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AIR QUALITY DIVISION

April 4, 2019

Mr. Mike Kovalchick  
Michigan Department of Environmental Quality – Air Quality Division  
Jackson District Office  
Jackson State Office Building  
301 Louis Glick Highway  
Jackson, Michigan 49201

**Subject: Advanced Disposal Services – Arbor Hills Landfill, Inc.**  
Response to Notice of Violation Dated March 14, 2019

Dear Mr. Kovalchick:

Advanced Disposal Services Arbor Hills Landfill, Inc. (Arbor Hills) received a Violation Notice (VN) on March 14, 2019 from Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) concerning site inspections conducted by MDEQ AQD on January 18, 23, and 29, 2019.

Arbor Hills is providing the following written response to each of the VN assertions and explanation of the causes and duration of the alleged violations. A summary of the actions that have been taken or are proposed to be taken to correct the issues noted along with the dates of the remedial actions and measures that will be undertaken to prevent recurrence are also included where applicable.

**Item 1:** The VN states that “Required asbestos disposal location map is incomplete. The map only depicts disposal areas going back to June 2018.”

**Response:** In June of 2018, the facility upgraded its recordkeeping and asbestos program to produce monthly maps of asbestos disposal locations. Prior to this time, locations of asbestos disposal areas cannot be located. Due to this fact, the facility treats all waste disposal areas placed prior to June of 2018 as potential asbestos disposal locations and therefore has provided NESHAP notifications prior to disturbing these areas as a precaution.

**Item 2:** The VN states that “Company not notifying AQD District, 45 days prior to excavating in asbestos disposal area”.

**Response:** The facility has provided notifications regarding the presence of asbestos prior to disturbing areas of the landfill in 2018 and 2019. Arbor Hills believes the allegation of a violation of NESHAP 40 CFR 61.154(j) due to non-notification is in error. A copy of the Arbor Hills asbestos disposal notifications for 2018 and 2019 submitted to MDEQ are attached.

**Item 3:** The VN states that "No asbestos warning signs were observed during inspection".

**Response:** The facility will install the proper signage at the front entrance to the landfill and at the active asbestos disposal area, as requested by the Department.

**Item 4:** The VN states that "one uncontrolled passive gas vent located on northside of the landfill. WWW requires control".

**Response:** The passive vent was installed to assist in controlling gas build-up in gas monitoring probe 28R to prevent migration. Arbor Hills plans to connect this vent to active vacuum as part of the 2019 gas construction activities.

**Item 5:** The VN states that "Quarterly surface methane scans failed to indicate if areas of distressed vegetation, cracks, or seeps in the cover were investigated beyond the prescribed path of the scan, despite monthly landfill cover integrity inspections highlighting numerous such areas. Also, the scans consistently avoided active areas on the landfill that could have been easily traversed during off-hours. Finally, the pathways that were followed during the scans appear to only be depicted as approximations on landfill maps despite having the ability to use GPS technology to accurately depict locations traversed."

**Response:**

Surface Emission monitoring is performed by a qualified third party (AQSI). AQSI performs surface monitoring in accordance with 60.753(d) and 60.755(c), specifically, the technicians monitor the surface methane concentration along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals. AQSI technicians deviate from a traverse route to monitor areas where visual (or olfactory) observations indicate the potential for elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover (or odors). The above routing is maintained whenever practical, though alterations are made (on a case-by-case basis) for steep slopes or other dangerous areas, as such areas may be excluded pursuant to 60.753(d). Areas of distressed vegetation, and cracks or seeps in the cover (and odors), are monitored if they are safely accessible.

Exceedance locations are marked per 60.755(c)(4)(i): "The location of each monitored exceedance shall be marked and the location recorded." There is no requirement in WWW for GPS of exceedance location or route. Exceedances are staked with high visibility marker flag and a descriptive location and concentration recorded, i.e., "Exceedance #1, ~50 ft. West (and upslope) of EW65, 850 ppm." for example. Arbor

Hills believes that Quarterly surface scans have been performed in compliance with 40 CFR 63.1955 requirements.

**Item 6:** The VN states that AHL “Failed to correct issues identified in landfill cover integrity inspections since same areas show up in subsequent months”.

