

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## Region 8 Main Office

6274 East Avon-Lima Road, Avon, NY 14414-9516  
P: (585) 226-2466 | F: (585) 226-2830  
www.dec.ny.gov

March 14, 2019

Linda R. Shaw, Esq.  
Knauf Shaw LLP  
1400 Crossroads Building  
2 State Street  
Rochester, NY 14614-1365

BY E-MAIL

Re: NYSDEC Response to the 6 NYCRR §621.13(b) Petition to Modify NYSDEC 6 NYCRR Part 360 Permit ID# 8-9908-00162/00032 and NYSDEC Air Title V Permit ID#8-9908-00162/00043 held by Waste Management of New York, LLC, for the High Acres Landfill, by Fresh Air for the Eastside, et al.

Dear Ms. Shaw:

The New York Department of Environmental Conservation (NYSDEC) has reviewed the Petition dated July 25, 2018, on behalf of Fresh Air for the Eastside, LLC, and individual petitioners, requesting NYSDEC to modify the Waste Management of New York Part 360 solid waste management facility permit and air Title V facility permit for the High Acres Landfill in the Town of Perinton, Monroe County, and the Town of Macedon, Wayne County. The NYSDEC Response to the Petition is enclosed.

Sincerely,



Lisa Perla Schwartz  
Assistant Regional Attorney

ecc: Jeffrey Richardson, Waste Management of NY, LLC (jrichard3@wm.com)  
Joseph Picciotti, Esq. (jpicciotti@HarrisBeach.com)  
Sandy Pagano, Supervisor, Town of Macedon (macsuper@macedontown.net)  
Ciaran Hanna, Supervisor, Town of Perinton ([channa@perinton.org](mailto:channa@perinton.org))  
Anthony Villani, Esq. (ajvillani@villaniandgrow.com)  
Leslie Mauro, Esq. (lmauro@hselaw.com)  
Scott Sheeley, NYSDEC R8 (scott.sheeley@dec.ny.gov)

ebcc: Paul D'Amato  
Scott Foti  
Greg MacLean  
Yuan Zeng  
Mark Amann  
Michele Kharroubi  
Regina Willis

STATE OF NEW YORK  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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In the Matter of the 6 NYCRR §621.13(b) Petition to Modify  
NYSDEC Part 360 Permit ID# 8-9908-00162/00032 and  
NYSDEC Title V Permit ID#8-99908-00162/00043 held by Waste  
Management of New York, LLC, for the High Acres Landfill, by

FRESH AIR FOR THE EASTSIDE, INC., et al.,  
Petitioners.

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**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
RESPONSE to the PETITION of FRESH AIR FOR THE EASTSIDE, INC., et al.,  
REQUESTING MODIFICATION of PERMITS  
held by WASTE MANAGEMENT OF NY  
for the HIGH ACRES LANDFILL**

Dated: March 2019

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2. Letter – Richardson to D’Amato dated 12/20/17
3. Memo – Perinton Conservation Board to Perinton Town Board dated 1/24/18
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## **I. BACKGROUND**

The New York State Department of Environmental Conservation (“DEC”) hereby responds [hereinafter, “Response”] to the petition submitted by Linda Shaw, Esq. on behalf of certain residents of Monroe and Wayne Counties and the group Fresh Air for the East Side (“FAFE”) (collectively “Petitioners”) dated July 25, 2018. For the reasons stated herein the entirety of the relief sought by Petitioners is not warranted; however, DEC shares some of the concerns expressed in the Petition. The measures that have been or will be taken and the rationale for their implementation are described more fully below.

Since the time of the filing of the Petition, DEC has become aware that FAFE has filed a lawsuit against Waste Management (“WM”). The Response is not intended to either support or oppose the position of any party currently in litigation. Rather, it describes the results of DEC’s evaluation of available information regarding the current conditions related to odor from the High Acres landfill (“HA” or “facility”). This Response does not constitute a waiver by DEC of any of its rights of any nature whatsoever concerning any further action it may deem appropriate relative to this facility, or in response to concerns contained in the Petition.

In mid–November of 2017, DEC management was contacted by two citizens living in close proximity to HA regarding their concern that odors from the facility were at a level that was creating a problem for its neighbors. After internal review of the situation, DEC immediately responded with a demand that WM take further action (Attachment 1) and met with the company on December 13, 2017. By letter dated December 20, 2017, WM submitted a plan for implementing responsive measures (Attachment 2).

The Perinton Conservation Board (“PCB”) heard concerns from residents at a public meeting held in mid-January of 2018. Following that public meeting, in a memorandum to the Perinton Town Board dated January 24, 2018 (Attachment 3), the PCB expressed its views about the cause(s) of odor and appropriate next steps that the PCB felt should be taken. WM and the PCB essentially agreed that a series of factors occurring in a portion of the landfill, particularly in landfill cells 10 and 11, exacerbated by unfavorable (wet) weather in the summer of 2017, contributed to inadequate performance of the gas collection and control system. This performance problem resulted in the presence of landfill gas in the neighborhoods surrounding the facility which caused excessive odor. The PCB recommendations centered around on- and off-site monitoring for methane and hydrogen sulfide (“H<sub>2</sub>S”) and on gas collection and control at the facility. DEC replied to the Town regarding its recommendations by letter dated February 12, 2018, in which this Department concurred with many of the PCB’s recommendations (Attachment 4).

The level of landfill odor present in the neighborhoods in the fall and winter of 2017 through the early spring of 2018 was unacceptable and required mitigation. WM publicly acknowledged as much, along with a stated commitment to address the situation. At the direction of DEC and in response to DEC’s February 2, 2018 Notice of Violation (“NOV”)

(Attachment 5), and resulting from discussions with the Town of Perinton, WM has undertaken a number of measures to mitigate the odor issue. These measures have been well documented and circulated to the Towns of Perinton and Macedon and their residents, and documents summarizing those efforts while underway and through September 14, 2018 are included herein as Attachments 6 through 9.

## **II. INFORMATION COLLECTION AND EVALUATION**

In addition to the measures DEC mandated to be undertaken by WM through the fall and winter of 2017-2018, DEC prioritized the collection and analysis of information regarding off-site odor. DEC committed significant time and resources to be present in the neighborhoods, both to independently assess conditions and to respond to and support – in real time - concerned residents. This neighborhood “detail” placed various DEC staff, including Environmental Conservation Officers and program staff, in vehicles in the neighborhoods during non-business hours as well as during business hours, and on weekends, as much as 16 hours per day, seven days per week, from late February through June 13, 2018.

In an effort to further document and assess the situation beyond that information collected through the enhanced presence in the neighborhoods, on April 18, 2018, DEC established a telephone hotline (“Hotline”) for residents, seeking to better elicit details about any odor incident they experienced. From the Hotline, DEC sought the type of information its attorneys need to assess the propriety of further action against a company including e.g., the duration of the event, any impacts to the receptor, the strength of the odor, and the location of the receptor. Some residents expressed concern that the Hotline was inconvenient given work/school schedules and some advised they were unwilling to wait for a DEC response to their residence. As a result, and in an effort to accommodate those concerns, on June 13, 2018, DEC provided an electronic form (“Citizen Odor Log”) which a resident could use to provide the same information as that requested by the Hotline, and which could be submitted at a resident’s convenience. The Citizen Odor Log form was made available on the DEC website, and its availability has been made known as part of the response to any email DEC received, to help ensure that residents expressing a concern knew of its existence. During this time, WM also made an effort to assess the presence of odor and respond to information about odor, utilizing Towpath Investigative Services (“Towpath”) to both be present in the neighborhoods on a set schedule and to respond to Hotline calls.

Moreover, in addition to these extensive efforts to investigate the problem and respond to citizen concern, DEC continues to have a regular presence at the facility, and as necessary off site in the neighborhoods, through its on-site environmental monitor and its project engineers.

In addition, throughout this event and continuing currently, members of FAFE have used an app that was developed for the group which can be accessed from their phones, indicating a detection of odor, a location of the device when a notification is sent, and wind direction at that time (“App”). Emails sent from the App are forwarded to an email

account specifically set up by DEC for the HA odor issue, and can be viewed by DEC management and staff.

Overall, an extensive review of the information available, summarized in part in the Attachments, forms the basis for the determinations described herein assumes each and every complaint is verified, and thus views the position of the Petitioners in the most favorable light. Although DEC investigated many of the complaints received, for purposes of this review, DEC did not attempt to characterize or judge the notifications received from the FAFE App in any way.<sup>1</sup> Instead, DEC's analysis took the notifications at "face value", and considered them together with DEC staff's observations, experience, and expertise, as well as the context and environment surrounding the relationship between the litigants.

DEC also did not consider in its analysis any information received from Towpath, despite its utilization of personnel who are certified in odor detection by a third-party organization. Towpath's information was often contradictory to the information from the App, either in terms of the existence of odor, or odor intensity.

The measures taken by WM both unilaterally and in accordance with DEC directives to address the fugitive gas odor issue were essentially complete in mid-May of 2018 (except for the need to place some additional cover soil). As a result, to properly assess the current (post mitigation) situation, and more specifically to evaluate the assertions in the Petition and the propriety of granting the further relief requested therein in whole or in part, DEC focused primarily on available information generated between Friday, May 25, 2018 (Memorial Day Weekend) and October 31, 2018 ("Evaluation Period").<sup>2</sup>

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<sup>1</sup> DEC's observations in the field, particularly during its enhanced field presence earlier this year, included numerous instances where email reports of odor could not be corroborated, despite DEC staff presence at the reporting location within a short period of time. Other reports received via the App, while counted in the totals used in this evaluation, are unreliable, because either a location is not provided, the wind direction reported is inconsistent with the reported claim of impact, or a location is not consistent with other reports received at a similar time. Duration of an impact also cannot be ascertained from the App settings. However, despite its inherent shortcomings, the App notifications, particularly on "active" days when a significant number were received from a number of different residents, gave a good indication of a level of impact occurring for some period of time. Further, in deference to the Residents' making the effort to submit them, these notifications were the primary data set used for this evaluation.

<sup>2</sup> While WM and the Town of Perinton consider that the wet weather in 2017 made a significant contribution to the problems with the landfill gas collection system, in contrast, the summer of 2018 was unusually hot and humid, with approximately 20 days exceeding 90 degrees. This created an opportunity to evaluate current conditions in as conservative (potential to be odorous) an environment as is likely to occur. Further, October 31<sup>st</sup> marked the end of the period that WM was directed to delay the deposition of waste brought in by rail until 9:30 each morning (See Attachment 11), and DEC desired to incorporate the results of that directive into this Response.

### **III. EFFECTIVENESS OF MITIGATION MEASURES**

With respect to the concern in the Petition about vibration or tremors caused by the landfill gas-to-energy facility at the landfill site, through the NOV and the revised Operations and Maintenance (“O&M”) Manual for the HA facility, DEC required that the monitoring and vibration prevention measures put in place by WM after the January 2018 event be maintained and kept operational. These measures have proven effective, with no report of a significant incident having been received since they were implemented. DEC is taking no additional action related to this issue at this time.

The measures designed to address off site odor from landfill gas caused by issues with the collection and control system, which are listed in the Attachments, have also proven effective. From November 2017, through September 2018, landfill gas collection and control increased by approximately twenty-six percent. Also, monitoring for the presence of H<sub>2</sub>S off site, with sampling at a nearby school and at the landfill property boundary in all directions from the landfill every 10 minutes since March 6, 2018, has shown results typically below the limits of detection. Infrequent detections of H<sub>2</sub>S have not exceeded the associated Ambient Air Quality Standard (6 NYCRR Subpart 257-10). Two consultants, including one hired by Petitioners, have reviewed those sampling results and indicated that gas is not present off site in quantities that would constitute a health concern.<sup>3</sup>

Available information points to the geographic extent, the frequency, the duration, and the impact of fugitive gas being dramatically improved (i.e., reduced) since completion of the mitigation measures. Total notifications of all types and the frequency of “active” days are also down due to the improvements made at the facility.

Likewise, DEC staff, who are familiar with the difference between odor caused by emitted landfill gas rather than garbage handling (operating odor), consistently report that on those occasions when they do detect off site odor, they are operating odors, not odor from landfill gas. This improvement is further established by the fact that DEC staff frequently on site and at or near cells 10 and 11 report that instances of any gas issue are rare.

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<sup>3</sup> Regarding one such consultant, the report included in Attachment 13 to this Response was produced on behalf of the Town of Perinton by an entity that, at Knauf Shaw’s request and with their participation, earlier this year discussed with DEC matters related to air monitoring about the landfill. The second consultant is CPF Associates, Inc., who produced a study titled, “Evaluation of Ambient Air Monitoring Data Collected in Vicinity of High Acres Landfill,” dated May 29, 2018, on behalf of WM.

## IV. ASSESSMENT

### A. LEGAL THRESHOLD AND CONTEXT

Odor, unlike readily measurable contaminants with established emission standards or clear legal limits, is challenging to assess. People have different levels of tolerance; a change in wind speed or direction can influence who is impacted, how severely, and for how long; and the standard for legal action by DEC is not whether there is an impact or whether odor is detected, and not even whether there is an annoyance created. Rather, the standard is whether there is an unreasonable interference with the comfortable enjoyment of life or property<sup>4</sup> - and what constitutes “unreasonable” is not clearly defined by any numerical standard or formula. This challenge is exacerbated when there is conflicting information about the presence of odor and the overall impact experienced over time.

In the instant case, the “margin for error” for the company has also been significantly reduced by the construction of homes in areas that once were agricultural lands, placing new residents much closer to the facility’s expanding footprint than was the case previously. Figures 1, 2, and 3, are aerial depictions of the area in 2006, 2011, and 2016, respectively. As can be readily seen, the Magnolia Manor subdivision has only recently been constructed, with other residences northwest of the facility being built not long before that. The residents most frequently expressing a concern reside in that immediate area. See Tables 1, 2 and 3, and Figures 4, 5, and 6. As with any type of facility that can produce occasional odors, the proximity of receptors influences impact.

Regardless of location, residents are entitled to expect that any recurring problems associated with a neighboring business are mitigated to the extent practicable. The proliferation of the construction of nearby homes makes it imperative that WM continue to explore and implement all reasonable measures to reduce the likelihood and frequency of off-site odor.

### B. RESULTS OF ANALYSIS

**1. The geographic (areal) extent of the residents asserting that a continuing significant problem exists is limited to areas close to the facility, primarily to a single neighborhood to the northwest; and the number of residences asserting that a continuing issue exists post-mitigation is small compared to the number of residences in the area.**

The above conclusions are based on staff’s review of available information in accordance with the methodology described above. While it is impractical to describe herein each relevant piece of information received, the following summaries represent the primary basis for the conclusions.

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<sup>4</sup> See 6 NYCRR 211.1, as well as the regulation pertaining to odor nuisance at 6 NYCRR 360.19(i).

Tables 1, 2, and 3, and Figures 4, 5, and 6, present tabular and aerial depictions of the number and locations of residences from which most notifications are received, and provide information about the relative number of homes expressing that an impact exists versus the number of existing homes in those neighborhoods (taken from Town Assessment roles).

The first chart in Figure 7 shows the number of days the corresponding number of such notifications were received, for the period January 31, 2018 through May 24, 2018, and the second chart depicts like information for the Evaluation Period. See also Figures 8 and 9.

In short, the improvement in odor control is demonstrated not only by DEC staff observation, but also by assessment of all other data including the email notifications from the FAFE App. Both the reduction in overall numbers and the reduction in notifications attributed to fugitive gas are evident from a full assessment of all information and data available to DEC.

The number of notifications from greater distances from the facility is drastically down as well. For example, notifications from residents of Macedon, from areas south of Route 31 or north of Whitney Road, and from the Village of Fairport, all areas from which significant numbers of notifications were routinely received earlier in 2018, have become rare. As can be seen from the Attachments and the less frequently occurring “active” days, odors from the landfill have diminished in the surrounding neighborhoods, with very few, if any, notifications being received on most days, the lone exception being when the wind is from the south/southeast. This reduction in overall notifications and impact is further telling given that residents have been sensitized due to the 2017 -2018 issues and are organized and energized relative to this issue. If the improvement in conditions was not significant, the notifications from those residents and from more distant locations, consistent with the pre-mitigation experience, would be continuing. The Town of Perinton, which earlier in the year declared WM to be in violation of its local permit, has reached agreement and taken no enforcement action (see Attachment 12), and the Town of Macedon has expressed its satisfaction to DEC for the action taken by DEC and the current conditions in the Town. In fact, a letter dated November 6, 2018 sent to DEC by the Town of Macedon attorney advises that “Town records show relatively few complaints from Macedon residents”. See Attachment 14.

A typical effort to determine the existence of an unreasonable interference would count the number of times the agency is contacted by residents detecting some level of odor and assess any impacts to those people detecting an odor. The Petition recites a series of impacts at Paragraphs 3 through 7 to support the Petitioners’ view that an unreasonable interference has or is occurring. In addition to the Petition lacking specificity about the people experiencing the listed impacts and when they were experienced in relation to the improved conditions, other than some indications about going indoors or closing windows on certain days for an indeterminate period of time, DEC has not been provided information about the impacts listed in the Petition. As a

result, there is no ability to consider the majority of those assertions in formulating this Response.

DEC carefully considered all notifications in its overall evaluation of the current situation. However, the totality of the information available to DEC refutes the Petition's assertion that there is a continuing, widespread, and significant impact to a large number of residents which would justify the full extent of the relief requested. The areal extent and number of affected residents described in the Petition may have been more representative of conditions at certain times and under certain conditions prior to the mitigation measures being implemented. A simple tabulation of App notifications internal to the FAFE group as described in the Petition, without consideration of the intervening measures taken by WM, does not productively inform the analysis necessary now to consider the propriety of the further and significant action requested by the Petitioners.

**2. Analysis and comparison of the time of day notifications are received with the time of day waste brought to HA by rail ("rail waste") is deposited at the working face does not clearly demonstrate that rail waste is a cause of a significant incremental increase in off-site odor.**

Petitioners' assertions that form the basis for much of the relief requested center around issues associated with the rail transport of waste from New York City ("NYC") to HA, and whether odor is incrementally more problematic in the neighborhood due to the nature, volume, or transport time associated with that waste stream. The concern about the NYC waste was expressed by FAFE and its counsel to DEC well before the Petition was submitted. As a result, rail transport of waste to HA has been an issue of the agency's focus for several months.

