taxes paid are not designated specifically to repair the LCSWMA haul routes, but are used throughout the state.

It is indicated that noise from trash hauling vehicles are minimized by limiting trucking to the landfill's operating hours from 7:00 AM to 4:00 PM Monday through Friday and Saturday 7:00 AM to 11:00 AM, and noon, after a holiday. The routes are heavily used by motorists and the landfill's vehicles represent a small proportion of overall traffic. The routes are well established and are well known to truckers utilizing FFL.

In responding to the concerns expressed by the Department of Conservation and Natural Resources about the entrance to the Manor Rail Trail, the entrance of several trails, off of SR441, the Authority indicates that there is already proper signage prior to the entrance.

Department Determination of Remaining Impacts

The Department recognizes that with the additional trash truck traffic on the haul route, a potential exists for litter, emissions, smell, noise, mud on roads, and safety issues due to the size and nature of trash hauling vehicles.

The Department believes that if the mitigations offered are effective, the harm resulting from the large number of ash and trash hauling vehicles utilizing the haul routes are reduced significantly. However, most of the haul routes converge in the area of the town of Columbia and then travel along SR 441 to the FFL. If the FFL application for vertical expansion and increase in the daily volumes is approved, a large number of vehicles will travel back and forth to and from the landfill along SR441. In spite of the mitigation efforts indicated above, the Department considers the large numbers of trash truck traffic to be a moderate environmental harm. This is because large trucks by nature will create noise, emit fumes, have the potential to litter, carry mud onto roadways, and inherently present a safety concern because of their size. This environmental harm will occur continuously during operating hours, and continue until the landfill no longer receives waste (at least 10 years).

Real Estate Property Values

There has been a concern raised relative to the possible depreciation in property values due to expansion of the FFL.

Mitigation

An agreement dated April 12, 2002 between LCSWMA and Manor Township provides property value protection for homes surrounding the landfill (47 properties identified). The real estate protection plan provides that if any of the identified owners of the property wishes to sell their property, LCSWMA will purchase the property for 100% of the fair market value. The fair market value will be determined by agreement between the property owner and LCSWMA. If an agreement on price cannot be reached, two appraisals will be paid by LCSWMA. No consideration of the potential impact of LCSWMA's facilities or activities on property values shall affect the agreed upon or assessed fair market value. A revised 7/23/14 map updates all of

the properties not owned, leased, or resold by LCSWMA (approximately 29 properties) that are covered under the plan. In addition, LCSWMA indicates that engineering controls and the design of the landfill will minimize the effect of operations on the quality of life for residents and is not anticipated to have a detrimental effect on real estate prices in the area surrounding the landfill.

DEP Determination of Remaining Impacts

The Department believes that the greatest chance of actual property devaluation would occur to those properties that are the closest to the landfill, which value has been protected by LCSWMA. As noted above, LCSWMA has a property protection plan for properties adjacent to the landfill. However, since many factors (such as buyer and seller perception) affect the ability to sell and the price realized, it is possible that properties farther from the landfill may be impacted due to the visibility of the landfill. It should be noted that the Department only considers the proposed landfill's vertical expansion potential impact to property values in the harms/benefits analysis. Therefore, for the purposes of this analysis, the Department does not consider any potential property devaluation due to the existing landfill. Even so, the Department notes there has been no evidence presented showing an actual depreciation in home values due to the presence of the landfill, nor a study over time of real estate values in the area compared to comparable properties elsewhere, but in the same general area. More significantly, there has been no evidence presented showing an actual depreciation in real estate values due to the potential expansion. It is impossible for the Department to assess the actual impact due to the increased height of the landfill on real estate values. The Department considers the impact to real estate devaluation as a result of the expansion to be a potential SE harm, but with unknown intensity or duration.

Not considered a harm but discussed

Off-site odors, dust, vectors, and litter from the operation of municipal waste landfills are often concerns and are considered harms or potential harms. The Department believes that the (FFL) operations, mitigation efforts, location of the landfill, distance to residents, and waste streams accepted (mainly ash) have greatly reduced the possibility of these harms occurring off-site. Upon routine Department inspections of the landfill, none of these issues have ever been noted, nor have any Notice of Violations been issued. The Department has never received citizen complaints regarding these issues. It is believed that with the additional waste volumes accepted, that these harms or potential harms will not occur, and if they did, would be resolved quickly to not create a public nuisance. Therefore, these are issues that are not considered harms in this document.

