

March 14, 2018
Town of Perinton, New York
Town Board

Dear Town Board Members,

In the late Fall of 2017, the Perinton Conservation Board (PCB) was directed to provide the Town Board with a factual explanation for the long-term persistence of landfill odors¹ from the High Acres landfill. On January 16, 2018, the PCB held a public meeting where Waste Management (WM) presented information to this Board regarding persistent, noxious odors emanating from the landfill facility. Following this meeting, the PCB made interim recommendations to the Town Board regarding increased regulatory compliance protocols, additional ambient air monitoring, and other operational changes as a means to lessen the occurrence of landfill odors. These recommendations were supported by the NYSDEC when it issued a Notice of Violation (NOV) to WM on February 2, 2018. Subsequent filings by WM regarding the NOV have resulted in a NYSDEC-approved air monitoring “work plan” that, among other things, details the following compliance deadline dates:

- Ambient Air Monitoring in all four directions at the facility & School – Begin no later than 3/8/18.
- Submit an addendum to the facility’s Operation & Maintenance Manual incorporating the new monitoring and operational requirements – Complete no later than 3/16/18.
- WM will install additional geo-membrane cover on the South & East slopes of Cell 11 – Target Completion Date of 3/31/18.
- All gas collection mitigation efforts in cells 10 & 11 that includes intrusion into “old” waste – Complete by 3/31/18.

This letter is a follow-on series of recommendations concerning the Town’s interaction with the facility regarding odor mitigation and other operational issues and recommends certain subsequent actions by the Town Board. It also sets forth for the Board the events that have led to the landfill facility’s condition over the preceding months. The PCB’s conclusions are based upon its history with the landfill facility and its consultants’ review of available technical data and information.

¹ “Persistent” resident odor complaints had begun around “mid-summer” (2017).

In summary, the Town wishes to have all mitigation efforts (including capping and grading) completed by April 30, 2018. If these actions (above) are not completed by that date, the Town is asking the NYSDEC to take the actions outlined below.

BACKGROUND:

It is our understanding that up until 2014, the gas collection system at High Acres Landfill included both vertical wells and horizontal gas collectors. The horizontal gas collectors are perforated pipes that connect to vertical wells and are typically installed in gravel filled trenches in the waste mass as lifts of municipal solid waste (MSW) are being placed. The purpose of the horizontal collectors is to provide a greater vacuum zone of influence in the waste mass to initially collect low quality landfill gas for combustion, which typically occurs in a flare. Collecting this gas and combusting it helps to control gas emissions and odors. After enough MSW has been placed in a cell, vertical wells are installed by drilling into the waste. The vertical well pipe and stone are then connected to a control device such as a flare or an internal combustion engine, which draws a vacuum on the waste mass.

In 2014, WM (corporate) issued a directive to the High Acres facility to change or modify its gas collection system in all new landfill cells by eliminating the installation of horizontal collectors and utilizing a newly designed vertical slip form well. The slip form well is designed to be installed as the waste is being placed within a cell, which alleviates the need to drill vertical wells. While the slip form wells might be more expensive than a typical drilled well, the cost is supposedly offset by not having to install the horizontal collectors.

The slip form wells were also designed to be placed on the 10-foot lift of select waste ("fluff layer") with a larger diameter bore than the typical drilled wells. This well design, according to WM, has better drainage characteristics for dewatering should liquid enter the well during landfill gas collection. Liquid can enter the gas collector as vacuum is applied to withdraw the landfill gas from the waste mass. Because landfill gas and liquid cannot occupy the same space at the same time, liquid can be forced into the collector as landfill gas is drawn by vacuum into the collector.

Moving forward with this change, WM prepared a design for its gas collection system in Cell 11 that utilized vertical slip form wells only (without horizontal collectors). The modification in the gas collection system was reviewed and subsequently approved by the NYSDEC.

We believe that the use of the slip form well design without horizontal gas collectors resulted in an ineffective gas collection system in Cell 11, causing increased gas emissions from the landfill surface and therefore increased odor complaints during 2017.