The total amount of waste authorized to be accepted at HA pursuant to the Part 360 permit has not changed since 2000, although in several years the amount of waste actually received at the landfill was less than the maximum allowed. Rail transport of waste to HA began in mid-2015, with 284,393 tons delivered by rail that year, or 60% of the total MSW (municipal solid waste) accepted in 2015. During 2016, the amount of waste brought in by rail increased to 559,214 tons, or 74% of the total MSW accepted in 2016. In 2017, the amount of waste delivered by rail again increased, this time slightly, to 567,712 tons, but the percentage dropped, to 71%.

In summary, rail waste acceptance began then increased significantly in 2015-2016, but more or less levelled off in 2017, while increased reporting of neighborhood concern about odor to either WM or DEC commenced no earlier than mid to late 2017, with no resident contact to DEC management until November 2017. On its own, this information is insufficient to demonstrate that rail waste acceptance caused the odor complaints. Additionally, the task of assessing a causal correlation between the increase in rail volume and the concerns expressed by neighbors in the fall and winter of 2017-2018 is rendered more difficult when one considers concurrently occurring deficiencies in the gas collection and control system (latter part of 2017) and the mitigation construction activity that uncovered previously disposed waste (late 2017 and early part of 2018).

The Department also assessed citizen complaints in relationship to rail waste acceptance and found no causal connection. More specifically, to evaluate the relationship between waste hauled by truck and waste hauled by rail, and the Petitioners' claim that the odor issue is primarily related to NYC rail waste, DEC separated the notifications received by time of day, and for comparison purposes, the total notifications minus the early (pre- 9:30 a.m.) notifications. See Table 4. Rail waste constituted most of the total MSW deposited at HA prior to and during the Evaluation Period and is consistently deposited at the landfill's working faces throughout the operating portion of the day, almost every day the facility operates. However, despite the continued deposition of rail waste throughout the day, on many days the notifications from residents ceased or dramatically fell off by mid-morning.

In a further attempt to analyze this relationship, by letters dated September 24, 2018 and October 5, 2018 (Attachments 10 and 11), DEC directed WM to delay the deposition of rail waste for the month of October. Table 5 shows the time WM began rail waste deposition together with the pre-rail and post rail notifications received from residents.<sup>5</sup>

If rail waste was a distinct and primary reason for odor generation as claimed by Petitioners, then there should be a clear correlation between hours of the day when rail waste was deposited and the number of odor detections reported. Instead, the Tables show a mixed result, with some days showing as many or more notifications prior to rail waste deposition as during rail waste deposition. Even assuming that a number of potential receptors leave their residence for school or work by 9:00 a.m., there should be far fewer pre-rail notifications than post rail notifications if rail waste was, in fact, the main "culprit". Similarly, on different days a significant number of notifications were received after 9:30 in the morning. Therefore, we cannot conclude that the lack of notifications from mid-morning to the end of the operating day, when that occurs, is solely attributable to residents not being at home during the day.

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<sup>5</sup> While not specifically directed by DEC, upon learning that WM had delayed rail on other days during the Evaluation Period on its own initiative, DEC requested that information, and the days when rail waste was delayed until at least 9:00 a.m. are included in Table 5 along with the October information.

**3. DEC fully supports the commitment by WM to the Town of Perinton for an analysis of waste brought to HA by both rail and truck, and has required expedited submission of the study.**

While the notification pattern, taken together with DEC staff observations, does not support granting the full extent of the relief sought by Petitioners with respect to rail volume, DEC has concluded that a valid avenue of inquiry remains with respect to the origin and transport logistics associated with rail waste versus waste brought in via truck, the volumes received via each transport method, and any other issues that could result in excessive odor.

On September 20, 2018, DEC acquired from the Town of Perinton website a letter from WM to the Town dated September 14, 2018, containing, inter alia, a commitment to conduct “a study of materials delivered by both truck and rail to the Facility to determine the nature and extent of undue odors, if any, contributed to by the same; identify additional mitigative measures to reduce as feasible undue odors and implement those measures, to the extent practical and effective, to control odors”(Attachment 12).

DEC was not part of the discussions which resulted in the September 14<sup>th</sup> letter. However, DEC agrees that there is merit to such a study, and to that end, directed that the study be expedited, with submission by February 15, 2018, to be supplemented later with the information and analysis which depends on warm weather. See Attachment 11. (Subsequently, upon WM’s request, DEC extended the February deadline for submission of the study to March 15, 2019, to allow additional field data gathered in January to be included.) DEC looks forward to receipt of the study and reserves the right to take further action associated with the information contained therein.

**4. WM’s gas collection operations in cells 10 and 11 prior to the mitigation measures did not permanently impair gas collection and control in these cells, and do not justify permanent closure of these cells.**

The Petition’s request that cells 10 and 11 be permanently closed is not justified by WM’s decision, prior to the mitigation measures, to collect gas in those cells via a different vertical gas extraction well design than had been used in the past, and to decrease the use of horizontal gas extraction wells (“horizontal collectors”), albeit to a limited degree, in concert with those vertical wells. The mitigation measures have significantly improved gas collection and control in those cells. (See section III herein.) Furthermore, the manner in which WM used horizontal collectors in cells 10 and 11 did not permanently compromise gas collection and control in those cells and complied with the Part 360 permit. See Attachment 15.

Additionally, although WM will not dispose of waste on top of cells 10 or 11 immediately (see below at VI.a), if they are authorized to do so in the future, new regulatory requirements for horizontal collectors will apply. Until the end of 2017, Part 360 did not provide specific spacing requirements for horizontal collectors in landfill operation. With

the advent of the new Part 363 regulations effective on November 4, 2017, the operational requirements in Part 363-7.1(e) mandate the installation of horizontal collectors at specific vertical intervals and with specific horizontal spacing. At DEC's direction, WM has incorporated these requirements into the facility's updated July 2018 O&M Manual, which applies to any future landfill operation in cells 10 and 11. In fact, WM already complies with these more stringent requirements for cells 12A and 12B.

**5. The DEC staff decision to authorize the use of 30 mil geo-membrane was sound professional judgement under the circumstances.**

The Petition criticizes the use of 30 mil geo-membrane as intermediate cover, apparently and illogically concluding that DEC's authorization to use it demonstrated "too cozy" a relationship with the company it regulates (Petition, p. 37). Contrary to that assertion, the decision to avoid the delay associated with waiting for the delivery of 40 mil geo-membrane was sound. Upon being advised by WM that vendors did not stock enough 40 mil material to cover the required approximately 9 acres, and that it would take weeks to have 40 mil material available, the choice was to either install the 30 mil material, or wait several weeks. Given the desire to move forward with all reasonable mitigation measures as quickly as possible for the benefit of the residents, the authorization was given. The magnitude of the wind storm (50+ mph winds) could not be predicted at the time the decision was made, and given the impact of that wind event, the logical course of action was to repair and replace the geo-membrane, which was expeditiously done. DEC technical staff made a sound and unbiased technical determination.

**V. STATUS: POST-EVALUATION PERIOD**

The overall odor situation has not changed since the end of the period upon which this Response focuses, from Memorial Day weekend through October 31, 2018, in a way that would alter the conclusions reached herein in any significant way, despite an unfortunate but limited odor event caused by severe weather and rail infrastructure problems in mid-December. Department staff continues to detect odor in nearby residential neighborhoods infrequently, despite staff's routine presence at the landfill. Also, the total number of odor notifications received by the Department from both the Hotline and FAFE App generated emails in November was lower than any monthly total received during the entire Department evaluation period, and about a third less than the number received in October, and the positive trend continues. See Figures 10 and 11. Even the odor event in December did not raise the number of notifications received by the Department in that month to levels anywhere near the numbers of the Winter / Spring of 2018, prior to the mitigation measures being taken by the company. Furthermore, the geographic extent of notifications continues to be limited mainly to the same areas close to the facility, and from a relatively small percentage of the overall residences in those areas, all consistent with the circumstances occurring during the Evaluation period as described elsewhere in this response.

Furthermore, the incoming waste study by WM remains pending, and DEC will review it prior to reaching any final conclusions about the contribution of the means of transport to any operating odors. However, the Department remains concerned about that aspect of rail transport which appears to be outside the full control of WM, i.e. the potential impact at the facility from delays in waste transport due to problems in the CSX system. WM acknowledged, via letter dated December 29, 2018, that waste received in mid to late December 2018, was as much as 3 weeks old, due to a variety of factors in the transport of that waste. While this event may be non-routine, it highlights the fact that the facility, particularly given that receptors live in close proximity to it, is susceptible to having issues if CSX has problems in transport.

While the mid-December event may be among the most impactful occurrence caused by CSX, DEC's staff observations, confirmed in discussions with WM, reveal that CSX's transport system can create circumstances where deliveries are uneven in terms of the number of cars received on any given day or week. This in turn creates a need for the operators at the facility to adjust to handling greater waste volumes when more rail cars are delivered in order to "catch up". Although the volumes of waste received are within permitted capacities, DEC believes that any circumstance that can result in an uneven operating pace has the potential to cause problems.

As a result, in late 2018, discussions about this issue held with WM resulted in the company's commitment, starting in mid-January and continuing for the remainder of 2019, to re-direct to other facilities a portion of the waste stream received by rail from the NYC transfer stations. This change will result in the volume of waste arriving at HA by rail to approximate that initially accepted by rail beginning in mid-2015. This will allow for an opportunity to assess, through all weather conditions, whether a more consistent delivery and handling of a reduced number of rail cars helps the facility avoid operational issues, and for consideration in the waste study that must rely on warm weather conditions to complete the study.

## **VI. RESPONSES TO REQUESTS FOR RELIEF**

DEC's determination with respect to the specific relief requested at paragraph 9 on page 5 of the Petition follows:<sup>6</sup>

- a. The request that the Department permanently close all landfill cells in Perinton is denied. Permitted operations are currently at or near the town line and will continue to "cross into" Perinton for the near term. In addition, the landfill is one facility, and is permitted as such. Moreover, the position of the town line does not in any way determine the existence or prevention of off-site odor. However, the Department does share the Petitioners' concern about re-opening the top of cells 10 and 11 for waste disposal in the near term, considering the consensus view that those cells were the location of the gas collection and control inefficiencies.

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<sup>6</sup> Similar or identical requests for relief appear later in the Petition but the responses are contained herein and need not be repeated.

Significant effort and resources were devoted to address the gas and odor emitted from those areas, including the placement of additional geo-membrane cover, additional cover soil, and the excavation into old waste to place gas collection infrastructure. In addition, there are readily available alternatives that can be (and have been) constructed and used for waste disposal in accordance with the requirements of the new Part 360 series regulations and the WM permit. Therefore, effective immediately, WM shall not use the top of cells 10 and 11 for the placement of waste for the duration of the Part 360 permit, currently set to expire on July 8, 2023. After that time (and assuming the Part 360 permit is renewed), placement of waste in those areas will only be allowed upon a demonstration to the DEC that it may occur without causing undue concern about exacerbating odor once the interim cover is removed, and only upon the written approval of the Department in response to that demonstration. By copy of this Response to WM, DEC directs WM to submit to the Department by no later than April 30, 2019, a revision to the O&M Manual to include these requirements. Upon approval by DEC, the revised O&M Manual will be an enforceable part of the company's Part 360 permit.

- b. The request to reduce the permitted height in Macedon is denied. No compelling correlation between height of the facility in Macedon and future impacts from odor on the Petitioners has been demonstrated. In addition, the Town of Macedon, while aware of the Petition and this request for relief, has not acquiesced to it, made no such request on its own, and would be significantly impacted by such a decision by DEC.
- c. The request to permanently reduce the allowable volume by rail is denied at this time, subject to a review of the waste study described above. The correlation between rail waste and off-site odor remains unclear at this point, as discussed above. In addition, reducing rail waste without such a clear correlation, the results of the study, a more comprehensive analysis of its impact, and the need to implement any related changes to the operation of the facility, could foreseeably lead to an increase in truck traffic, replacing rail volume. Possibly, as was the case in prior years, this could create traffic problems in Macedon and Palmyra, and perhaps other communities along the truck routes, as well as increase the carbon footprint of the transportation of that waste. See also the letter referred to in paragraph g below (Attachment 14). However, as described above, WM will keep its commitment to reduce rail volume through calendar 2019.
- d. The request to require Community Air Monitoring during all mitigation measure events, including ambient air monitoring for all sulfides found in the raw landfill gas and for volatile organic compounds ("VOCs"), is denied. A Community Air Monitoring Plan ("CAMP") is not generally used at, or applicable to, a 6 NYCRR Part 360 permitted solid waste management facility. Rather, DEC requires a CAMP for certain sites in remedial programs administered by DEC pursuant to 6 NYCRR Part 375 (e.g., programs for inactive hazardous waste disposal sites or

brownfields) to protect the public from exposure to site contaminants during intrusive remedial activities. For example, DEC would typically require a CAMP for a brownfield in immediate proximity to possible receptors if hazardous waste excavation could release significant dust, particulate matter or VOCs into the air. The DEC Division of Environmental Remediation's CAMP guidance (included in DER-10) requires the monitoring of mass VOC concentrations at the downwind perimeter of a work area.

Moreover, at the Department's direction, and with the Town of Perinton's encouragement, High Acres has implemented real-time community air monitoring for H<sub>2</sub>S in all four directions around the landfill. The industrial hygienist retained by the Town of Perinton analyzed this monitoring (Attachment 12), and provided the following findings:

*"The concentration of hydrogen sulfide [in a sample of landfill gas] is significantly higher than the individual VOC levels. This supports the concept that low or non-detected hydrogen sulfide levels would also signify much lower VOC concentrations."* (Letter from MEH Consulting to Perinton Town Supervisor Barker, Page 2)

and

*"The identified hydrogen sulfide levels and therefore, the associated individual VOCs show the concentrations below the potential for health risks."* (Letter from MEH Consulting to Perinton Town Supervisor Barker, Page 5)

DEC concurs with these findings and therefore is not requiring any additional air monitoring, for VOCs or otherwise, beyond what WM has already undertaken for H<sub>2</sub>S.

- e. The request to impose mandatory timeframes related to receipt of rail waste is denied. See the discussion regarding rail waste above. As DEC advised by letter dated September 24, 2018 (Attachment 10), this agency supports the plan to study rail traffic contained in WM's commitment to the Town of Perinton (Attachment 12). DEC already has directed that the study be submitted by March 15, 2019, to be supplemented later with information and analysis dependent on warm weather. DEC looks forward to receiving that study and continues to reserve the right to take further action associated with the information it contains.
- f. The request to impose additional daily cover requirements is denied. Daily cover requirements are designed to minimize odor as well as potential vectors during off hours at a facility, not just for rail waste but for the entirety of the waste deposited each day. WM is expected to comply with these requirements, and there is no demonstration in the Petition that the measures used are insufficient for the rail waste as compared with any other waste stream. In addition, since all the waste streams are comingled during normal operation, attempting to design a

different daily cover requirement for a particular waste stream is not practicable. Also, in 2018 WM updated the landfill O&M Manual, adding new daily and intermediate cover requirements intended to improve containment of landfill gas and reduce the potential for odor. While Petitioner's specific request is denied, other operational requirements designed to assist in overall waste management and odor control have been imposed since the time of the filing of the Petition. Notably among these is the requirement to have at least 18 months of surplus cell capacity constructed to allow for options for waste placement based, in part, on weather conditions, as well as the submission of a Comprehensive Odor Control Study. See Attachment 11. By copy of this Response to WM, DEC directs WM to submit to the Department by no later than April 30, 2019, a revision to the O&M Manual to include this 18-month surplus cell capacity requirement. Upon approval by DEC, the revised O&M Manual will be an enforceable part of the company's Part 360 permit.

- g. The request to re-open the SEQRA review conducted by the Town of Macedon as Lead Agency is denied. On November 8, 2018, DEC received correspondence from Anthony J. Villani, Esq. on behalf of the Town of Macedon. See Attachment 14. This correspondence expresses, inter alia, the Town's confidence in its prior SEQRA review and its continuing view that rail transport of waste is in the best interests of the communities located on truck routes because rail replaces a significant amount of truck traffic. DEC also believes that the measures being adopted pursuant to this Response can be implemented without re-opening SEQRA.
- h. The request to direct WM to stop accepting rail waste if it becomes a nuisance in the future is denied. This request is speculative and assumes a future scenario that is not before us at this time, so no commitment about future action will be made.

## **VII. CONCLUSION**

The above determinations are appropriate under the circumstances as they now exist. However, there remains an ongoing obligation by WM to minimize any significant off-site impact to its neighbors, and DEC retains all of its authority to take any necessary action in the future should circumstances change or should the waste study produce information warranting such action.

The Hotline will remain active, and the Citizen Odor Log Forms also remain available should residents decide to use them. DEC again encourages Petitioners to use these more comprehensive formats if formal complaint is warranted.

Some residents have chosen to rely on the FAFE App as the primary means to submit their concerns to DEC. Going forward, those using the App generated email process to report odor should be consistent by using the subject line "High Acres Odor Complaint", and the App email system should delete all individual DEC recipients and instead use

the address for the email box established for this purpose, [dec.sm.HighAcresLandfill@dec.ny.gov](mailto:dec.sm.HighAcresLandfill@dec.ny.gov). This will ensure that all emails are captured in the system, are not misrouted or ignored, and will expedite future efforts to review the notifications by staff and DEC management. Both the Regional Director and DEC Executive staff in Albany have access to the notifications in that account, as do the regional managers in the Solid Waste program. Consistent use of that address will also expedite, and provide more accurate responses to, any FOIL requests or other requests for information received by the Department.

Finally, DEC wishes to express its appreciation to those residents who have provided accurate and useful information over the past several months. Citizen input has assisted in the evaluation of the odor issue, and resulted in operational changes, other requirements, and renewed DEC and WM focus on the need to ensure that all reasonable steps are implemented at HA to reduce the occurrence and frequency of objectionable off-site odor and any other negative impacts to the community.