**Response:** The landfill cover integrity issues are addressed as soon as the areas are accessible to equipment. Weather conditions which compromise safe access to slope areas delay addressing cover conditions during the winter months. Soil placement activities needed to supplement insufficient cover areas can only happen when conditions are relatively dry and it is safe to place earthmoving equipment on sideslopes. Although proper documentation of the corrections made to the landfill cover have not been maintained, Arbor Hills addresses cover integrity issues as weather allows. Better documentation and record keeping of cover repairs will be performed in the future.

**Item 7:** The VN states that “2018 Monthly Cover Integrity Inspections show numerous problems, including settling of the cap, dead vegetation, erosion on side slopes, ponding of water on the cap, surface cracking, exposed waste/flagging and leachate seeps. Also, many acres at the top part of the landfill lack proper interim cover (i.e. 1-foot of low permeability, compacted soil) despite not having had waste disposed in this area for many months. It is also noted there has been and continues to be numerous construction activities disturbing landfill cover which haven’t been quickly repaired. Taken together, this shows cover integrity remains problematic. Cover integrity is necessary to minimize surface emissions of landfill gas and to ensure efficient extraction of gas through a landfill's gas collection system.”

**Response:** See response to Item #6. In addition, interim cover is placed in areas where there is inactive disposal operations of a duration greater than 3 months. An investigation was performed in July 2017 to assess the interim cover integrity by a third party engineering company. A copy of the testing locations and results is included with this response.

**Item 8:** The VN states that “The GCCS design plan dated 4/28/16 is out of date”.

**Response:** Arbor Hills is in compliance with the requirements of the GCCS plan as defined by Subpart WWW and believes that this violation is an error. The 4/28/16 GCCS plan is more than adequate to serve as an overall gas system design guide and meets the requirement of WWW 40 CFR 60.752 (b)(2)(i). However, Arbor Hills has requested the GCCS plan be updated by Weaver Consultants Group and once revised the plan will be submitted to MDEQ AQD.

**Item 9:** The VN states that “4th Quarter 2018 Gas Collection NSPS Well Exceedances Report shows numerous wells exceeding required NSPS landfill gas collection operating parameters at the conclusion of the reporting period. The NSPS requires that exceedances of the gas collection control system (GCCS) wellhead monitoring parameters (temperature, oxygen, and pressure) are corrected within 15 calendar days, the GCCS is

expanded within 120 days or an alternative compliance timeline (ACT) request be submitted. The Company has failed to be timely with ACT requests. This is a reoccurring problem.”

**Item 10:** The VN states that “Failure to submit timely ACT requests for out of range NSPS well operating parameters when wellfield expansion is not appropriate.”

**Response to Items 9 and 10:** AHL submitted a supplemental response to the January 14, 2019 VN on March 11, 2019. The March 11, 2019 submittal included a table that identified both 3<sup>rd</sup> and 4<sup>th</sup> quarter exceedances. That table included the dates when wells initially exceeded NSPS operating parameters; the duration of exceedances and/or if they are ongoing; an explanation of the suspected cause(s) of the exceedance(s) and summary of the actions taken and/or are proposed to be taken to correct the exceedance(s); and the dates by which proposed actions will be taken for any ongoing exceedances. That table has been updated to reflect just the 4<sup>th</sup> quarter issues and their current status and is attached to this response.

**Item 11:** The VN states that “The Company has failed to implement a proper landfill gas collection system design to mitigate the subsurface migration of methane. Subsurface methane concentrations at perimeter monitoring probes have been exceeding regulatory limits since 2003. The Company reported to the Waste Management and Radiological Protection Division (WMRPD) on 4/26/2018 that methane levels exceeding the lower explosive limit (LEL) are continuing. Methane surface scans as late as 4th quarter 2018 showed methane also at the surface along the eastern boundary of the facility. Part 115 Rule 433 was also cited by the WMRPD on January 7, 2019 for this same issue.”

**Response:** The gas probes which have periodically exhibited readings above the LEL include GP-14, GP-15, and GP-16 which are located along the eastern boundary of the unlined Arbor Hills East Landfill footprint. Arbor Hills operates these probes in accordance with the 2002 Consent Order. The gas collection system installed in this area of the landfill was designed to collect near surface gas at the landfill boundary to prevent migration. Arbor Hills believes the recent methane hits in Arbor Hills East gas probes have been caused by frozen and or saturated soil conditions near the surface as well as liquid accumulation in portions of the collection system which may have impaired system performance.