EA Evaluation – Benefits Accepted by Department

The Department considered the following to be benefits for purposes of the EA evaluation:

Host Benefit Fee - required by 53 P.S. § 4000.1301 and 25. Pa. Code § 273.314

LCSWMA will pay over \$1,000,000 plus escalator, per year to Manor Township, per its host municipal agreement, representing more than the required \$1.00 per ton amount per statute with the approval of the expansion. This represents more than \$12,000,000 to Manor Township over the 10-year life of the expansion.

Disposal Fee - \$4.00/ton required by 27 Pa. C.S. § 6301(a)

LCSWMA will pay a disposal fee of \$4.00 per ton to the Commonwealth, which is considered an SE benefit. This SE benefit between \$20,160,000 and \$28,000,000 will benefit all Pennsylvania residents during the approximately 10-year life of the expansion.

Recycling Fee - \$2.00/ton required by 53 P.S. § 4000.1301 and 25 Pa Code § 273.315(c)

LCSWMA will pay a recycling fee of \$2.00 per ton to the Commonwealth, which is considered an SE benefit. This SE benefit between \$10,000,000 and \$14,000,000 will benefit all Pennsylvania residents during the approximately 10-year life of the expansion.

Environmental Stewardship Fee - \$0.25/ton required by 27 Pa. C.S.A. § 6112(b) and 25 Pa Code § 273.316(c)

LCSWMA will pay an Environmental Stewardship fee of \$0.25 per ton to the Commonwealth, which is considered an SE benefit. This SE benefit between \$1,260,000 and \$1,750,000 will benefit all Pennsylvania residents during the approximately 10-year life of the expansion.

Benefits occurring as a result of operating the landfill

LCSWMA indicates that there is a significant SE benefit due to operating the landfill. These include equipment purchases, site and equipment maintenance, utility costs, site preparation, cell construction and capping/closure expenditures, engineering and construction quality assurance oversight, etc. These are bid out and paid primarily to Pennsylvania-based vendors, contractors, engineers, and consulting firms. LCSWMA indicates this amount to be approximately \$49,000,000 over the 10-year life of the landfill expansion. The Department considers this to be a significant SE benefit.

Wages and Wage Taxes/Employment

FFL will employ approximately 16 full time employees during the life of the expansion. LCSWMA indicates that it will pay approximately \$10,000,000 in wages to employees at FFL over the 10-year life of the landfill. Out of this, the employees will pay approximately \$2,400,000 in federal, state, and local taxes. The full time employees will also be a boost to the local economy. This constitutes a SE benefit.

Free Trash Disposal

According to LCSWMA, approximately 174 households in the area of the FFL receive free trash pick-up and disposal twice per year. LCSWMA indicates that the value of this benefit is approximately \$77,000 over the 10-year life of the landfill. This is considered a SE benefit.

Free Yard Waste Disposal

Manor Township residents may dispose of yard waste at the landfill free of charge. LCSWMA indicates that based upon historical amounts of waste received, the value of this benefit is approximately \$217,500 over the 10-year life of the landfill. This is considered a SE benefit.

Free Waste Disposal for Clean-up Crews

LCSWMA waives tipping fees for disposal of litter that crews picked up along Lancaster County roads. LCSWMA indicates that this environmental benefit is approximately \$20,000 over the 10-year life of the landfill. The Department agrees that this is an environmental benefit.

Continuation of Public Drop-off for Recyclables and Composting

By approving the expansion, a continuation of these programs will continue for the 10-year life of the landfill. This is a SE benefit.

Education and Tours

LCSWMA will continue educational services, presentations, and onsite tours for the 10-year life of the landfill. This is a SE benefit.

Evaluation – Benefits not Accepted by Department

Improved Environmental Performance of Existing FFLF

LCSWMA indicates that infrastructure upgrades associated with the expansion will improve the environmental performance of various features of the landfill such as replacement of the leachate storage tank, Cell 1 sump retrofits, and LFG header and condensate trap upgrades. The Department agrees that these are improvements that may be an improvement environmentally. However, the Department considers these to be additional mitigations to ensure environmental compliance.

Charitable Contributions

LCSWMA lists approximately \$4,400,000 in charitable contributions made to various organizations, communities, parks, environmental groups, fire companies, etc. over time, and indicates that these contributions will continue in some amount if the expansion is granted. Although the Department applauds these contributions to very good causes, the donations are considered charitable contributions, and are not related to, and do not occur as a natural result of the vertical expansion.

Reserved Disposal Capacity

The Department does not consider disposal capacity in of itself as a benefit, as waste can be directed elsewhere, sometimes at a reduced cost.