# EXHIBITS

**Table 1: Residences From Which 2 or More Hotline Calls Were Received During the Evaluation Period**

Name	Address	Hotline Calls
Chris & Gretchen Ogden	22 Copper Beech Run Fairport	17
Jerry Caira	38 Tea Olive Lane Fairport	11
David & Brittany Messina	52 Copper Beech Run Fairport	9
Heidi Vanhalle	36 Tea Olive Lane Fairport	9
Matt Houck	26 Tea Olive Lane Fairport	9
Samantha Anderson & Marc Anderson	8 Schoolmaster Circle Fairport	8
Amy Savoie	88 Howell Road Fairport	6
Michael Collins	53 Copper Beech Run Fairport	5
Bethany Marcaitis	78 Winchester Drive Fairport	4
Joseph Dinolfo	10 Carolina Cherry Court Fairport	4
Ken Jentzen	18 Roscommon Crescent Fairport	4
Nate Bubb	5 Nandia Pass Fairport	4
Rebecca Koppmann	5 Dickinson Xing Fairport	4
Tom Diosy	44 Copper Beech Run Fairport	4
Amy Pasley	3 Springvale Pass Fairport	3
Bryan Gardner	7 Grimsby Gate Fairport	3
Charles O'Neill	25 Tea Olive Lane Fairport	3
Jerry & Lynette Smith	2360 West Walworth Road Macedon	3
Kimberly Hagen	83 Chadwick Manor Fairport	3
Maureen Morse	12 Princeton Lane Fairport	3
Stephanie & Tom Delgado	54 Copper Beech Run Fairport	3
Tony Rounding	3 Kerry Hill Fairport	3
Arielle Rosenfeld	9 Brookside Drive Fairport	2
Brittany Shaughnessy	47 Copper Beech Run Fairport	2
Debbie Bradstreet	17 Winchester Drive Fairport	2
Debra Archer	355 Canal E Drive Macedon	2
Gary & Jennifer McNeil	11 Golden Bell Court Fairport	2
Lauren Moravec	42 Princeton Lane Fairport	2
Michael Henry	14 Kerry Hill Fairport	2
Michael Merlo & Heather Macarthur	7 Tea Olive Lane Fairport	2

Note regarding Tables 1 and 2: Given that the Petition seeks a very aggressive result in terms of impact to facility operations, and the legal basis for DEC to pursue such a result is based upon a showing of an unreasonable interference with the comfortable enjoyment of life or property, in DEC counsel's judgement no administrative tribunal or court of competent jurisdiction would find a violation of that threshold from infrequent and undefined, in terms of duration or significant impact, email notifications. Consequently, staff's initial screen (reflected in Table 2) focused on residences submitting a notification at least 10 times during the 160 day-long Evaluation Period to determine locations where residents claimed a more frequent detection of odor. Similarly, receipt of only one Hotline call during the 160 day-period does not indicate a significant problem for that residence. Thus, those residences from which only one call was made are not included in Table 1 although DEC acknowledges and maintains records of these calls.

**Table 2: Residences From Which 10 or More Notifications Were Received During the Evaluation Period**

Name	Address	Totals
Gary & Jennifer McNeil	11 Golden Bell Court Fairport	81
Michael Merlo & Heather Macarthur	7 Tea Olive Lane Fairport	51
Mark Laskoski & Cheryl Schmidt	10 Patera Avenue Fairport	43
Chris & Gretchen Ogden	22 Copper Beech Run Fairport	41
Justin & Kaitlyn Foley	24 Tea Olive Lane Fairport	38
Ann Moffitt	3 Tea Olive Lane Fairport	30
Rob Freemantle & Catherine Kane	3 Nandia Pass Fairport	29
Samantha Anderson & Marc Anderson	8 Schoolmaster Circle Fairport	29
David & Brittany Messina	52 Copper Beech Run Fairport	27
Nate Bubb	5 Nandia Pass Fairport	26
Jennifer Amadori	64 Chadwick Manor Fairport	25
Mai Phung	6 Carolina Cherry Ct	25
Matt Houck	26 Tea Olive Lane Fairport	24
Paula Bourgeois Marasco	92 Aldrich Road Fairport	24
Jennifer Jackson	44 Tea Olive Lane Fairport	23
Nick & Alecia Romano	9 Cedarwood Drive Fairport	22
Joseph Dinolfo	10 Carolina Cherry Court Fairport	21
Chris & Mallory Williams	34 Waterford Way Fairport	17
Erinne Selim & Bryan Reinicke	545 Macedon Center Rd Fairport	17
Jonathan Zaffer & Jenny Sciolino	42 Copper Beech Run Fairport	17
Rebecca Koppmann	5 Dickinson Xing Fairport	17
Jerry Caira	38 Tea Olive Lane Fairport	16
Michael Collins	53 Copper Beech Run Fairport	16
Tara Saucier	32 Copper Beech Run Fairport	16
Arielle Rosenfeld	9 Brookside Drive Fairport	14
Brittany Shaughnessy	47 Copper Beech Run Fairport	14
Brian Miller	36 Copper Beech Run Fairport	13
Frieda Hollway	12 Golden Bell Court Fairport	13
Malissa Beckwith	5 Springvale Pass Fairport	13
Beth Reisinger	1 Vanderberg Drive Fairport	12
John Strachan	23 Ironwood Drive Fairport	12
Bill & Ferni Kinnaw	10 Breezewood Court Fairport	11
Julie Stuver	34 Copper Beech Run Fairport	11
Krystina Clark	20 Ironwood Drive Fairport	11
Scott Miga	32 Teal Drive Fairport	11
Gerald & Traci Totline	48 Stonewood Drive Fairport	11
Douglas Willard	7 Chadwell Circle Fairport	11
Donna Dimaria	5 Golden Bell Court Fairport	10
Paula Mencucci	417 Macedon Center Road Macedon	10

**Table 3: Tabulation of Numbers of Homes in Neighborhoods and List of Residences From Tables 1 and 2**

*Neighborhood	Notification Residences	Total Residences
Magnolia Manor	29	112
Devonshire Hills	3	118
Country Creek Estates	2	105
Thomas Creek Estates	5	155
Trails End	2	80
Country Downs East	3	110
Howell Road	1	20
Rolling Hill	1	241
Avian Landing	1	29
Breezewood	1	16
Black Watch Hill	1	311
Canal Drive East	1	31
West Walworth Rd	1	76
Aldrich Road	1	32
County Clare	2	213
Whitney Country	1	296
State Route 31F (Perinton)	1	27
State Route 31F (Macedon)	1	25
Brentwood Estates	1	203

\*Neighborhoods are described below:

Magnolia Manor neighborhood includes Copper Beech Run, Tea Olive Lane, Nandia Pass, Golden Bell Court, Camellia Rise, Springvale Pass, and Carolina Cherry Court.

Devonshire Hills neighborhood includes Chadwick Manor, Dickinson Crossing, and Emory Rise.

Country Creek Estates neighborhood includes Princeton Lana, Stanford Way, and Hobart Court.

Thomas Creek Estates neighborhood includes Cedarwood Drive, Ironwood Drive, Patera Avenue, Stonewood Drive, Dearfield Court, Sunburst Circle, Triton Court, Dorado Drive, and Tucana Drive.

Trails End neighborhood includes Enwright Drive, Schoolmaster Circle, and Vanderberg Drive.

Country Downs East neighborhood includes Winchester Drive, Roscommon Crescent, and Cameron Court

Howell Road includes the residences on Howell Road.

Rolling Hill neighborhood includes Ayrault Road, Knapps Circle, Larkspur Lane, Lyndon Road, Matthew Drive, Rolling Hill Drive, Starlight Circle, Stony Brook Lane, Valley Brook Drive, Waterford Way, and Windy Hill Circle.

Avian Landing neighborhood includes only Teal Drive.

Breezewood neighborhood includes one residence on Whitney Road East and Breezewood Court.

Black Watch Hill neighborhood includes, Aldwick Rise, Black Watch Trail, Boxwood Lane, Briggsboro Lane, Buttonwood Circle, Canon Ridge, Chesham Way, Crow Hill Drive, Grimsby Gate, Hannans Court, South Ridge Trail, Timber Lane, Walnut Run, Waterworks Lane, Wellington Circle, and Wincanton Drive.

Canal Drive East neighborhood includes only Canal Drive East.

West Walworth Road neighborhood includes West Walworth Road (Rt 31F to Quaker Road), Cornwall Drive, Timberline Drive, and Murphy Lane.

County Clare neighborhood includes Bingham Wood, Castle Gate, Cambridge Court, County Clare Crescent, Dona-Lea, Dunmore Lane, Kerry Hill, Kilkenny Court, and Shannon Glen.

Whitney Country neighborhood includes Beckenham Lane, Camden Court, Chadwell Circle, Galley Hill Lane, Jeffrey Circle, Lambeth Loop, Little Briggins Circle, Michael Lane, Quinton Hill Circle, Squirrels Heath Road, Thomas Circle, and Timway Court.

State Route 31F (Perinton) includes the residences on Macedon Center Road (NYS 31F) from Squirrels Heath Road to Monroe Wayne County Line Road.

State Route 31F (Macedon) includes the residences on Macedon Center Road (NYS 31F) from Monroe Wayne County Line Road to West Walworth Road.

Aldrich Road includes all residences on Aldrich Road.

Brentwood Estates includes Brentwood Lane, Brookside Drive, Fairfield Drive, Shadowmoor Drive, and Southern Court.

**Table 4: Notifications – Hotline and FAFE App by Time of Day– 5/25/18 Through 10/31/18**

Date	before 9:30		9:30-12:00		12:01-17:00		after 17:00		Totals			
	Hotline Calls	App Notif.	Total App	Total Hotline	Total Notif.	Total Notif. After 9:30AM						
5/25/2018		3		2					5		5	2
5/26/2018		2	1	1				2	5	1	6	4
5/27/2018		1		3		1		2	7		7	6
5/28/2018												
5/29/2018		1						2	3		3	2
5/30/2018	4	25	2	7	1	5		2	39	7	46	17
5/31/2018	1	3	2	1	1	2	1	2	8	5	13	9
6/1/2018		4							4		4	
6/2/2018				1		1			2		2	2
6/3/2018		1				1		1	3		3	2
6/4/2018						1		1	2		2	2
6/5/2018		1							1		1	
6/6/2018							1			1	1	1
6/7/2018	1	13				1			14	1	15	1
6/8/2018		2							2		2	
6/9/2018	1	2						1	3	1	4	1
6/10/2018		1				2			3		3	2
6/11/2018		2		1					3		3	1
6/12/2018						1		2	3		3	3
6/13/2018	3	9							9	3	12	
6/14/2018								3	3		3	3
6/15/2018		1						1	2		2	1
6/16/2018	2	7							7	2	9	
6/17/2018		1							1		1	
6/18/2018			1	2					2	1	3	3
6/19/2018												
6/20/2018	4	8	7	7				1	16	11	27	15
6/21/2018		2							2		2	
6/22/2018	1	9	1	4			1	1	14	3	17	7
6/23/2018	1	3	1	3				1	7	2	9	5
6/24/2018				1					1		1	1
6/25/2018								1	1		1	1
6/26/2018	4	10	2	4		1		2	17	6	23	9
6/27/2018		1		9	2	12		1	23	2	25	24
6/28/2018												
6/29/2018								3	3		3	3
6/30/2018												
7/1/2018												
7/2/2018		2		2					4		4	2
7/3/2018												
7/4/2018		3						3	6		6	3
7/5/2018		1				1			2		2	1
7/6/2018					1	2		2	4	1	5	5
7/7/2018		1		5					6		6	5
7/8/2018		6							6		6	
7/9/2018		2						2	4		4	2
7/10/2018												
7/11/2018												
7/12/2018		1							1		1	
7/13/2018	6	23			1	1			24	7	31	2
7/14/2018				1		3			4		4	4
7/15/2018												
7/16/2018	1	4						2	6	1	7	2
7/17/2018			1			2			2	1	3	3
7/18/2018		1		1					2		2	1

Date	before 9:30		9:30-12:00		12:01-17:00		after 17:00		Totals			
	Hotline Calls	App Notif.	Total App	Total Hotline	Total Notif.	Total Notif. After 9:30AM						
7/19/2018	10	29	2	3					32	12	44	5
7/20/2018	1	11	1	5	4	5		1	22	6	28	16
7/21/2018		3	3	9					12	3	15	12
7/22/2018				1				4	5		5	5
7/23/2018	2	1	2	7	4	25			33	8	41	38
7/24/2018	1		2	3		13		1	17	3	20	19
7/25/2018		1						3	4		4	3
7/26/2018		1							1		1	
7/27/2018		1							1		1	
7/28/2018		1		2					3		3	2
7/29/2018						1	1		1	1	2	2
7/30/2018	5	32	3	8		4		5	49	8	57	20
7/31/2018		1		3		7	1	1	12	1	13	12
8/1/2018		7							7		7	
8/2/2018								1	1		1	1
8/3/2018	2	18	1	10	1	5			33	4	37	17
8/4/2018		1		2					3		3	2
8/5/2018		1							1		1	
8/6/2018		1	1	2				3	6	1	7	6
8/7/2018			1							1	1	1
8/8/2018	3	15	1	4		1		1	21	4	25	7
8/9/2018		1		1					2		2	1
8/10/2018				1					1		1	1
8/11/2018		1		2		1			4		4	3
8/12/2018												
8/13/2018		1		1					2		2	1
8/14/2018												
8/15/2018		1		1				1	3		3	2
8/16/2018		1							1		1	
8/17/2018	4	13		9					22	4	26	9
8/18/2018						1			1		1	1
8/19/2018		4		1		1		3	9		9	5
8/20/2018	5	13	5	10	1	10		5	38	11	49	31
8/21/2018	2	12	1	8	1	3	1	5	28	5	33	19
8/22/2018		4		1					5		5	1
8/23/2018												
8/24/2018				5		1		5	11		11	11
8/25/2018	1	10		5		2	1	8	25	2	27	16
8/26/2018												
8/27/2018		3		3		4		1	11		11	8
8/28/2018			1	1		2		1	4	1	5	5
8/29/2018		1							1		1	
8/30/2018								1	1		1	1
8/31/2018		8		5				3	16		16	8
9/1/2018		1						2	3		3	2
9/2/2018												
9/3/2018												
9/4/2018		2		1				1	4		4	2
9/5/2018		17		1	1	11			29	1	30	13
9/6/2018	1	4				3			7	1	8	3
9/7/2018								1	1		1	1
9/8/2018		2				2		1	5		5	3
9/9/2018		1						1	2		2	1
9/10/2018		3		1	1	4	1	2	10	2	12	9
9/11/2018		4						4	8		8	4
9/12/2018	3	14		3		1		3	21	3	24	7
9/13/2018	1	4		1		3		2	10	1	11	6
9/14/2018	3	20		1		4		4	29	3	32	9

Date	before 9:30		9:30-12:00		12:01-17:00		after 17:00		Totals			
	Hotline Calls	App Notif.	Total App	Total Hotline	Total Notif.	Total Notif. After 9:30AM						
9/15/2018	2	7		2		1			10	2	12	3
9/16/2018		2				1			3		3	1
9/17/2018	5	30	1	5		1		5	41	6	47	12
9/18/2018								1	1		1	1
9/19/2018			1					2	2	1	3	3
9/20/2018	3	30	1	6		2		1	39	4	43	10
9/21/2018		1				2			3		3	2
9/22/2018												
9/23/2018		6		4		1		5	16		16	10
9/24/2018	1	8	2	8	3	9		9	34	6	40	31
9/25/2018		4		1		6		6	17		17	13
9/26/2018		4						1	5		5	1
9/27/2018	1	10		5				3	18	1	19	8
9/28/2018	2	15				1		4	20	2	22	5
9/29/2018		3							3		3	
9/30/2018	2	5		1			1	9	15	3	18	11
10/1/2018		3			1	3			6	1	7	4
10/2/2018		9	3	8		1		4	22	3	25	16
10/3/2018		1		3		2		21	27		27	26
10/4/2018		1							1		1	
10/5/2018		2	1			3		6	11	1	12	10
10/6/2018	1	15	1	12		2		4	33	2	35	19
10/7/2018		1						1	2		2	1
10/8/2018			1	5	4	13	1	4	22	6	28	28
10/9/2018	1	5		1				3	9	1	10	4
10/10/2018		9	1	5	1	1		7	22	2	24	15
10/11/2018				1				1	2		2	2
10/12/2018					1			2	2	1	3	3
10/13/2018												
10/14/2018		2				1		3	6		6	4
10/15/2018		2		9		1			12		12	10
10/16/2018		4					1	5	9	1	10	6
10/17/2018								1	1		1	1
10/18/2018		1							1		1	
10/19/2018		1							1		1	
10/20/2018												
10/21/2018												
10/22/2018		10				4		3	17		17	7
10/23/2018		1							1		1	
10/24/2018												
10/25/2018						1			1		1	1
10/26/2018		2			1	2			4	1	5	3
10/27/2018		1						1	2		2	1
10/28/2018						1			1		1	1
10/29/2018						1			1		1	1
10/30/2018		2						3	5		5	3
10/31/2018		4		1					5		5	1

**Table 5: Delayed Rail Waste Deposition by Date, With Pre- and Post- Rail Notifications**

Date	Rail Start Time	Pre-Rail Notifications	Post Rail Notifications
27-Jun	9:00	1	24
13-Jul	10:30	29	2
16-Jul	9:00	5	2
20-Jul	10:00	12	16
23-Jul	10:00	3	38
31-Jul	10:00	1	12
1-Aug	10:00	7	0
1-Oct	10:15	3	4
2-Oct	10:15	11	14
3-Oct	10:15	2	25
4-Oct	10:15	1	0
5-Oct	10:15	2	10
6-Oct	9:30	16	19
8-Oct	9:30	0	28
9-Oct	9:30	6	4
10-Oct	9:30	9	15
11-Oct	9:30	0	2
12-Oct	9:30	0	3
15-Oct	9:30	2	10
16-Oct	9:30	4	6
17-Oct	9:30	0	1
18-Oct	9:30	1	0
19-Oct	9:30	1	0
20-Oct	9:30	0	0
22-Oct	9:30	10	7
23-Oct	9:30	1	0
24-Oct	9:30	0	0
25-Oct	9:30	0	1
26-Oct	9:30	2	3
27-Oct	9:30	1	1
29-Oct	9:30	0	1
30-Oct	9:30	2	3
31-Oct	9:30	4	1