To remedy this issue, Arbor Hills has enlisted Weaver Consultants to evaluate the current gas extraction and control system performance in this area of the landfill and propose gas collection system modifications to address this condition. Arbor Hills will implement all necessary modifications to correct the migration issue. The proposed design modifications to prevent gas probe exceedances will be prepared and included in the annual gas probe report which is due to MDEQ by May 1, 2019. Arbor Hills expects any system modifications necessary to address this condition to be completed during the 2019 construction season.

**Item 12:** The VN states that “NSPS Subpart WWW requires proper well design to properly handle water/leachate condensate in landfill gas wells. NESHAP Subpart AAAA requires owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Report on liquid level in gas wells was submitted by Company for well data obtained in September 2018. Leachate in the landfill gas wells impairs functionality of gas extraction. The design for vertical gas extraction wells includes an estimated radius of influence (ROI) which is based in part on the length of perforated pipe available for gas flow. A substantially flooded well will be limited in its ROI and this will lead to gaps in gas collection coverage.”

**Response:** As part of the 2019 GGCS construction upgrades, Arbor Hills is currently installing approximately 8,000-feet of 2” air line and approximately 6,500-feet of 3” forcemain. The air and forcemain are being installed to reduce the amount of liquid in a number of the affected wells. In addition to the installation of the air and forcemain pipe, 40 pneumatic pumps were purchased and will be installed upon completion of the air and forcemain pipe installation.

**Item 13:** The VN states that “Malfunction abatement/preventative maintenance plan (MAP) inadequate. See Note 6”.

**Response:** The MAP was submitted in the fall of 2018 for approval and no comments were received from the MDEQ AQD to suggest the submittal was deficient. Blowers are a component of the collection system and not a control device. The blower layout within the building provides for the connection of up to 4 blowers. It is Arbor Hills plan to install 3 blowers with 4,000 SCFM for a total of 12,000 SCFM of capacity which exceeds the modeled landfill gas generation at the facility. A fourth blower will be installed in this configuration to provide greater redundancy. As the flares are considered a back up control device to the AHE facility this configuration exceeds regulatory requirements and industry standards.

**Item 14:** The VN states that WWW Compliance requirements not met during control system malfunctions that exceed the 1-hour permit limit. See Note 7.

**Response:** The referenced shutdowns or malfunctions resulted in the gas collection system that includes the blowers being shutdown for extended periods greater than 1 hour making landfill gas unavailable at the treatment and control devices. At no time were there excess emissions from either the treatment system (AHE Plant) or the control device (Flares) as a fail-safe valve engaged to prevent emissions. Downtime associated with events exceeding 1 hour have been documented in the semi-annual reports submitted to the Department.

**Item 15:** The VN states that “Unable to determine if flares are operating within 50 degrees F. of required combustion temperatures”.

**Response:** As stated in our February 2019 request for information response, thermocouples are calibrated at the facility and then verified by comparing to ambient temperatures when the flare is not in service. If inconsistency between the thermocouple and the ambient temperature exists, the thermocouples will be repaired or replaced.

### **Areas of Concern**

Since these items are not considered to be non-complaint, Arbor Hills would respectfully request that in the future these concerns be communicated in a separate correspondence. Arbor Hills will respond in an expeditious manner to any correspondence from the Department where concerns are raised. The following are the responses to those items of concern.

1. The Department raised a concern regarding the acceptance of sewage sludge in Cell 4E and stated that Cell 4E is not controlled by a landfill gas collection system that has been activated. The Department also expressed concern that the waste may have become saturated due to elevated leachate levels. The Department requested that Arbor Hills perform a mass balance calculation to determine the waste moisture content. As summarized in AHLF's previous February 29, 2019 response letter, the Cell 4 leachate levels have been lowered substantially in February and March of 2019 by implementation of an upgraded leachate pumping system. Arbor Hills believes that these and additional leachate improvements being implemented in the near future will prevent saturated conditions in the waste from occurring and assure compliance with leachate head level requirements. In addition, caisson gas collection wells located in Cell 4 as well as Cell 4E have been connected to the collection systems well in advance of regulatory requirements to control gas and odors within the waste mass as operational filling progresses. Arbor Hills does not meet the definition of a bioreactor under 40 CFR 63.1947, 63.1955(c), and 63.1955 (c) through (f) and therefore mass balance calculations are not required to be performed. The sludge as accepted does not meet the definition of a liquid since it passes the paint filter test prior to acceptance at the landfill. Additionally, leachate recirculation is not performed at the landfill. However, Arbor Hills has requested that Weaver Consultants prepare a mass balance calculation for Cell 4E to estimate approximate waste moisture contents. This calculation will be provided to MDEQ when it is completed.
2. TS-01 is a being operated as a leachate vertical extraction point. This point is being enhanced as part of 2019 construction. TS-01 currently operates with one pump installed in a 12-inch pipe. Arbor Hills is currently upgrading the TS-01 collection sump to increase capacity and provide redundancy. Arbor Hills has ordered a new 36-inch sump that will be equipped with two pumps to assure proper leachate extraction, ADS anticipates that this work will be completed by mid-June 2019. The extraction point will be connected to the gas collection system to control any odors emanating from this point. If gas quality does not meet NSPS requirements an HOV approval may be required from the Department

