



February 15, 2016

Mr. Alex H. Whitlow, E.I.T.  
Environmental Engineer  
Office of Waste Management and Radiological Protection  
301 E. Louis Glick Highway, Jackson, MI 49201-1556

Re: Violation Notice  
Arbor Hills West Expanded Sanitary Landfill

Dear Mr. Whitlow:

Advanced Disposal Services, Inc. (Advanced) and Republic Services, Inc. (Republic) provide the following joint response to the Violation Notice issued February 2, 2016 by the Michigan Department of Environmental Quality to the Arbor Hills West Expanded Sanitary Landfill, Inc. The Notice states that the inspection found the facility to be in compliance with the operational requirements of Part 115, except for an alleged violation of Rule 433(1)(c) relating to the detection of off-site odors and potential nuisance conditions.

The Notice required Advanced and Republic to submit, by February 15, 2016, a response addressing current and planned actions to correct the odor conditions. The Notice states that the plan must address the following issues:

1. A comprehensive explanation of the cause of the odor
2. A description of actions that have taken place or will take place to address the issue
3. All plans and schematics related to gas control system updates
4. Any other documents that Advanced Disposal determines relevant to solving the odor complaint issue.

The following sections provide a collective response<sup>1</sup> by Advanced and Republic to these items.

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<sup>1</sup> It should be noted that the rights and obligations for the landfill gas collection and control system (including odor abatement) are set forth in a contract between Advanced and Republic. Their corresponding obligations for air emission controls are reflected in the Renewable Operating Permit for the facility. To provide an effective response to the site conditions, the companies are coordinating their efforts though their ultimate responsibilities are set forth in the contract

## **A. Explanation of Cause of Odors**

Based on surface scans performed over areas of the landfill with intermediate and final cover during the fourth quarter of 2015 and surface scans performed over the active areas of Arbor Hills West (AHW) in January 2016, the primary source of odors appears to be the north end of AHW generally comprised of Cell 4. Waste in Cell 4 was initially placed in May 2014. As the west slope of Cell 4 only recently achieved final waste grades, the landfill gas collection and control system infrastructure in this area of the landfill had not yet been installed. Given the short period that this waste has been in place and the limited decomposition that has occurred, the main odor generation is likely emanating from the Cell 1, 2, and 5 waste mass, which Cell 4 overlays, and migrating through the Cell 4 waste. Existing wells on the north intermediate slope of these Cells were raised as they were encountered during waste placement activities per standard operating procedures. It is possible that a combination of the distance that these wells were from the vacuum source and the additional length to the screened portion of the well in the older waste mass unexpectedly affected the extraction integrity or influence of these wells.

## **B. Landfill Odor Remediation and Action Plan**

Several actions have already occurred and are underway to address the situation.

1. In December 2015, two landfill gas system construction events were performed. The most recent in December 2015, consisted of the replacement of 9 gas extraction wells were replaced.
2. During the week of January 18, 2016 soil was placed along the temporary Cell 4 tie in berm. This permitted berm was constructed as part of the phased construction of Cell 4 and will be removed during the upcoming construction. We will continue to monitor the tie in area for any odors.
3. On January 15, 2016 the leachate collection cleanout risers of Cell 4 were connected to the active gas collection system to provide immediate collection of Cell 4 gas while construction plans were being finalized.
4. On February 4, 2016 a new 75 horsepower air compressor was installed to service the pneumatic pumps located throughout the footprint of the facility.
5. Multiple drill crews and pipeline crews have been mobilized to expedite the response to these conditions. Replacement of 20 gas extraction wells and the installation of 6 new gas extraction wells in AHW commenced on February 5, 2016. Scheduled completion for the improvements is March 4, 2016. Replacement wells will be connected to the landfill gas conveyance system as soon as well drilling is complete. Construction drawings are attached. In addition, installation of 15 new gas extraction wells as well as the gas conveyance header and lateral infrastructure in the

AHW Cell 4 waste mass and the part of Cells 1, 2, and 5, which Cell 4 overlays, began February 8, 2016, and is scheduled for completion by February 19, 2016. Construction drawings are attached.

6. A 2,000 SCFM candlestick flare will be mobilized and installed to further supplement flare capacity in the event of a landfill gas to energy electrical plant shutdown. The additional flare will be installed by March 31, 2016. This flare is permit exempt as confirmed by Diane Kavanaugh-Vetort of the air quality division.
7. The need for additional gas infrastructure, including new and replacement throughout the entire landfill footprint, will be evaluated by April 30 2016.
8. We will perform a cover survey to ensure that daily/intermediate cover placement is sufficient and repair areas as needed to ensure a proper barrier exists.
9. An evaluation is underway of techniques to maintain well integrity and influence, such as caisson wells, that would be installed prior to waste placement in areas where new waste is being placed in areas overlaying existing waste in order to maintain collection efficiency.
10. There are also plans to perform more frequent surface scans to identify potential problematic areas in order to focus improvements in these areas. The frequency will be weekly throughout the construction period and at a minimum monthly upon completion of construction for the balance of 2016.
11. A phone number has been set up for neighbors and local residents to call if they detect odors to allow the landfill to investigate expeditiously the source of the odor . The phone number is 248-305-8432.

#### **C. All Plans and Schematics Related to Gas Control System Updates**

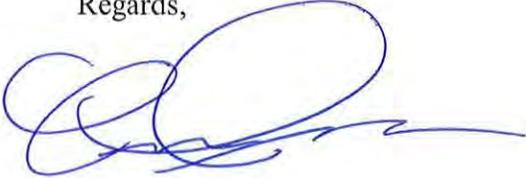
1. Construction drawings prepared by CB&I dated January 2016 (attached)
2. Construction drawings prepared by Midwestern Consulting dated February 3, 2016 (attached)

#### **D. Additional Documents**

We will develop and submit for review by May 2016 a new gas collection and control system plan that will incorporate the recent additions and 2009 AHW expansion.

Odors associated with the Arbor Hills Landfill have not been an ongoing issue. Advanced and Republic are both committed to addressing these issues and returning to compliance as soon as possible. We appreciate any feedback you might have. If you have any questions, or need further information, do not hesitate to contact Dave Rettell at (248) 755-9306.

Regards,



Thomas Flannagan  
General Manager  
Advanced Disposal Services Arbor Hills, Inc.



Ms. Christina Pearse-Bossick  
Environmental Manager  
Republic Services, Inc.

cc: Ms. Diane Kavanaugh Vetort, DEQ  
David Rettell, Advanced  
Jay Warzinski, Advanced  
Michael Slattery, Advanced  
Betty LeClerc, Republic  
Bill Eggleston, Republic  
Jeff Kermarik, Washtenaw County