Figure 1: Aerial View – 2006

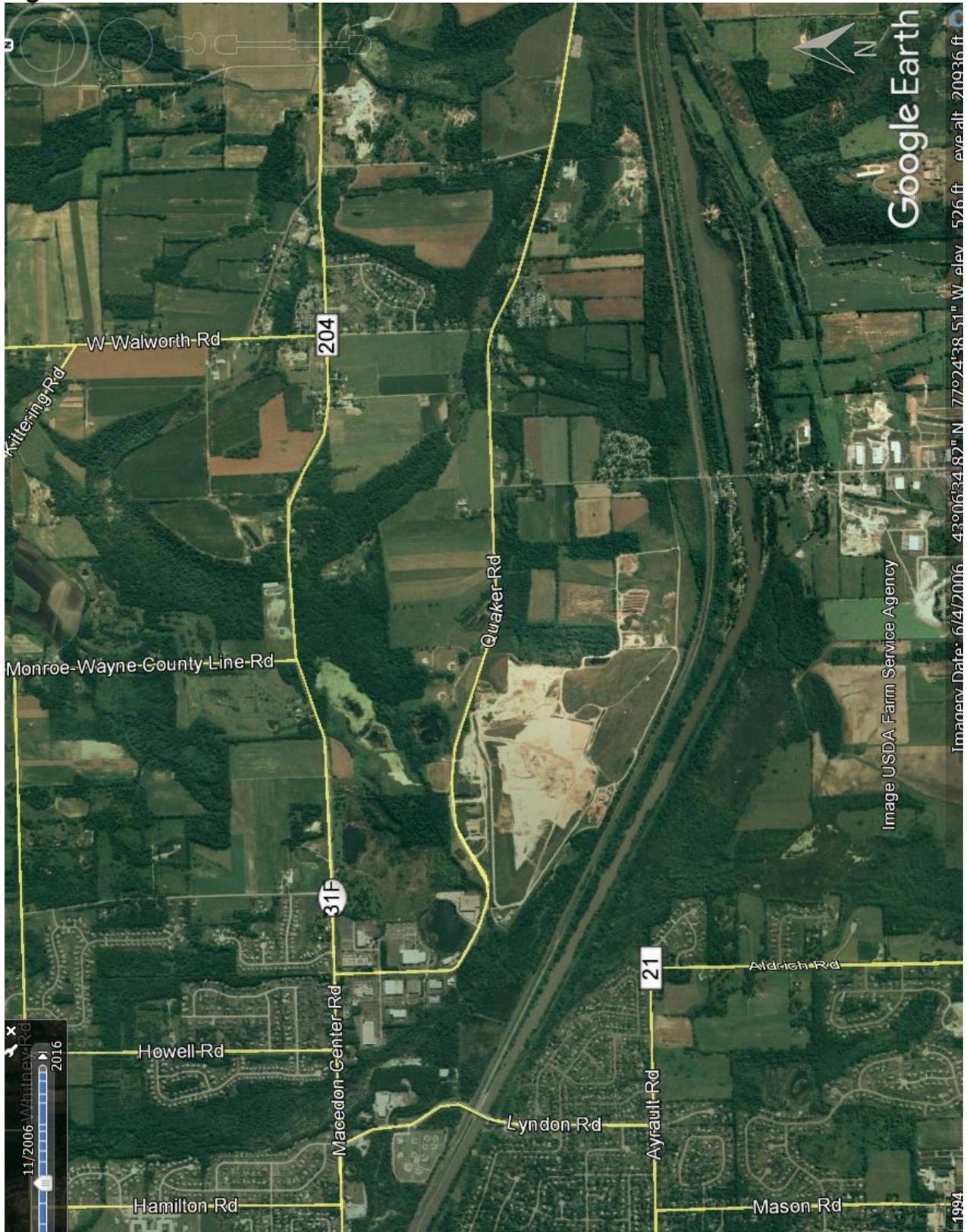


Figure 2: Aerial View – 2011

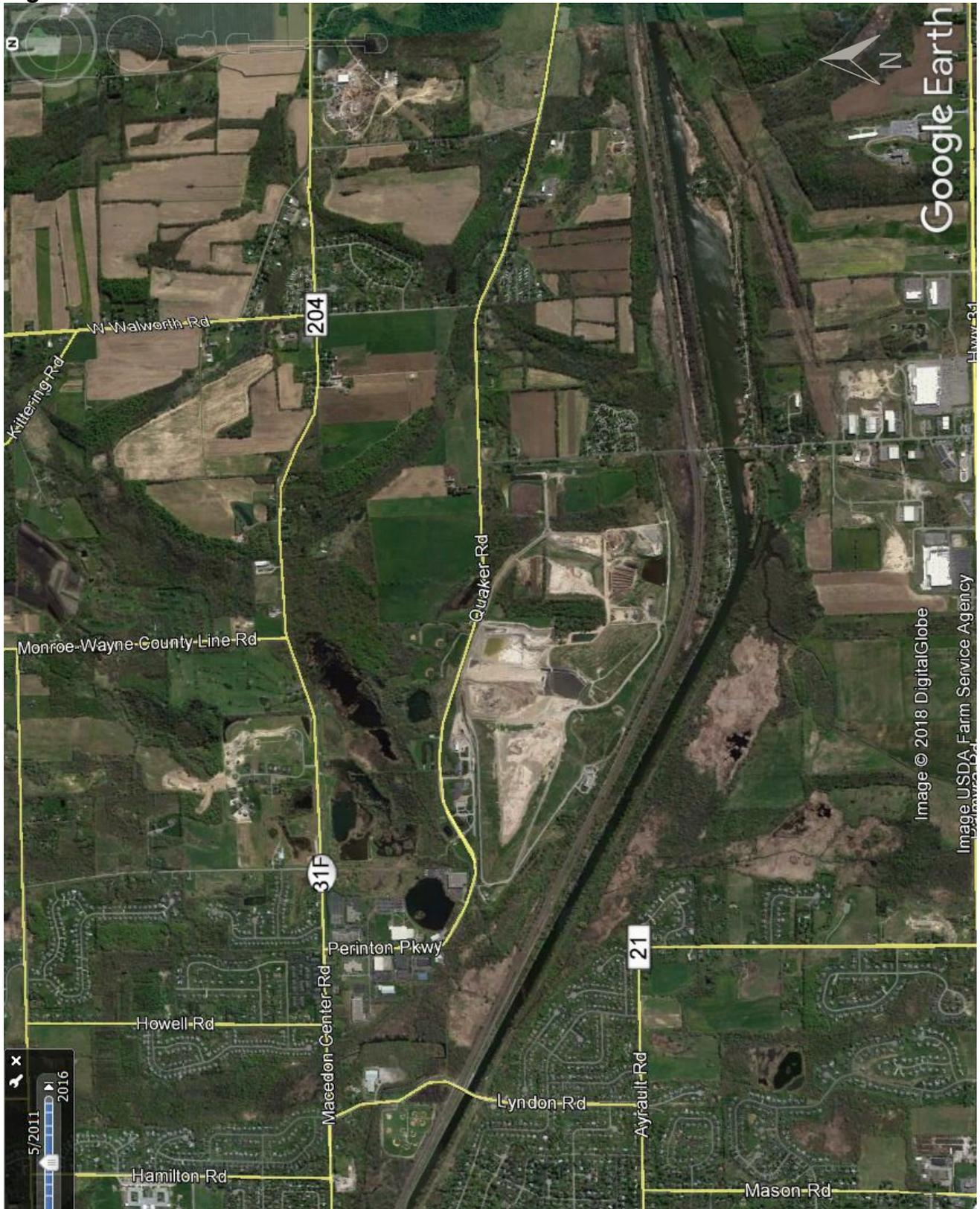


Figure 3: Aerial View – 2016

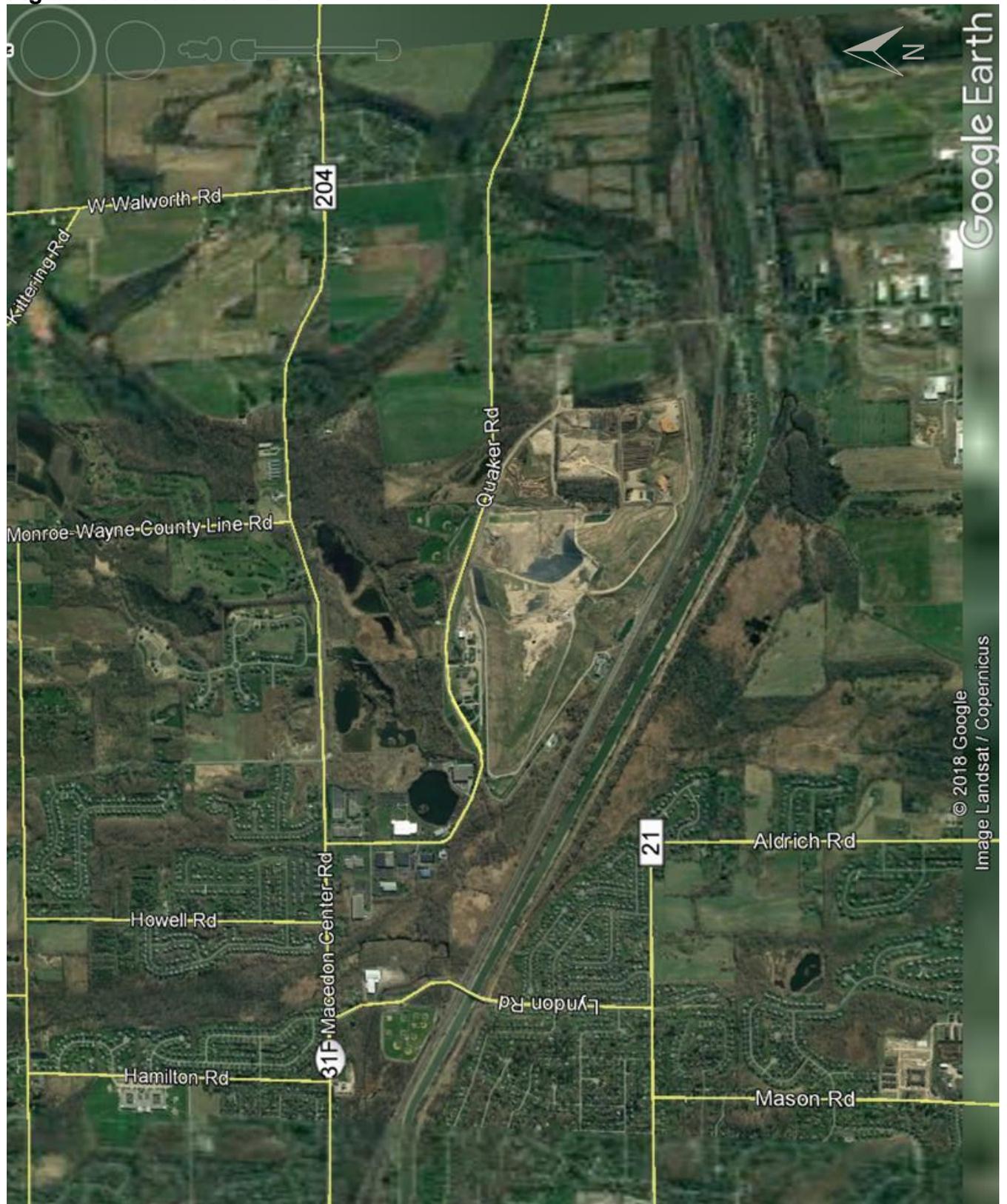


Figure 4: Aerial View – Residences Using Hotline More Than Once – 5/25/18 – 10/31/18

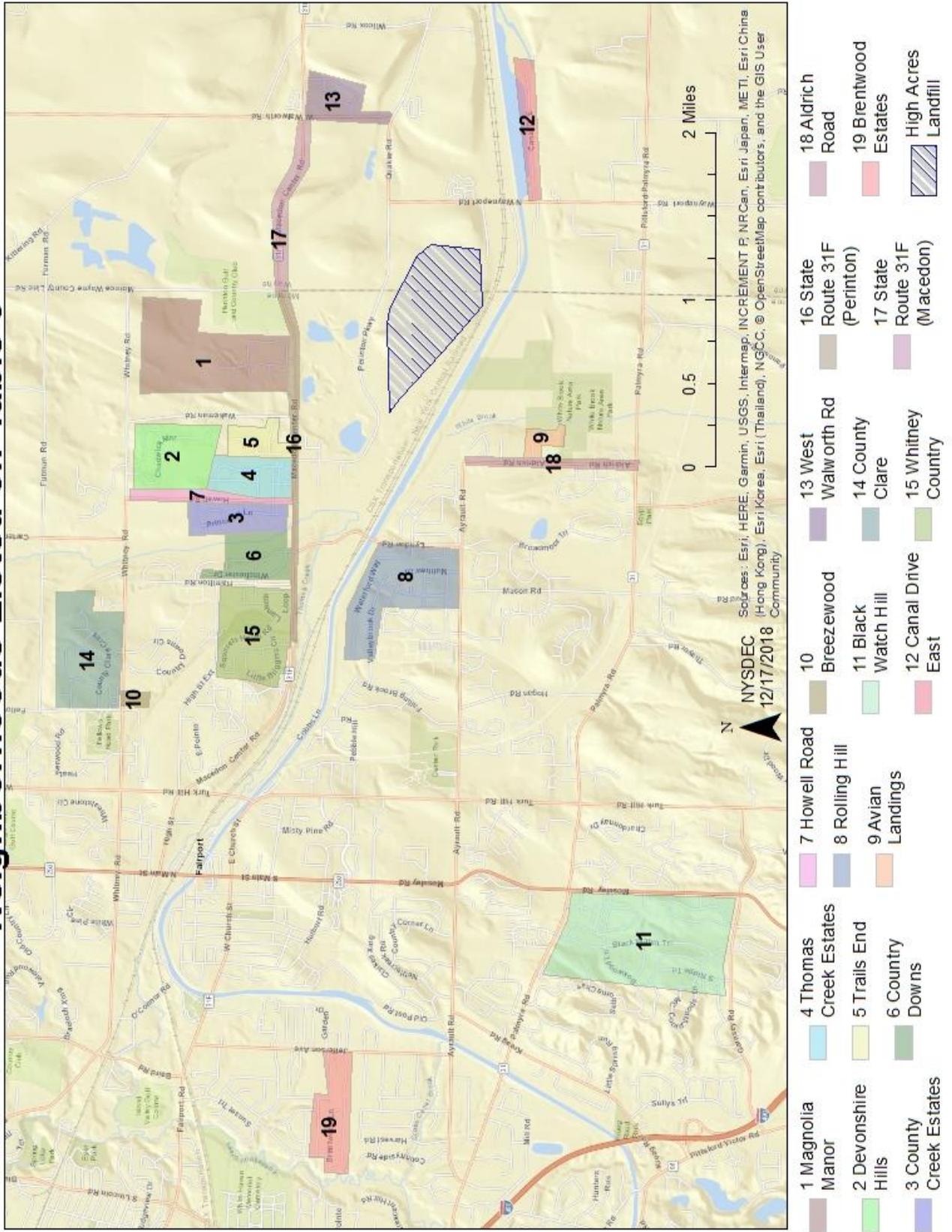


Figure 5: Aerial view – Residences With 10 or More Notifications – 5/25/18 - 10/31/18



Figure 6: Neighborhoods Listed on Table 3

Neighborhoods Listed on Table 3



**Figure 7: Notifications Before and After Mitigation Measures**

Chart 1:

1/31/2018 - 5/24/2018		
Notifications	# of Days	% of Days
0	2	1.8
1 - 10	54	47.4
11 - 20	20	17.5
21 - 30	8	7.0
31 - 40	4	3.5
41 - 50	8	7.0
51 - 100	15	13.2
101 +	3	2.6
<b>Total Days</b>	<b>114</b>	

Chart 2:

5/25/2018 - 10/31/2018		
Notifications	# of Days	% of Days
0	20	12.5
1 - 10	93	58.1
11 - 20	20	12.5
21 - 30	14	8.8
31 - 40	6	3.8
41 - 50	6	3.8
51 - 100	1	0.6
101 +	0	0.0
<b>Total Days</b>	<b>160</b>	