for this extraction point. Once the work is complete, Arbor Hills will provide notification and any additional operational requests.

3. The "leachate seep" noted by the Department was due to a compromised forcemain identified by the site and repaired on the same day of the MDEQ AQD site visit on March 12, 2019. Leachate associated with the compromised forcemain were dammed prior to any reaching bodies of water and collected by a vac truck. The soil that came in contact with the leachate was excavated and disposed of in the landfill.

As indicated in our response to Item No. 4, the passive vent in question is currently located outside of the landfill waste limits. The passive vent was installed to assist in controlling gas build-up in gas monitoring probe 28R. However, the landfill plans to connect this vent to active vacuum as part of the 2019 gas construction activities.

The section of the liner on the north side of the landfill and West side of the temp cap is located in the area of active filling. Arbor Hills requested decommissioning of the TCH Wells 1-5 in February 2019 and granted approval by DQE AQD. The TCH wells provided additional gas collection immediately under the North side temp cap to prevent uplift and potential failure of the geomembrane. The cap on the West side of the landfill could be experiencing expansion and contraction due to temperature changes, but will be further investigated. .

Additional soil cover has been placed and graded in the area upslope and around TS-01. The Department observed the work in this area during the most recent visit on March 28, 2019.

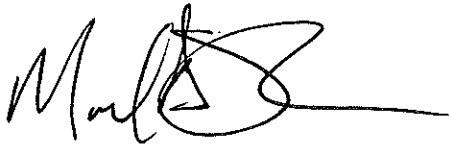
4. Arbor Hills understands that during the DEQ's site visits that asbestos was not being covered with soil on a daily basis. Asbestos is delivered in bags and placed in a 10 to 20-foot deep excavated pits and covered once the excavated pit becomes full. The area in which the asbestos is placed is not highly traveled and away from the active portion of the landfill to prevent any mishandling. Additionally, if a bag is broken during waste placement or other, the area is immediately covered with soil. Going forward, Arbor Hills will implement a policy that asbestos containing waste will be covered at the end of each operating day and documented in the landfills operating record. In January 2019, Arbor Hills accepted 3,926 tons of asbestos waste.
5. Currently, Arbor Hills has all functional blowers installed in the blower building. To date, Arbor Hills was able to verify an aggregate flow of approximately 7,000 scfm. A complete understanding of how much flow can be managed cannot be confirmed until there is a complete shut-down of the gas-to-energy plant. However, Arbor Hills plans to test all currently installed blowers this month.

6. The former General Manager accepted compost from the City of Detroit with the understanding that the material was not in a state of decomposition. Upon delivery the material was found to be in the early stages of decomposition resulting in the odorous material being placed on the pad. After attempting to address the issue with the generator, Arbor Hills ceased acceptance of the material.
7. The landfill attempted to manage odors attributed to contaminated soil accepted at the landfill in the fall of 2018. When attempts to manage the odor emanating from the soil were unsuccessful, the landfill ceased acceptance of the waste. The landfill has modified the process for the acceptance of potentially problematic waste streams. Current practice involves a review of the waste profile for any constituents that might cause odors during transportation, unloading, placement, and in the event the material is stockpiled for use as pre-cover.
8. As part of the comprehensive Odor Management Plan submitted to the DEQ in December 2018, many of the recommendations were addressed..

If you have additional questions, please contact me at 248-412-0704.

Sincerely,

**ADVANCED DISPOSAL SERVICES ARBOR HILLS LANDFILL, INC.**



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