Further, during the summer of 2017, WM decided it needed to remove the access road into Cell 10 due, in part, to promote waste-to-waste contact for “completion filling with MSW”. As the road was being removed, odors became more intense during August and September of 2017. We believe that was due, in part, to the hauling of odorous waste into Cell 11. However, following the removal of the access road, there were still odors coming from this area. To determine why the odors persisted and their source, WM initiated a review of the landfill’s cover, landfill gas collection, landfill gas conveyance and landfill gas control systems.

Resident odor complaints continued to increase dramatically in July 2017 and seemed to peak in December 2017.

As the result of attempting to determine the source of the odors, WM discovered the following:

- Lower vacuum on wells in Cell 11,
- Watering out of some wells – no/little landfill gas flow (approximately 40% of collection capacity),
- Reduced zone of influence due to lack of horizontal gas collection in Cell 11,
- Lack of available system vacuum in Cell 11 caused by:
 - Perimeter header blockage
 - Watered out laterals
 - Distance to vacuum control source too great
- Identification of gas odors in Cell 11 area, and
- Offsite identification of landfill gas odors

It is our opinion that instead of waiting until after the access road to Cell 10 had been removed, **WM should have begun assessing the cause of the odors when they first noticed the increase early in 2017**. As a matter of fact, some of the tuning data, if it existed (or was available²) should have provided a signal to WM officials **that something was not performing well in the Cell 11 gas collection and conveyance system**. If the technicians were performing the required monthly monitoring of the gas collection wells, including gas flow from the wells, **they would have noted the loss of vacuum and flow**. A “proactive” instead of “reactive” monitoring and analysis posture would have initiated faster trouble shooting and the possible implementation of mitigation measures sooner to fix the issues.

The PCB has concerns that the landfill gas collection system has lost collection efficiency over the past 4-5 years due to possible financial constraints placed on High Acres by its

² In verbal discussions with WM (Jeff Richardson, Senior District Manager), some of this data was never recorded by technicians and thus could not be studied.

parent company. The fact that WM corporate dictated design changes to the gas collection system design leads the PCB to wonder what other mandates were issued that might reduce the efficiency of the gas collection and control systems at the landfill.

The **PCB requested information** from WM concerning EPA greenhouse gas reporting (i.e. equation HH-1 to HH-8 worksheets) and associated backup documents to see if the PCB could compare a landfill gas generation curve with the actual landfill gas collected each year to estimate the collection efficiency of the landfill gas collection system and whether the gas collection efficiency dropped. To date, PCB has not received this technical information, but plans to conduct an assessment that will hopefully provide information explaining gas collection efficiency over time, which is the central issue that drives this period of prolonged odor emissions at the facility.

WM's lack of foresight has extended the mitigation timeline. An example of this is the placement of geomembrane over approximately 9 acres (less than half the cell's surface area) of Cell 11. **Given that Cell 11 has been identified as the major source of odors, the PCB previously suggested that all of Cell 11 be covered with geomembrane to insure efficient landfill gas capture.**

During the PCB public meeting (1-16-18), the Board heard concerns from the public about odors and potential health impacts from the High Acres landfill. In addition, we heard commitments from WM to fix the odor issue. Excerpts from the transcript regarding WM's commitment are as follows:

"And we are committed to take action to correct the situation. And we want to return the site to an acceptable level of operation out there...So going forward, we are working with the DEC to over engineer future collection systems, kind of a belt and suspenders approach, because we don't want history to repeat itself. So, we are committed to fixing it...to make sure that it does not return to the site.

We've got commitment at the highest levels within the organization, including the president and CEO...And we have been given a blank check to do whatever we need to do to take care of the situation. So, the company is aware of it, and they are supportive of whatever we need to do to take care of the problem."