Figure 8: Notifications Per Day, January 31, 2018 – May 24, 2018

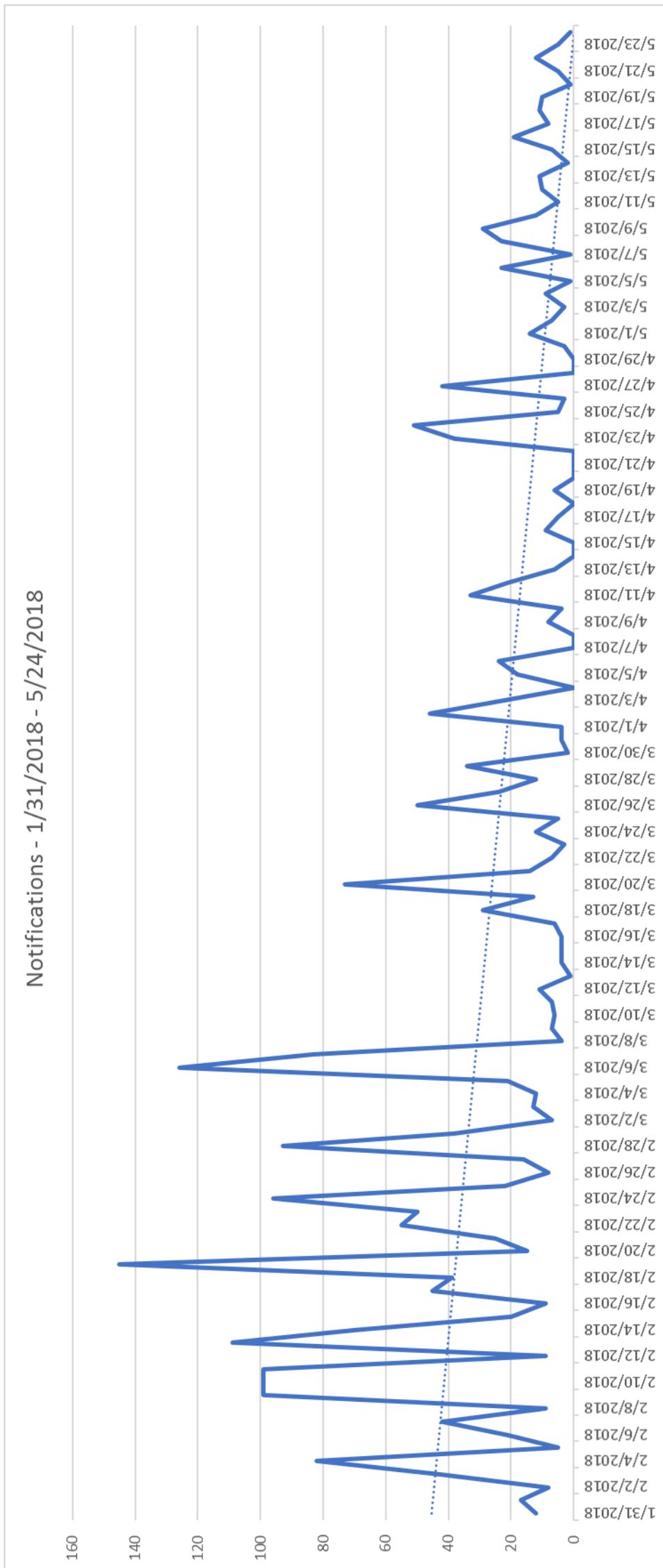


Figure 9: Notifications Per Day, May 25, 2018 – October 31, 2018

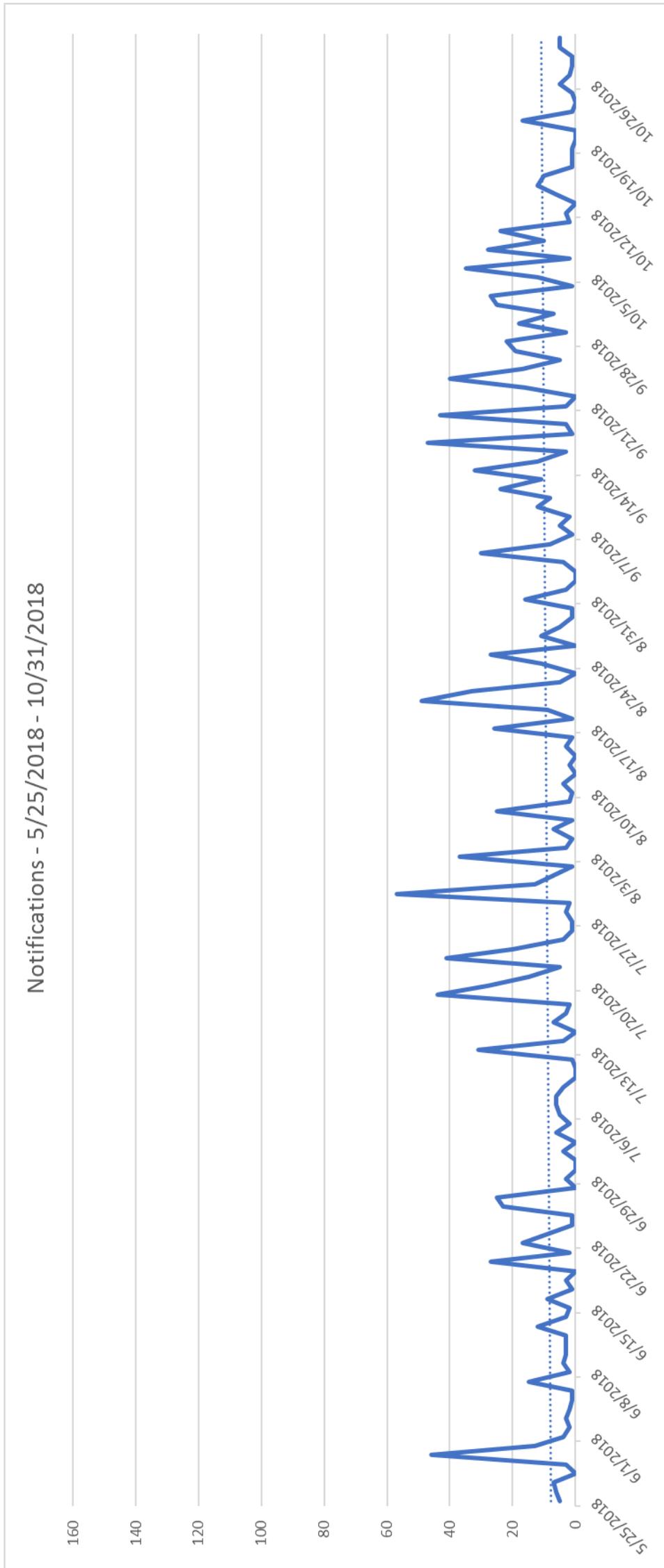
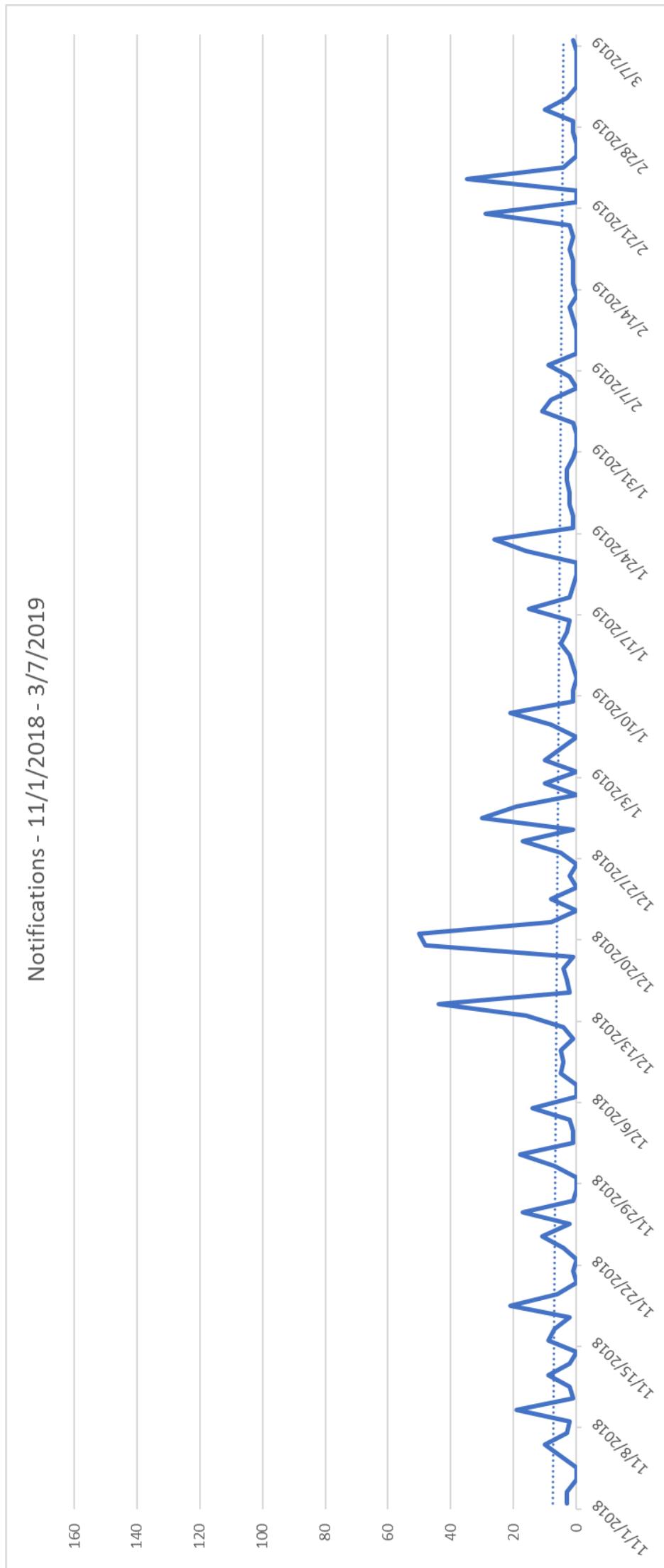


Figure 10: Notifications Per Day, November 1, 2018 – March 7, 2019



**Figure 11: Notifications Post Evaluation Period to Present**

11/1/2018 - 3/7/2019		
Notifications	# of Days	% of Days
0	33	26.0
1 - 10	74	58.3
11 - 20	11	8.7
21 - 30	5	3.9
31 - 40	1	0.8
41 - 50	3	2.4
51 - 100	0	0.0
101 +	0	0.0
Total Days	127	

# Attachment 1

## OFFICE OF THE COMMISSIONER

New York State Department of Environmental Conservation  
625 Broadway, 14th Floor, Albany, New York 12233-1010  
P: (518) 402-8545 | F: (518) 402-8541  
www.dec.ny.gov

DEC - 4 2017

Mr. Jeffrey Richardson  
Sr. District Manager  
Waste Management of NY, LLC  
425 Perinton Parkway  
Fairport, NY 14450-9104

Dear Mr. Richardson,

Residents living near the Waste Management High Acres Landfill in Perinton have complained directly to me about the recent trend of unbearable odors emanating from the facility. As a facility regulated by the Department of Environmental Conservation, I must ensure that it is being operated in a manner that does not negatively the surrounding community.

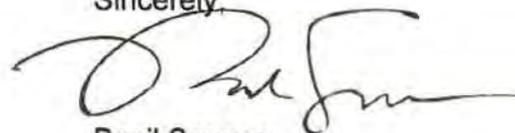
In discussing this matter with my staff, I have been advised that Waste Management has begun to implement measures designed to reduce odors migrating from the site. Local residents have not yet noticed any improvement. I am aware that you and other company representatives are meeting with my regional leadership on December 13. In advance of that meeting, by no later than close of business on December 8, please provide me with a detailed timeline of the steps that you are taking toward the goal of eliminating odors.

I also encourage you to keep the facility's neighbors and local and state elected officials apprised of your efforts. Increased communication can only serve to improve relationships among all those with a vested interest in seeing the situation improve.

Finally, I have directed my staff to continue to prioritize this matter, and to take any measures within our authority to ensure that this matter is expeditiously addressed. I trust that the company will agree that returning to a status as a good neighbor as quickly as possible and without the need for formal state action is in the best interests of all concerned.

Thank you for your prompt attention to this matter.

Sincerely,



Basil Seggos  
Commissioner



# Attachment 2



**HIGH ACRES LANDFILL &  
RECYCLING CENTER**  
A WASTE MANAGEMENT COMPANY

425 Perinton Parkway  
Fairport, New York 14450  
585/223-6132  
585/223-6898 (Fax)

December 20, 2017

Mr. Paul J. D'Amato  
Regional Director, Region 8  
New York State Department of Environmental Conservation  
6274 East Avon-Lima Road  
Avon, NY 14414

Re: High Acres Meeting Summary

Dear Mr. D'Amato:

Thank you for the time you and your staff spent meeting with myself and representatives from Waste Management on December 13, 2017 to discuss the recent increase in offsite odors at the High Acres Landfill and our plan to address these odors. As you are aware, High Acres has a long history of operating successfully in compliance with our permits. These recent elevated odors are taken seriously by Waste Management and we are committed to investing the resources necessary to implement solutions and return to our historic good neighbor status that the community has known. This letter is intended to summarize the topics and items discussed at the December 13<sup>th</sup> meeting.

***Primary Odor Contributors***

High Acres has an established procedure for the community to notify the site of unusual or increased odors. That feedback is correlated with site operations to determine potential activities that may have caused the increased odor. Community members who notice an unusual or offensive odor can call the site directly 24 hours per day, 7 days per week at (585) 223-6132 to report the odor. The notification is logged, distributed via email to key operations and management personnel, and investigated to determine the potential source. A chart depicting the odor notifications received at the site in 2017 is included in Attachment 1.

While there are intermittent odors associated with any solid waste management facility, there was an increase in community odor notifications during the late summer months of 2017. This increase is directly attributable to the removal of an access road in cell 10 as we transitioned traffic flow to cell 11. The removal of the road materials required the excavation and on-site transport of odorous materials which



resulted in the increase in intermittent odors during that timeframe. The intrusive activities performed were necessary to ensure effective management of liquid and gas in this area.

Following the completion of the road removal, we continued to note increased intermittent odors. We initiated an extensive site review involving High Acres Staff as well as internal and external industry experts in consultation with NYSDEC Region 8 to identify potential odor sources and develop best practices to mitigate them. The High Acres Landfill faced some unique challenges in 2017, including an unusually high amount of rainfall and resulting increase in leachate generation as depicted in Attachment 2. The site received over 42 inches of rain through November, compared to 27 inches in 2016, and this excess liquid in the landfill compromised portions of the landfill gas collection and conveyance system in active cells 10 and 11.

The major odor contributors were identified to be:

- A restriction in the 24-inch perimeter landfill gas header resulting in the temporary reduction of gas collection efficiency;
- Excess rainwater and leachate generation in 2017 caused the temporary “watering out” of gas collection wells and sections of collection header in cells 10 and 11;
- Reliance solely on vertical gas wells and previous generation slip form well technology (Figures 1 and 2) in cell 11 for operational landfill gas collection resulted in reduced collection, given 2017’s wet weather conditions;
- A header system configuration which restricted gas collection system flexibility and ability to induce additional vacuum on odor sources; and,
- Excess rainwater compromised the ability to place and compact cover soils.

These identified issues resulted in an increase in community odor notifications beginning in the fourth quarter of 2017. As depicted on Attachment 1, approximately 70 percent of odor notifications for the site have occurred over a six week period. The recent increase in intermittent odors, we believe, are the result of unusual circumstances and will be mitigated.

### ***Primary Mitigation Measures***

The design and implementation of the mitigation measures to correct these odor issues requires careful planning, detailed engineering and regulatory approvals as well as procurement of supplies and engagement of contractors. High Acres has engaged in a fast track approach to incorporate these measures as quickly as practical. Specialty contractors and consultants were engaged to expedite the engineering, monitoring and construction tasks. The primary mitigation measures that are currently underway and will be completed in the near future include:

- The identification and removal of a restriction within the 24-inch perimeter gas collection header;
- The design, approval and installation of approximately 10,000 lineal feet of horizontal collection piping in cell 10 and cell 11;
- The design, approval, installation of an additional 24 and 18-inch vacuum header from the flare/gas to energy plant to cell 11;



- The identification, abandonment, and replacement of an approximate 1100 lineal foot sub header in cell 11;
- The design, approval and installation of 9 acres of exposed temporary geomembrane cover along the North and East slopes of cell 11; and,
- The initiation of waste placement efforts into the newly constructed cell 12, which incorporates improved gas collection measures.

The primary mitigation measures which are being implemented at the site are presented on Figure 3, which is included in Attachment 3

### ***Long Term Odor Management***

Using the information gathered from the site-wide assessment and issues identified in cells 10 and 11, WM has engineered additional collection and conveyance controls into future cells, beginning with cell 12. These represent design and performance improvements to the long term collection and conveyance of landfill gas at the facility and will be installed as site development occurs. The long-term development initiatives include:

- The incorporation of next generation free draining slip form wells, complemented with a regularly installed horizontal collection piping network (Figures 4 and 5, Attachment 3) on all new cell construction in the future;
- Hiring additional, permanent staff to support this new infrastructure construction, increase monitoring and maintenance of the landfill gas collection and conveyance system; and,
- Continued identification, replacement and repair of impaired landfill gas collection wells, laterals and headers.

Attachment 4 includes an overall implementation schedule for the mitigation measures proposed at High Acres.

In addition, High Acres has modified various operating practices with a focus on reducing off-site odors. These operational improvements include:

- The placement and compaction of additional daily and intermediate cover soils;
- Evaluating the characteristics of soils types used for cover;
- Limiting the acceptance of odorous materials;
- Incorporating additional odor neutralizing distribution systems and products at the working face and at the facility perimeter;
- Installing geomembrane liner along internal roadway stormwater collection channels;
- Incorporating a daily odor patrol around the adjacent residential areas;
- Contracting with third party consultants and contractors to increase monitoring frequency of landfill gas collection and cover systems; and,
- The additional analysis of landfill gas collection system components.



## **Communications**

We have also developed a plan to improve communication with the community during the implementation of the mitigation measures and beyond. As you are aware, the majority of work being performed to reduce the offsite odors, may in fact result in the temporary increase in odors due to the excavation within the waste, or the necessary shutdown of components of the landfill gas collection system to “tie in” or connect new headers and laterals. The elements of this community outreach plan include the following:

- Conducting tours and individual meetings with residents;
- Community information meeting at High Acres administrative offices held on December 11<sup>th</sup>;
- Neighborhood Update tab created on our website [www.highacreslandfill.wm.com](http://www.highacreslandfill.wm.com). This will include weekly updates on mitigation work completed and planned work for the week ahead;
- Email notifications for neighbors and state and local officials regarding completed and upcoming site activities;
- Presentation of mitigation plan to the community at the January 16, 2017 meeting of the Town of Perinton Conservation Board; and,
- Monthly updates on mitigation progress to NYSDEC and Town of Perinton Conservation Board.

As discussed in the meeting on December 13<sup>th</sup>, we will provide monthly updates to the Department regarding our progress on the mitigation plan as well as the status of additional improvements made at the site to reduce offsite odors. We are committed to provide the resources and effort to ensure that the facility is returned to a standard of excellence that the community has known for over 40 years.

Sincerely,

Jeffrey Richardson  
Sr. District Manager  
Waste Management of New York, LLC.