Gas to Energy

Onsite gas generated is piped to an on-site landfill gas utilization plant which generates 3,200 kilowatts of power into the grid. LCSWMA indicates the power generated by utilization of the landfill gas is the equivalent of 400,000 barrels of oil per year. In addition, steam is piped to Turkey Hill Dairy and used, offsetting approximately 120,000 gallons of diesel fuel per year. It has been the Department's position since 2004 that DEP views the collection and use of landfill methane gas as a standard or an expected practice at a landfill, as well as prudent business practice. The landfill can derive an economic benefit from the collection and use of the landfill methane gas as well. The collection and use of landfill gas is, therefore, not a benefit but is generally expected.

Balancing

After considering the benefits and known or potential harms, and according them the weight described in the analysis of each of them earlier in this document, the Department has concluded that the applicant has demonstrated that the benefits of the project to the public clearly outweigh the known and potential environmental harms, as required by 25 Pa. Code § 271.127(c).

As noted in that section of the regulations, the “benefits of the project to the public” consist of the environmental benefits of the project together with any SE benefits of the project that remain after taking into consideration the known and potential SE harms.

In performing the balancing, the first step is to offset the SE harms of the project from the SE benefits. Then the Department proceeds to the next step to balance the remaining SE benefits and environmental benefits against the environmental harms.

The following was considered an SE harm in the analysis:

- Impact to real estate values was considered a potential SE harm.

The following were considered SE benefits:

- Host Benefit Fee - required by 53 P.S. § 4000.1301 and 25 Pa. Code § 273.314;
- Disposal Fee - \$4.00/ton required by 27 Pa. C.S. § 6301(a);
- Recycling Fee - \$2.00/ton required by 53 P.S. § 4000.1301 and 25 Pa Code § 273.315 (c);
- Environmental Stewardship Fee - \$0.25/ton required by 27 Pa. C.S.A. § 6112(b) and 25 Pa Code § 273.316(c);
- Benefits occurring as a result of operating the landfill;
- Wages and Wage Taxes/Employment;
- Education and Tours;
- Free Trash Disposal;
- Free Yard Waste Disposal; and
- Continuation of Public Drop-off for Recyclables and Composting.

The following were considered environmental harms in the analysis:

- Reduction of Baseflow to Manns Run was considered a potential environmental harm;
- Off-site noise was considered a minor environmental harm;
- Aesthetics is considered a moderate environmental harm; and
- Trash truck traffic is considered a moderate environmental harm.

The following were considered environmental benefits:

- Free Waste Disposal for Clean-up Crews.

There were two primary environmental impacts identified in the Frey Farm Vertical Expansion application: aesthetics and increased truck traffic on the haul routes.

Aesthetics was considered a moderate environmental harm. Since the Department compares the conditions that would result from the applicant’s proposed project to the conditions that would exist if the proposed project does not go forward, the Department can only evaluate the environmental impact from the proposed additional 50 feet of height. The existing landfill’s visual impact is not considered in the evaluation. The majority of the volume from the expansion of the landfill is on the east side of the landfill, where the mechanically stabilized berms will be placed. Mechanically stabilized berms were not placed around the west side (river side) of the landfill. The aesthetic impact is primarily from the west side (York County) and from the river.

LCSWMA has committed to having developed a visual concept plan considering historical photos and developing a landscape of the landfill that will blend into the surrounding countryside. The Department believes the visual concept plan is a nominal mitigation to the aesthetic harm. The visual concept plan would become part of the permit.

The trash truck traffic, and increased traffic, as a result of the permit modification, was also considered a moderate harm. LCSWMA has offered substantial mitigations to address trash truck harms, which in part include monitoring trash trucks for safe speed, compliance inspections, and working with State and local police to ensure compliance. Because of the additional mitigations contained in the Transportation Compliance Plan, the Department believes the trash traffic harm has been partially mitigated.

Noise from the FFL remains a minor harm. LCSWMA has taken measures to minimize noise. Other landfill nuisances were minimal.

The landfill's impact on real estate values in the area was considered a potential SE harm, due to the lack of evidence of it occurring. Additionally LCSWMA maintains a property protection program for adjacent properties.

Conclusion

The Department has evaluated the environmental assessment for this application as required pursuant to 25 Pa. Code §§ 271.126 - 271.127. Based on its review of the proposed mitigation measures, the Department concludes that, individually and collectively, the proposed mitigation measures adequately protect the environment and the public health safety and welfare. The Department has found that LCSWMA has demonstrated that collectively, the benefits of the project to the public clearly outweigh the known and potential environmental harms.