In early February (2018), a technical meeting was held with representatives from the NYSDEC, the Town of Perinton, Harter, Secrest and Emery (Attorneys for the Town), the Perinton Conservation Board (PCB), Waste Management and Barton & Loguidice (WM's Engineer) to discuss PCB's Recommendations #2 and #3. During that meeting, WM preferred not to cover the remaining areas of cell 11 (approximately 9 acres) with geomembrane. **The PCB reiterated that all of Cell 11 should be covered as was done previously with Cell 10 (an operational decision made by WM), so there would be no question that the landfill gas odors from Cell**

11 were being controlled. WM indicated that completely covering Cell 11 might not be needed with the 9 acres already covered and additional vertical and horizontal gas collection wells that were being installed. At this point Mr. D’Amato Region 8 NYSDEC Director agreed with the PCB and stated that the NYSDEC wanted all of Cell 11 covered with geomembrane.

While WM indicated at the 1/16/2018 PCB meeting that WM will “do whatever it takes to take care of the situation,” it appears that WM’s actual position is to take a “wait and see approach”. **It is the opinion of the PCB that this “linear approach” to executing various mitigation activities has negatively impacted (extended) the entire mitigation timeline causing the residents of Perinton to be subjected to longer episodes of odor emissions than what was originally stated by WM and would have continued to the residents’ on-going detriment had the PCB not required otherwise.**

RATIONALE:

Given the fact that Cell 11 is an admitted contributor³ to the landfill gas odors, the complete capping and covering of all of Cell 11, including the installation of any and all necessary vertical and horizontal gas collection wells, would essentially eliminate the potential of gas emissions from Cell 11. **If WM had the foresight to realize that all of Cell 11 needed to be covered with a geomembrane (as was its determination with Cell 10) then that mitigation task would likely be completed by now.**

It is the PCB’s opinion that, at a minimum, WM **exercised a lack of due diligence** regarding the attribution of increasing odors to specific design decisions (i.e.: elimination of horizontal collectors) and construction failures associated with the removal of the access road into Cell 10 during the summer of 2017. In subsequent meetings with the Town in the Fall of 2017, WM represented these conditions as not interconnected (e.g. a failure of the gas collection design), but rather as “random events,” as well as providing to the Town a number of “moving” dates for odor control, including the use of odor-neutralizing agents as an attempt to mitigate

RECOMMENDATION:

In summary, in the late Summer and Fall of 2017, WM failed to specifically monitor these increasing odor conditions, identify the source of the odors, and provide expeditious corrective measures.

As a result, if WM cannot successfully complete all mitigation tasks to the satisfaction of the NYSDEC by April 30, 2018, the Town of Perinton should request that NYSDEC take additional

³ Letter from Jeff Richardson, Senior District Manager, WM to PCB Chair Kenneth Rainis; December, 2017.

regulatory steps to deal with the odors from High Acres landfill in a timely manner and as follows:

1. **Immediately suspend municipal solid waste (MSW) at the facility, including Cells 10, 11, & 12.** Specifically, limit any waste disposal to only construction and demolition debris without gypsum wallboard, yard waste (e.g. trees, brush, garden/lawn material, etc.), leaves (composted not deposited as MSW), etc. Note that the organic composting activities that WM is performing (e.g. area college cafeteria waste streams) would not be affected because they are composting activities not MSW activities.

The PCB believes that the purpose for WM immediately ceasing MSW operations is to ensure WM **focuses on resolving the odor issues and preventing future occurrences of the same**, rather than MSW activities.

2. **WM would continue operating the residential waste drop off area but dispose of the MSW waste at another NYSDEC permitted MSW landfill at WM's expense.** This MSW diversion should have no material effect on Perinton or Macedon residents.
3. **NYSDEC to monitor the gas collection performance of Cells 10 and 11 for at least a year (four seasons) before reinstating MSW disposal in Cell 12.**
4. Lastly, the PCB recommends that the Town request that **NYSDEC reduce the landfill's MSW annual tonnage rate until WM demonstrates that they can manage these wastes without odors.** The NYSDEC should then establish incremental increases in annual disposal tonnage based on long-term performance (e.g. years).

For the Perinton Conservation Board,

Kenneth G. Rainis
Chairman