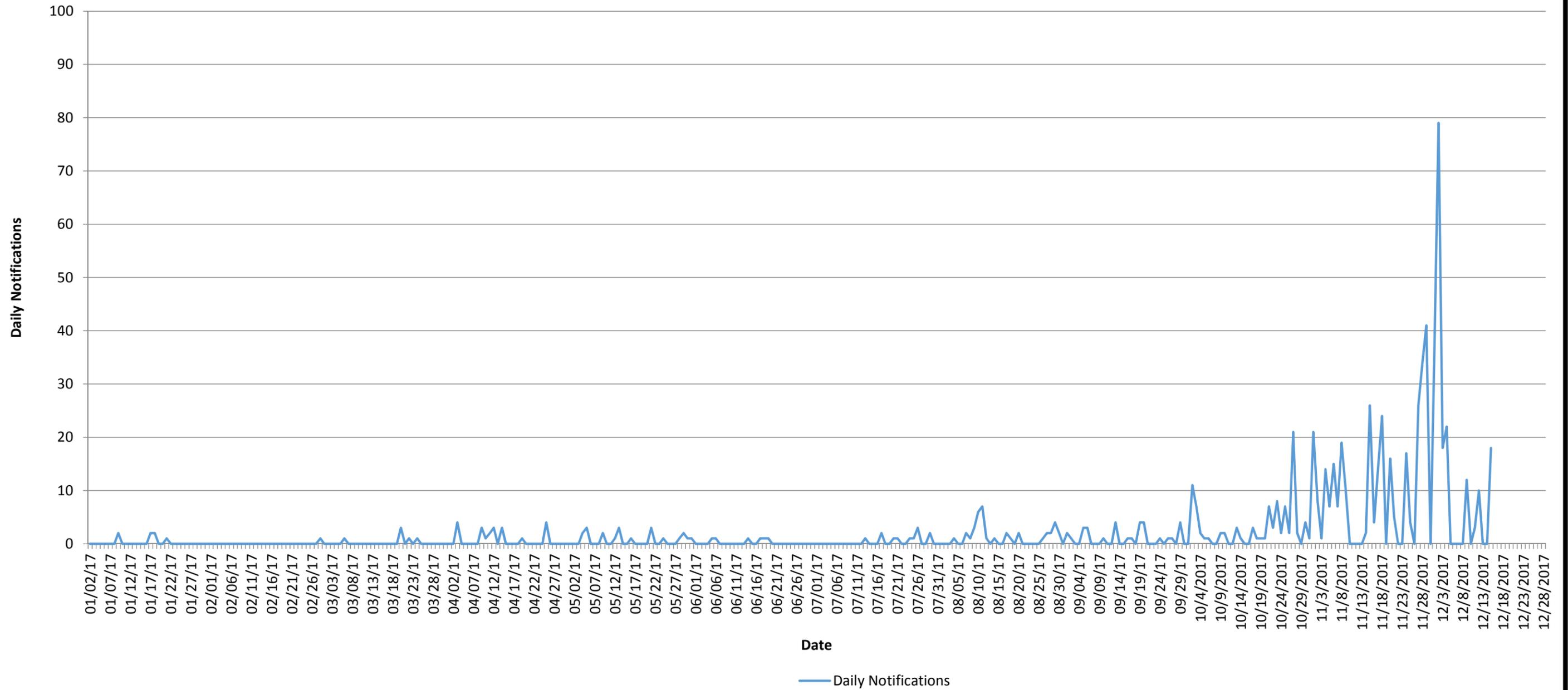
## Attachments

cc:

Greg MacLean – NYSDEC  
Senator Rich Funke – 55<sup>th</sup> District  
Michael Garland – Director, Monroe County DES  
Michael Barker – Supervisor, Town of Perinton  
Cassandra Pagano – Supervisor, Town of Macedon

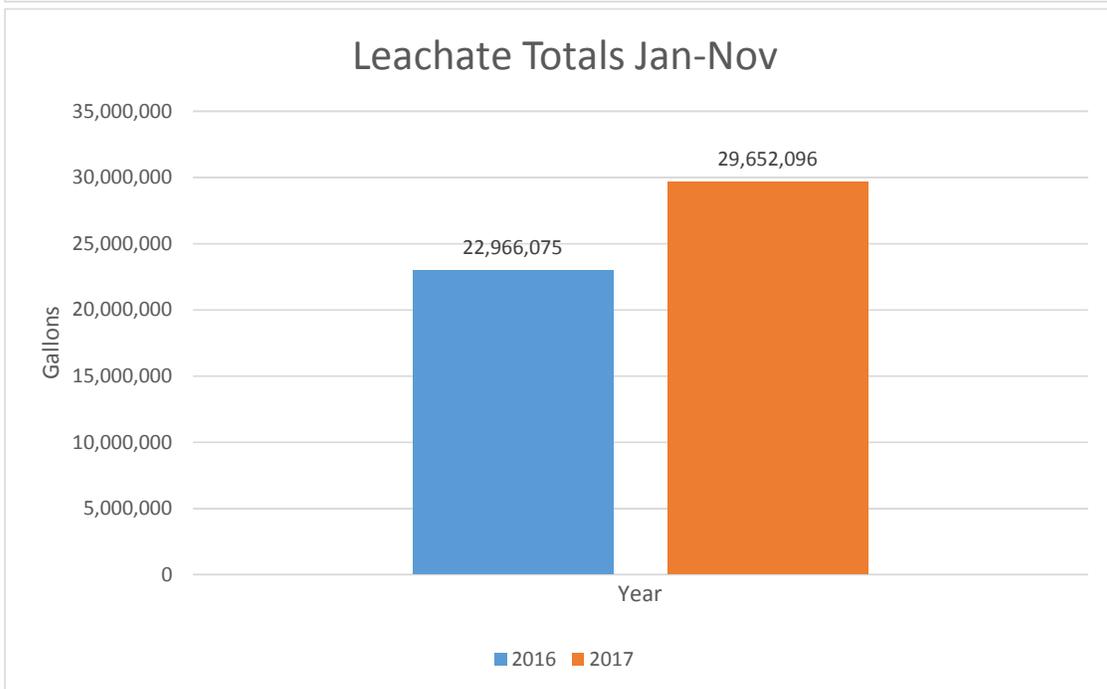
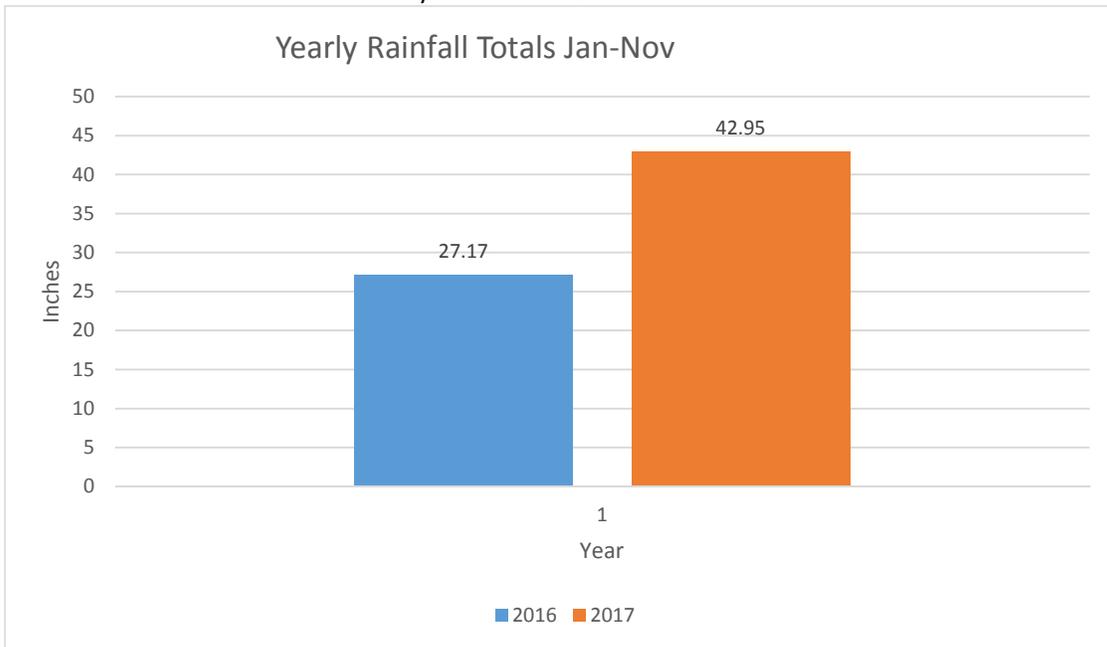
# Attachment 1 – Odor Notification Chart

# Odor Notifications Received by High Acres

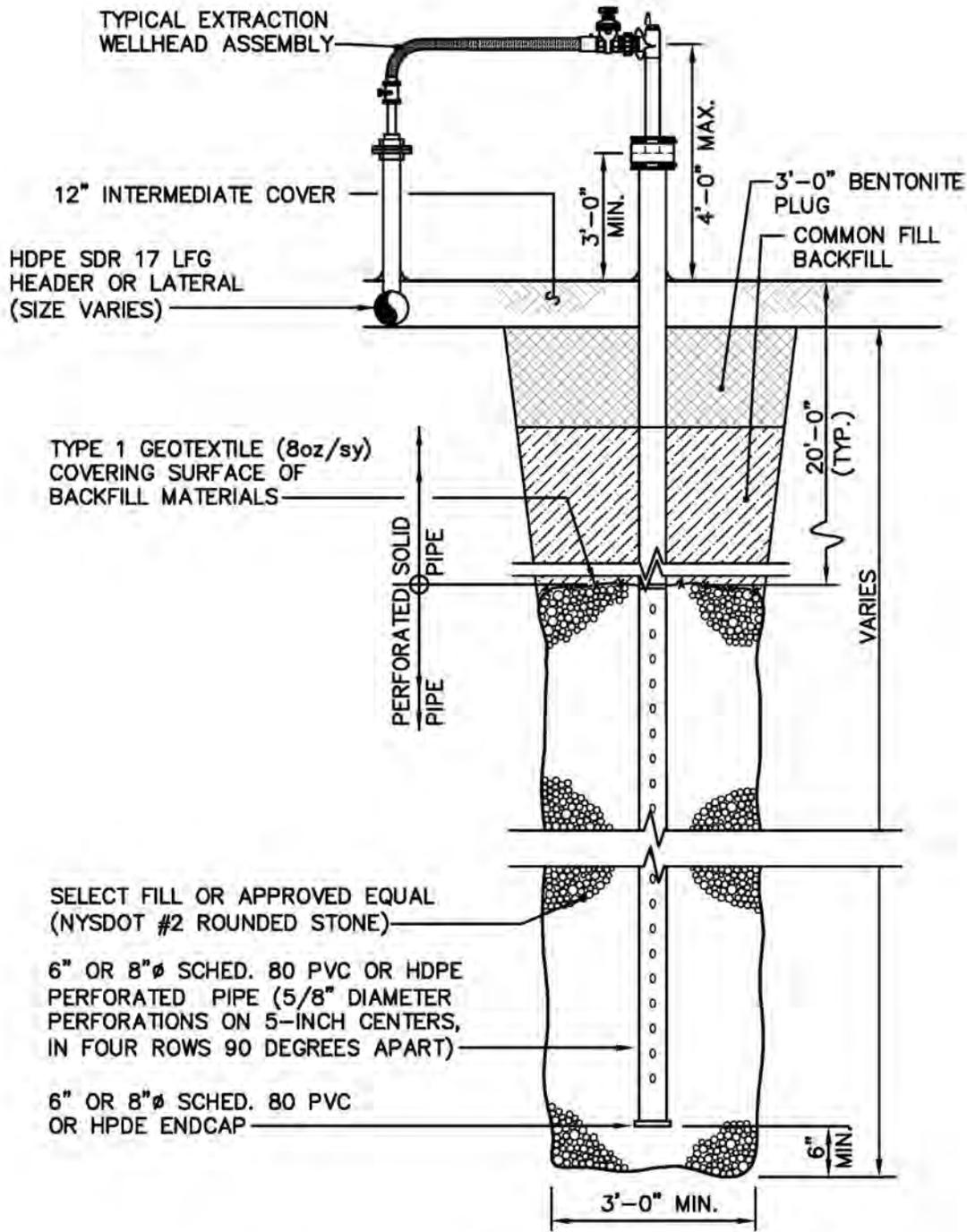


## Attachment 2 – Rainfall and Leachate Data Comparison

Waste Management of New York, LLC.  
High Acres Landfill and Recycling Center  
Yearly Rainfall and Leachate Totals



## Attachment 3 – Key Figures



**TYPICAL DRILLED VERTICAL  
LFG EXTRACTION WELL DETAIL**  
NOT TO SCALE

Plotted: Dec 20, 2017 - 4:36PM SYR By: JGS  
C:\Users\jgs\Documents\Drawing1.dwg



Date: **DECEMBER 2017**  
Scale: **NOT TO SCALE**

WASTE MANAGEMENT  
HIGH ACRES LANDFILL

**TYPICAL DRILLED VERTICAL  
LFG EXTRACTION WELL DETAIL**

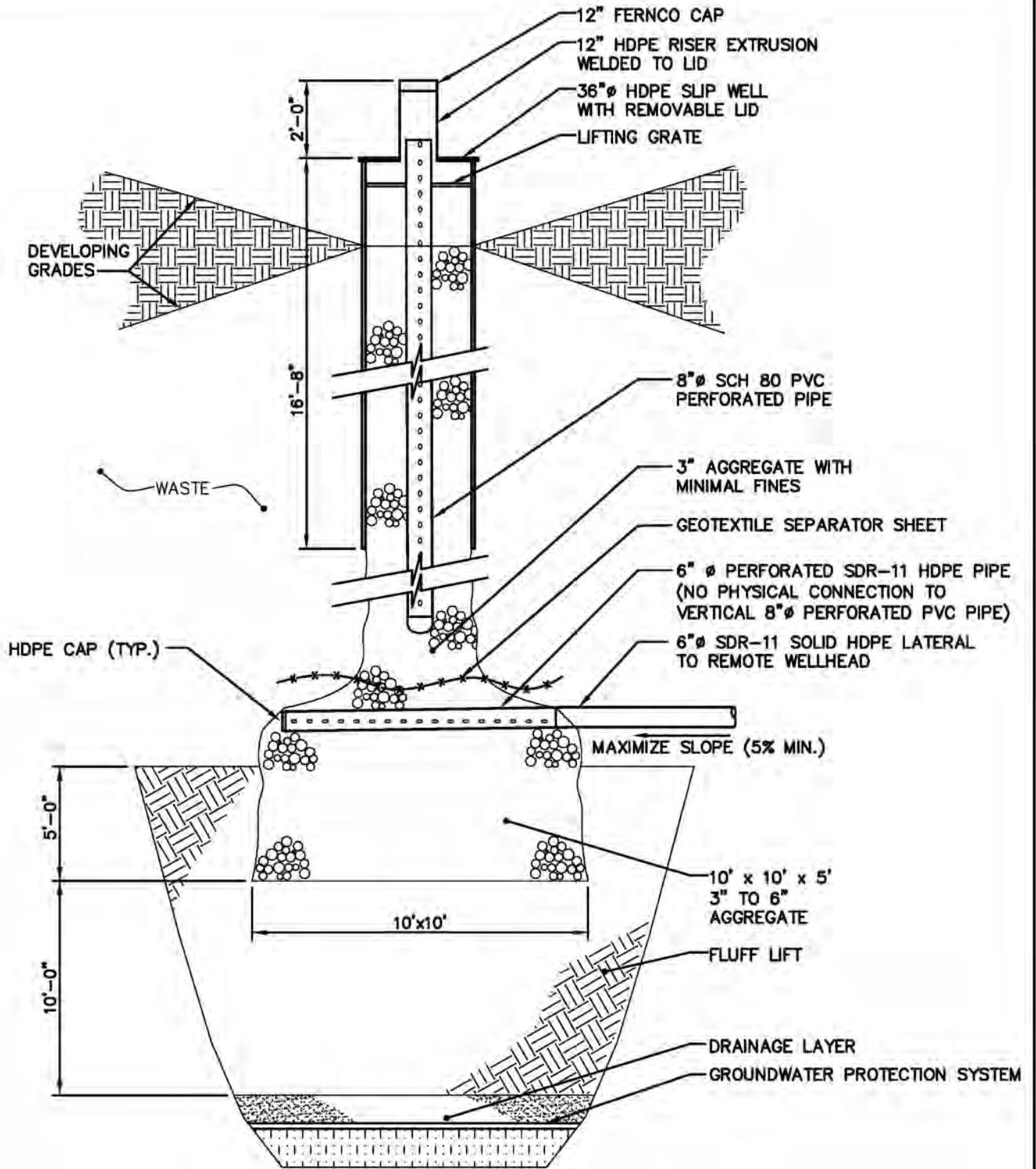
Attachments  
TOWNS OF PERINTON AND MACEDON MONROE AND WAYNE COUNTIES, NEW YORK

Figure Number  
**1**

Project Number  
**1242.074.003**

March 2019

Plotted: Dec 20, 2017 - 5:16PM SYR By: JGS  
 Z:\BL-Vault\1 - Project Files\1 - Sorted by Project Number {2} Folder\1200\1242.074.003\CAD\1242.074.003\_Figure 1\_2\_4 Well details.dwg



## SLIP FORM WELL DETAIL – PREVIOUS GENERATION

NOT TO SCALE



WASTE MANAGEMENT  
HIGH ACRES LANDFILL

Figure Number

2

SLIP FORM WELL DETAIL –  
PREVIOUS GENERATION

Project Number

1242.074.003

Date

DECEMBER 2017

Scale

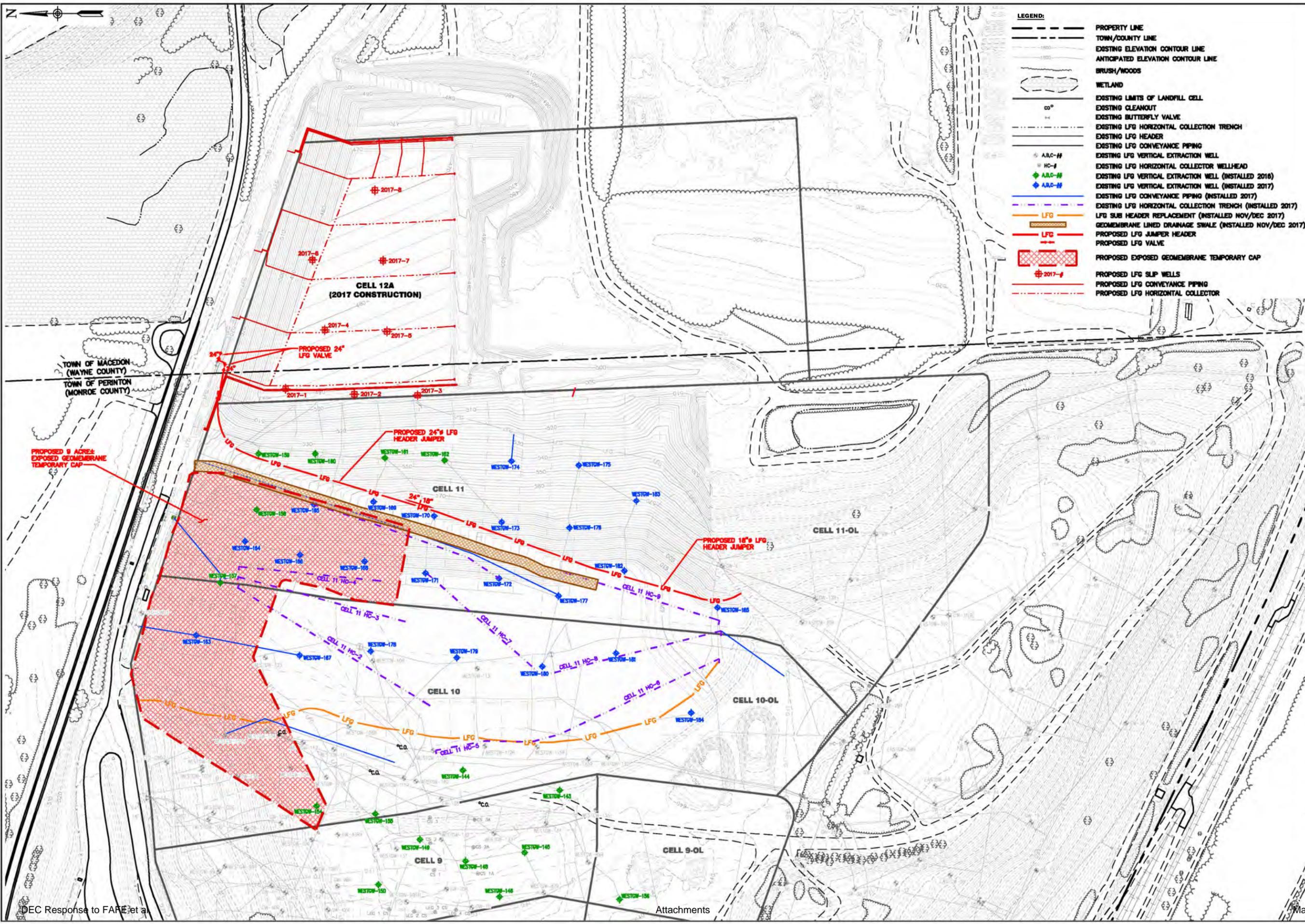
NOT TO SCALE

TOWNS OF PERINTON AND MACEDON

MONROE AND WAYNE COUNTIES, NEW YORK

March 2019

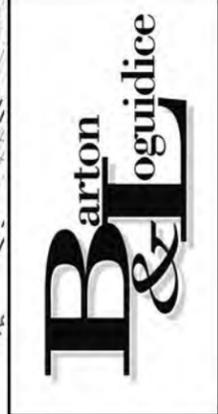
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DEC Response to FARE et al

Attachments

WASTE MANAGEMENT  
 HIGH ACRES LANDFILL  
 PRIMARY MITIGATION MEASURES  
 MONROE AND WAYNE COUNTIES, NEW YORK

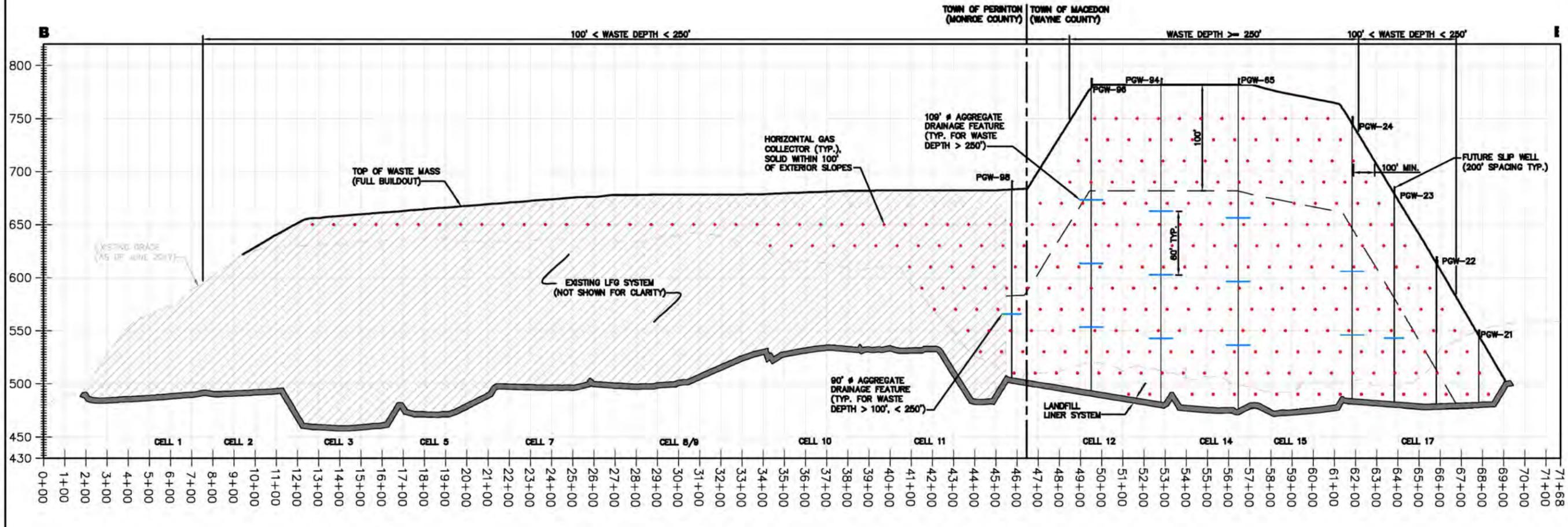


Date	DECEMBER, 2017
Scale	NOT TO SCALE
Figure Number	3
Project Number	1242.074.003

March 2019



Plotted: Dec 20, 2017 - 4:27PM SYR By: JGS  
 Z:\BL-Vault\1 - Project Files\1 - Project Number {2} - Sorted by Project Number {2} Class {2} Folder\1200\1242.074.003\CAD\1242.074.003\_Figure 5 - Cross Section.dwg



**SECTION B-B'**  
 HORIZONTAL SCALE: 1" = 500'  
 VERTICAL SCALE 1" = 100'

WASTE MANAGEMENT  
 HIGH ACRES LANDFILL

**CROSS SECTION OF VIEW OF LONG TERM  
 GAS COLLECTION SYSTEM**

TOWNS OF PERINTON AND MACEDON  
 MONROE AND WAYNE COUNTIES, NEW YORK



Date  
 DECEMBER, 2017

Scale  
 AS SHOWN

Figure Number  
 5

Project Number  
 1242.074.003

# Attachment 4 – Primary Mitigation Measures Implementation Plan

**Waste Management of New York, LLC.  
High Acres Landfill and Recycling Center  
Primary Mitigation Measures  
Implementation Plan**

Action	Estimated Start	Estimated Completion	2017						2018					
			Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar				
Cell 10 Road Removal/Relocation	8/5/17	10/10/17	█	█										
Design/Approval/Installation of 10,000 feet of Horizontal Collection Piping in Cell 10/Cell 11	9/20/17	12/1/17		█	█	█								
Design/Approval/Installation of New Vacuum Header from Flare/Plant to Cell 11 (24"/18" Jumper Line)	11/1/17	1/30/18				█	█	█						
Design/Approval/Installation of 9 Acres of Geosynthetic Cover - North and East Slope Cell 11	11/1/17	1/30/18				█	█	█						
Replacement and Repair of Watered Out LFG Wells, Laterals and Headers	11/1/17	3/31/18				█	█	█	█	█	█	█	█	█
Identify and Remove 24 inch Perimeter Header Restriction	10/4/17	11/10/17					█	█						
identification, Abandonment and Replacement of 1100 lf Sub-Header in Cell 11	11/18/17	12/8/17						█	█					
Hiring Additional Staff to Monitor and Maintain Infrastructure	11/27/17	3/31/18							█	█	█	█	█	█
Relocate Waste Placement Operations into Cell 12 (Requires Regulatory Approval)	12/15/17	3/31/18									█	█	█	█
Implementation of Slip Form Wells with Drainage and Horizontal Collectors in Cell 12 Going Forward	12/15/17	3/31/18									█	█	█	█

# Attachment 3



## TOWN OF PERINTON

1350 TURK HILL ROAD ■ FAIRPORT, NEW YORK 14450-8796  
(585) 223-0770 ■ Fax: (585) 223-3629 ■ www.perinton.org

**TO:** Perinton Town Board  
**FROM:** Perinton Conservation Board  
**RE:** Interim Recommendations Regarding Current WM Odor Issues & Mitigation Efforts  
**DATE:** 1/24/18

Board Members:

As requested, the Perinton Conservation Board (PCB) was directed to provide the Town Board with a factual explanation for the long-term persistence of landfill odors from the High Acres landfill.

Additionally, the PCB was asked to review resident concerns and comments, and lastly, to provide the Town Board with recommendations concerning the Town interaction with the facility regarding odors and other operational issues.

### EXECUTIVE SUMMARY

Resident odor complaints have increased dramatically since July, 2017. Together with Town staff and the Town Supervisor, I meet with the management of Waste Management (WM) in mid November to discuss operational issues that had involved the uptick in resident complaints and mitigation measures that were being implemented. On December 7, 2017 WM sent a letter to the PCB (see Appendix 1) describing the company's intended odor control and mitigation plan. At the January 16<sup>th</sup> meeting of the PCB, WM presented additional information (See Appendix 2); the board was also in receipt of resident comments (PCB meeting and written). WM also sent a formal corrective action plan to NYSDEC Region 8 Director, Mr. Paul D'Amato, and copied the PCB (See Appendix 3).

It is the opinion of the PCB that increased odors at High acres landfill are due to:

- A gas collection system design that relied on "slip well technology" (exclusively in Cell 11) – use of vertical wells, only - rather than concomitant horizontal collectors which WM has historically used in other wells.

The PCB notes that these design changes were approved by NYSDEC.

The PCB recommends that NYSDEC direct WM to comply, now, with new landfill gas collection regulations (below) instead of at permit renewal (2023):

*In accordance with 6 NYCRR 363-7.1(e)(1) landfills such as High Acres landfill which receive putrescible waste must install horizontal landfill gas collection lines. The horizontal gas collection lines, must be installed in the waste mass at a horizontal spacing of not more than 100 feet and a vertical spacing of not more than 20 feet and shall terminate at least 100 feet from the exterior slope of the waste mass.*

- WM's decision to remove the temporary Cell 10 internal access road which required the excavation and on site hauling of odorous materials during unfavorable weather conditions in the summer months.

- Loss of significant vacuum (15 inches of water column vs. the typical 40 inches of water column) due to a clogged header pipe.
- Watering out of 12 vertical wells (approximately 40% of the available gas collection system in Cell 11) causing a loss of vacuum, resulting in increased gas emissions, including NMOCs and hydrogen sulfide (H<sub>2</sub>S).
- Continued lack of “looped” collection header system limiting the vacuum in the Cell 11 gas collection system
- Incidents of extended holding times for CSX rail car waste transfer containers loaded with municipal solid waste.

**Other operation issues:**

- January 2, 2018 facility gas plant shut-down with concomitant flare resonance (flow-induced vibrations, FIV).
- January 10, 2018 system subjected to FIV testing (no resident pre-notification).

Below, are interim recommendations for Town Board review concerning WM’s current compliance obligations under NYSDEC permit authority (permit renewal in 2023) and its effect on odors and flare vibration disturbances affecting nearby Town residents.

These recommendations are to 1) assure compliance with newly-implemented NYSDEC Part 363-7.1(e)(1) landfill gas collection requirements (effective November, 2017), 2) improve monitoring of emissions from the landfill, and 3) implement corrective action when monitoring shows an issue exists, 4) immediately divert MSW filling in the Perinton portion of High Acres landfill. until all mitigation measures are verified completed and effective, 5) greatly reduce the potential for flow-induced vibrations, 6) provide information regarding odor effects at nearby Fairport schools, 7) provide for an on-site electric power capacity to operate the gas collection and control system in the event of a power outage, and to 8) compel timely notification<sup>1</sup> of residents regarding exceedances, or other operational actions that may impact area residents. These recommendations apply to the entire facility – both Perinton and Macedon portions.

Specifically, with regard to air quality monitoring, the PCB recommends that the Town of Perinton petition the NYSDEC to change High Acre’s air quality permit to compel (A) compliance with newly-effective Part 363-7.1(e)(1) landfill gas collection requirement; (B) regulatory monitoring of hydrogen sulfide (H<sub>2</sub>S) gas at the facility; (C) lower threshold landfill surface monitoring levels of methane gas from 500 to 200ppmv as well as monitoring for H<sub>2</sub>S if during landfill surface scans methane is detected at any location at a concentration of 200 ppmv or greater that location must be monitored for H<sub>2</sub>S ; (D) compel increased frequency of surface monitoring for methane; (E) compel additional monitoring of all cover penetrations such as the gas collection wells; (F) compel timely reporting of monitoring exceedances to NYSDEC, Town of Perinton, and local residents as immediate mitigation measures.

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<sup>1</sup> The PCB recommends that “timely notification” means at least 24 hours prior to initiating operational actions that could cause odors, or operational exceedances; or within one-hour of a time-critical event (such as unexpected gas plan shutdown), or within 12 hours of a known permit exceedance that could impact local residents.

#### PCB RECOMMENDATIONS:

- (1) Direct WM to retrofit Cell 11, and all existing and future solid waste disposal areas, to conform with 6 NYCRR 363-7.1(e)(1).

#### Rationale:

High Acre's operating permit renewal is up for renewal in 2023. These new regulations should be implemented now. They reaffirm the use of horizontal gas collection systems. The PCB further recommends that the spacing of verticals wells be 200 feet (Cell 11 and ongoing).

- (2) High Acres should operate the collection and control system so that the hydrogen sulfide concentration is less than 10 ppbv above background at the surface of the landfill for odor control and compliance with the NYSDEC 1-hour average concentration of H<sub>2</sub>S not to exceed 0.01ppmv (10 ppbv) under 6 NYCRR 257-10.3.

#### Rationale:

Landfill gas is composed of approximately 50% methane (CH<sub>4</sub>), 49% carbon dioxide (CO<sub>2</sub>), 1% non-methane organic compounds (NMOC) and reduced sulfur compounds such as hydrogen sulfide (H<sub>2</sub>S).

CH<sub>4</sub> and CO<sub>2</sub> are colorless and odorless gases but NMOCs can impart some odors. H<sub>2</sub>S on the other hand is colorless but can impart the distinct odor of rotten eggs. The human olfactory sense (smell) can detect H<sub>2</sub>S at very low concentrations but the olfactory sensitivity to H<sub>2</sub>S concentration in the air can vary from person to person. According to the New York Department of Health's, Hydrogen Sulfide Chemical Information Sheet (revised October 2005) people can initially smell H<sub>2</sub>S in the air at a concentration between 0.5 parts per billion by volume (ppbv) and about 100 ppbv. The New Jersey Department of Health Fact Sheet for Hydrogen Sulfide, revised May 2012, (see Appendix 3), indicates the odor threshold for H<sub>2</sub>S ranges from 0.008 to 0.1 part per million by volume (ppmv) or 8 to 100 parts per billion by volume (ppbv). According information in both fact sheets (New York, New Jersey – See Appendix 4), odor thresholds vary greatly, and one should not rely on smell alone to determine potentially hazardous exposures. So, using the New York and New Jersey H<sub>2</sub>S odor threshold information H<sub>2</sub>S can be detected by most people at a concentration range between 0.5 ppbv and 100 ppbv (see Appendix 4).

On January 11, 2018, the PCB requested metadata of reduced sulfur (e.g., hydrogen sulfide) analysis of several samples of landfill gas from High Acres landfill. High Acres provided analytical data (see Appendix 5) for gas samples taken on 3/22/2010, 1/24/2012 and 8/15/2012. H<sub>2</sub>S concentrations in the samples taken varied from 51 ppmv to 470 ppmv.

High Acres landfill is required to operate the landfill gas collection and control system (GCCS) in accordance with 6 NYCRR 208.4(d) so that CH<sub>4</sub> concentration is less than 500 ppmv above background at the surface of the landfill. This rule requires High Acres landfill to conduct surface testing (quarterly) of the landfill to demonstrate that CH<sub>4</sub> concentrations are less than 500 ppmv.

While detecting CH<sub>4</sub> concentrations of less than 500 ppmv at the surface of the landfill meets the operating criteria of 208.4(d), it doesn't provide control of odors from such gases as H<sub>2</sub>S.

Assuming the landfill gas at High Acres landfill has 50% CH<sub>4</sub> with an H<sub>2</sub>S concentration of 470 ppmv (the higher value of H<sub>2</sub>S detected from High Acres landfill gas samples), there is the potential for off site migration of H<sub>2</sub>S at concentrations high enough to be smelled beyond High Acres' property boundary.

For example, using the assumption above 50% CH<sub>4</sub> equates to 500,000 ppmv CH<sub>4</sub> with 470 ppmv H<sub>2</sub>S. Using the operating criteria under 208.4(d) with CH<sub>4</sub> concentration at the landfill surface being less than 500 ppmv, the hydrogen sulfide concentration could be approximately 470 ppbv (dividing 500,000 ppmv CH<sub>4</sub> and the 470 ppmv H<sub>2</sub>S by 1000). The 470 ppbv H<sub>2</sub>S concentration is approximately 5 to 1000 times the odor threshold range for H<sub>2</sub>S<sup>2</sup>.

Using the lower concentration of H<sub>2</sub>S of 51 ppmv in the High Acres landfill gas the H<sub>2</sub>S concentration component in a landfill surface CH<sub>4</sub> concentration of 500 ppmv would be approximately 50 ppbv (about the middle of the detectable H<sub>2</sub>S odor threshold range).

There are H<sub>2</sub>S detection meters with a detection level of 3 ppbv, a resolution of 20 parts per trillion and an accuracy of +/-1ppbv at 5 ppbv. **High Acres should operate the collection and control system so that the H<sub>2</sub>S concentration is 10 ppbv or less above background at the surface of the landfill for odor control and compliance with the NYSDEC 1-hour average concentration of H<sub>2</sub>S not to exceed 0.01ppmv (10 ppbv) under 6 NYCRR 257-10.3.**

*To determine if this level is exceeded, the owner or operator must conduct surface testing using a hydrogen sulfide analyzer. The owner or operator must conduct surface testing in a manner similar to 6 NYCRR 208.4(d) at least once every two weeks around the perimeter of the landfill and daily around the perimeter of the landfill working face, open areas of the landfill surface such as areas of excavation into the waste mass, drilling locations where vertical gas collection wells are being installed and monthly along a pattern that traverses the landfill at no more than 30-meter intervals at any surface scan location where methane is detected at 200 ppmv or greater and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover, and all cover penetrations.*

**(3) Compel monitoring for hydrogen sulfide at any surface scan location where methane readings are 200 parts per million by volume or greater.**

*Rationale:*

*The PCB suggests 200 ppmv CH<sub>4</sub> as an action level because based on analytical data for the High Acres' landfill gas described above the H<sub>2</sub>S concentration might be 10 ppbv or greater.*

**(4) Request vertical and horizontal gas collection well monitoring (temperature, oxygen/nitrogen, and pressure) be performed weekly instead of monthly.**

*Rationale:*

This will provide more data on the functionality of each gas well and provide more real time data that can be used to show changes in well performance and providing an indication that corrective action might be needed. Assure there are enough wells to cover the landfill to control gas emissions (surface monitoring). If methane or H<sub>2</sub>S emissions have exceedances, that can't be corrected by adding additional cover or by adjusting the vacuum of gas collection wells in the areas of exceedance, then additional vertical wells might be needed to be installed.

**(5) Direct that WM be required to provide PCB with updates on mitigation progress and monitoring at each scheduled PCB meeting. (This information would be made public.)**

*Rationale:*

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<sup>2</sup> This does not take into account the fact that H<sub>2</sub>S could react with oxygen and minerals in the cover soil to reduce the concentration of H<sub>2</sub>S in the methane surface emissions.

*Timely reporting will assure timely identification of operational issues before odors are detected outside the facility perimeter and impacting local residents.*

**(6) Ask Waste Management to immediately suspend all municipal solid waste (MSW) disposal in Perinton temporarily until WM can demonstrate to the satisfaction of the NSDEC that all mitigation and compliance measures have been met and demonstrated effective in odor emissions.**

*Rationale:*

*WM needs to focus all efforts on odor mitigation.*

**(7) Have WM support third-party monitoring of local Fairport schools, as directed by the Fairport Superintendent of Schools, for NMOCs and H<sub>2</sub>S until such time as the technical data indicates that there is no health concern due to odors from the High Acres landfill.**

*Rationale:*

*Children are more susceptible to airborne environmental exposures because their lung function is not completely developed<sup>3</sup>*

**(8) Request that NYSDEC implement flow-induced vibration (FIV) requirements<sup>4</sup> that minimize flare-induced vibration occurrences, and compel reporting and resident notification. Require residential / Town notification of gas plant shutdowns exceeding one-hour and the potential impacts for odors, vibration, or other potential issues that can immediately impact residences.**

*Rationale: Many factors can influence a sustained (> one hour) gas plant shutdown. Some include: interruption of power generation, landfill collection system issues, landfill powerplant issues. Gas plant shut down can affect odor generation, as well as produce flare vibrations at flare startup and operation that can affect local residences.*

**(9) Request that NYSDEC compel on-site backup power (generator) to operate the gas collection and control system such that a power failure or gas plant shutdown will not affect system control (vacuum) requirements, gas/odor collection and control per Title 5 permit which covers the entire facility (both Perinton and Macedon).**

*Rationale: Per NYSDEC Title 5 permitting, gas collection / control systems cannot be inoperative for > one hour without taking action to control landfill gas emissions. The High Acres landfill expansion into Macedon will affect gas collection and transport because of increased piping distances (and may affect vacuum) as additional cells are added.*

**(10) The Town of Perinton establish a question and answer resource on the Town website that provides general information about landfills, odors, and odor control. The PCB recommends that the Town engage a third-party consultant who will work with the PCB's topic outline. Furthermore, the PCB recommends that the consultant compile answers to submitted questions by residents to the Town website. Additionally, a notification should be sent to the residents informing them that this resource is available.**

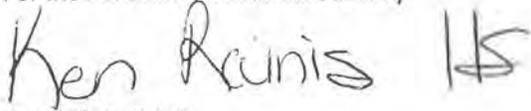
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<sup>3</sup> T. F. Bateson and J. Schwartz, "Children's response to air pollutants," *Journal of Toxicology and Environmental Health—Part A*, vol. 71, no. 3, pp. 238–243, 2008.

<sup>4</sup> Although the perceptibility threshold for ground-borne vibration is about 65 vibration decibels (VdB), human response to vibration is not usually substantial unless the vibration exceeds 70 VdB.

The PCB is currently reviewing resident comments and plans to make further recommendations to this Board regarding the Host Community Agreement and Special Use Permit (SUP).

For the Perinton Conservation Board,

Handwritten signature of Ken Rainis in black ink, followed by a vertical line and a horizontal bar.

Kenneth G. Rainis  
Chairman

## TECHNICAL NOTES

### Recommendation 1 Implementation of Hydrogen Sulfide (H<sub>2</sub>S) Standard:

Operate the collection system so that the H<sub>2</sub>S concentration is 10 parts per billion by volume (ppbv) or less above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator must conduct surface testing using a hydrogen sulfide analyzer with a detection level of no greater than 3 ppb, a resolution of 20 parts per trillion and an accuracy of +/-1ppb at 5 ppb. The owner or operator must conduct H<sub>2</sub>S surface testing at least monthly around the perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals at any surface scan location where methane is detected at 200 ppmv or greater and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover and all cover penetrations. Thus, the owner or operator must monitor any openings that are within an area of the landfill where waste has been placed and a gas collection system is required. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan must be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30-meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

If monitoring demonstrates that the operational requirements in the paragraph above are not met, corrective action must be taken as specified in paragraph (4)(a), (b), (c), or (d). If corrective actions are taken as specified in paragraph (4), the monitored exceedance is not a violation of the operational requirements in this section.

The following procedures must be used for compliance with the surface hydrogen sulfide operational standard as provided above.

(1) After installation and startup of the gas collection system, the owner or operator must monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at no more than 30-meter intervals (or a site-specific established spacing) for each collection area on a monthly basis using an hydrogen sulfide detector specified above.

(2) The background concentration must be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.

(3) Surface emission monitoring must be performed in accordance with section 8.3.1 of Method 21 of appendix A of 40CFR 60, except that the probe inlet must be placed within 5 to 10 centimeters of the ground. Monitoring must be performed during typical meteorological conditions.

(4) Any reading of 10 parts per billion or more above background at any location must be recorded as a monitored exceedance and the actions specified in paragraphs (4)(a) through (e) of this section must be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements above.

(a) The location of each monitored exceedance must be marked and the location and concentration recorded. For location, you must determine the latitude and longitude coordinates using an instrument with an accuracy of at least 4 meters. The coordinates must be in decimal degrees with at least five decimal places.

(b) Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance must be made and the location must be re-monitored within 10 calendar days of detecting the exceedance.

(c) If the re-monitoring of the location shows a second exceedance, additional corrective action must be taken and the location must be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in paragraph (4)(e) must be taken, and no further monitoring of that location is required until the action specified in paragraph (4)(e) has been taken.

(d) Any location that initially showed an exceedance but has a H<sub>2</sub>S concentration of 10 parts per billion or less of hydrogen sulfide above background at the 10-day re-monitoring specified in paragraph (4)(b) or (c) must be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration of 10 parts per billion or less above background, no further monitoring of that location is required until the next monthly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in paragraph (4)(c) or (e) must be taken.

(e) For any location where monitored methane concentration equals or exceeds 10 parts per billion above background three times within a two month period, a new well or other collection device must be installed within 90 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation shall be submitted to the NYSDEC for approval.

(5) The owner or operator must implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

## APPENDICIES

- (1) WM letter to Chair, Perinton Conservation Board, December 7, 2017; Odor Mitigation Plan
- (2) PPT presentation, Waste Management, Conservation Board meeting, January 16, 2018.
- (3) WM letter to Mr. Paul, D'Amato; Region 8, DEC, Director
- (4a) Health Effects from Inhalation of Hydrogen Sulfide  
[https://www.health.ny.gov/environmental/chemicals/hydrogen\\_sulfide/](https://www.health.ny.gov/environmental/chemicals/hydrogen_sulfide/)
- (4b) NJ Health Fact Sheet – hydrogen sulfide (H<sub>2</sub>S).
- (5) H<sub>2</sub>S data, provided by WM to PCB, January 11, 2018

# Attachment 4

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Regional Director, Region 8  
6274 East Avon-Lima Road, Avon, NY 14414-9516  
P: (585) 226-5366 | F: (585) 226-9485  
www.dec.ny.gov

February 12, 2018

Mr. Michael G Barker  
Supervisor, Town of Perinton  
1350 Turk Hill Road  
Fairport, NY 14550

Dear Supervisor Barker,

This will constitute this Department's formal response to the ten recommendations made by the Perinton Conservation Board ("PCB") and sent to us after review by the Town Board. The document was dated January 24, 2018, and we received it the following day. It also responds to the revised recommendation the Town requested that we review relative to enhanced monitoring, which were numbers 2&3 in the January 24<sup>th</sup> document. Finally, I included some additional information regarding requirements for Landfill Operations and requests for information going forward which are in addition to the recommendations made by the Town.

I will address the Town recommendations in the same order as they appear in the January 24<sup>th</sup> document. This response should be read together with the Notice of Violation ("NOV") dated February 2, 2018 (previously provided to you) issued to Waste Management ("WM") as several of the measures recommended by the Town are also demands made upon the company by DEC as described in that Notice.

1. **6 NYCRR 363-7.1(e)(1)** – We concur. See NOV, bullet item 2. As you know, the transition regulations in the Part 360 series modified late last year would not require full compliance with the referenced gas collection requirements until such time as the High Acres permit is modified or renewed, which could be as late as 2023. In December, we sought and received WM's commitment to implementation of these requirements, but the Town's concurrence with the merit of early implementation is helpful and much appreciated.
- 2/3. **Enhanced Monitoring** – On February 9, 2018, DEC received a revised recommendation from the Town and PCB with a request to have it replace recommendations 2&3 from the January 24<sup>th</sup> document. The revised recommendation reads as follows:

Waste Management shall, during its quarterly surface emission monitoring for methane required by its Title V Operating Permit (for the one week period required for each such quarterly monitoring event) use 200 ppm of methane as an Action Level. A reading of 200 ppm methane above background will cause the implementation of the corrective actions and follow-up monitoring as stated in High Acres Title V operating permit (currently required only when the level of 500 ppm is reached). Concurrent with the quarterly surface emission monitoring event,



continuous hydrogen sulfide monitoring will be performed at monitoring points around the boundary of the Waste Management (High Acres) property at locations to be determined by WM, the Town and the NYSDEC at a later date (for the same one week period per each quarterly monitoring event pursuant to which methane monitoring will be performed). Hydrogen sulfide monitoring at the facility boundary will be performed with an agreed upon sampling device with continuous data logging capabilities during the time the surface scan events are occurring. Hydrogen Sulfide monitoring events in the locations referenced above will be performed each quarter during calendar year 2018 to determine the effectiveness of the mitigation activities under seasonal and variable operating conditions. Monitoring shall continue beyond calendar year 2018 should NYSDEC determine that the mitigation measures to be performed by Waste Management are not achieving the remedial objectives outlined herein. Data will be reported to the NYSDEC and the Town of Perinton, who will make it available to the public.

DEC concurs with the recommendation which, along with the other measures being required of WM, shall be incorporated into the addendum to the Operation and Maintenance Manual which will be submitted per the terms of the NOV. We also note that since the first quarter surface scan is due to be conducted no later than March 31, 2018, it is imperative that a determination of equipment to be used and monitoring locations, which need to cover all directions (East, West, North, and South) around the landfill, be made soon.

4. **Gas collection well monitoring** - We concur. However, as Cells 10 and 11 are the problem cells, we are satisfied with weekly monitoring of the wells in those cells, and twice monthly, rather than weekly, in the cells on the rest of the landfill. We believe that schedule will focus the effort where necessary, while still doubling the current requirement at the remainder of the well locations. This additional monitoring shall continue through the end of 2018, at a minimum.
5. **Updates to the PCB** - We fully support that recommendation, and understand that WM has agreed to the request. Implementation does not require DEC involvement, and we understand that other vehicles, such as the Town's Special Use Permit or renewed Host Community Agreement, are more appropriate for inclusion of this measure.
6. **Suspension of Waste Disposal in Cells 10 and 11**- This will occur as soon as practicable. See NOV, bullet item 3. In order for the gas collection improvements to be effective and draw gas as designed, the newly installed pipes must be surrounded by a lift of waste, after which soils are used to establish the desired slopes necessary for surface water management, slope integrity, etc. Completion of the entire set of remaining tasks will likely take into March. As you probably know, waste placement into Cell 12 has begun, and the "fluff" layer (the use of selective waste for the first lift in order to protect the liner) should be finished soon, which will allow the full waste stream to be deposited there. Finally, to clarify one point, as Cell 12 begins to fill and waste is placed against the slope of cell 11 several months from now, that slope is in Perinton, and the fill progression will take some waste placement back across the town line from Macedon. While we fully expect this odor event to be long resolved by then, we do not want to

mislead anyone into thinking that, based upon the wording of this recommendation by the Town, suspending work at the top of Cells 10 and 11 means no waste will be placed in Perinton in the future. Of course, this will be newly placed waste and subject to the new gas collection and odor control requirements as described in this letter, the NOV, and the permit. Also, the gas collection will be built as they fill, and thus will not require a retrofit or excavation into old waste. This process has been discussed with the PCB and it concurs that the remaining construction and limited placement of waste is a necessary part of the retrofit and improvement to the gas collection system.

7. **Monitoring Program for the nearby schools** - We concur. After discussions with the Superintendent, WM, and the Town representatives, all appear confident that a mutually agreeable program can be worked out for the school locations. DEC staff here and in Albany would be glad to assist if needed, but given the above at this point we are just seeking a status update in the near future. See NOV, bullet item 5.
8. **Vibration Control from Power Plant / Flares**– We concur. See NOV, bullet item 8 regarding vibration control, designed to prevent the type of event experienced on January 2, 2018. Regarding notifications, it is our understanding that WM is discussing with the Town the most efficient means to communicate any significant event to the appropriate Town personnel. WM will continue to provide Community Updates in the event of an issue with that system. We expect the details that are worked out with the Town to be included in the amendments to the Operations and Maintenance Manual which is due to be submitted no later than March 16, 2018 per the NOV.
9. **Back - up Power** - We concur. See NOV, bullet item 9.
10. **Town Q & A resource on its website** – DEC certainly supports anything that will allow the public to access information. As we discussed, development of this recommendation does not require any specific action by DEC.

In addition to the recommendations received from the Town, the NOV requires the completion of the construction activities required by DEC in December, the submission of a design for the placement of additional geo -membrane cover for remaining vulnerable slopes in Cells 10 and 11, the submission of a plan to conduct real time H<sub>2</sub>S monitoring in areas close to the most frequently affected neighborhoods, and the collection and analysis of a sample of landfill gas from the main header, the results of which shall be used in future modelling.

Further, we have requested, by no later than February 20, 2018, a report compiling and reflecting the information collected by Towpath Investigative Services relative to its odor investigation. This will include the data and graphics sufficient for an analysis of the odors detected by that company, areas and neighborhoods impacted and when, and any changes noted over time, either in terms of improvements or the impacts worsening. While that report will certainly not reflect the entire issue or impact, we understand that the company has been visiting the neighborhoods twice per day since just after Thanksgiving, so we felt that DEC, as well as the Town and residents, should have access to that

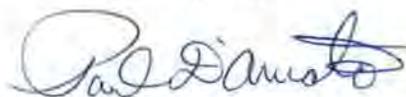
information. We have asked WM to continue that effort, and to supplement this report (which should cover from the date the investigation began through January 31<sup>st</sup>) in future weeks.

Finally, and as mentioned in the NOV, we are reserving all rights should further actions beyond those required to date become necessary.

I want to thank you, the Town Board, and the PCB for investing the time and effort to evaluate and recommend meaningful measures to be taken, and for your cooperation and support as we work to ensure a proper resolution to this situation for the residents.

Thank you for your attention to this matter.

Very truly yours,



Paul J. D'Amato  
Regional Director

c: L. Mauro, ESQ. (by Electronic Mail)  
G. McNeil (by Electronic Mail)  
L. Shaw, ESQ. (by Electronic Mail)  
J. Richardson (by Electronic Mail)  
J. Picciotti, ESQ. (by Electronic Mail)  
B. Provenzano (by Electronic Mail)  
L. Schwartz  
S. Foti  
G. MacLean  
T. Marriott

# Attachment 5

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Office of Environmental Quality, Region 8  
6274 East Avon-Lima Road, Avon, NY 14414-9516  
P: (585) 226-5454 | F: (585) 226-9485  
www.dec.ny.gov

February 2, 2018

Waste Management of New York, LLC  
425 Perinton Parkway  
Fairport, NY 14450  
Attention: Jeffrey Richardson

Dear Mr. Richardson:

**Re: NOTICE OF VIOLATION: High Acres Landfill**  
Solid Waste Management Facility/Program Number 28S32 located in Perinton (T), Monroe (C), & Macedon (T), Wayne (C)

This Notice of Violation (“NOV”) notifies you that Waste Management of New York, LLC (“Waste Management”) has violated the State’s solid waste management regulations at Part 360 of Title 6 of the New York State Official Compilation of Codes, Rules and Regulations (“Part 360”), as well as the State’s air pollution control requirements related to odor, at the High Acres Western Expansion Landfill (“the Landfill”) located in the Town of Perinton in Monroe County and the Town of Macedon in Wayne County. Since approximately September, 2017, on numerous occasions continuing to date, the Landfill has emitted odors in a manner that unreasonably interferes with the neighboring community’s comfortable enjoyment of life and property. Pursuant to this NOV, Waste Management must:

- Complete all odor abatement measures directed or approved by the Department in December of 2017, including completion of all gas collection improvements, well replacement, and soil and geo-membrane placement.
- Any areas receiving the placement of new waste shall have horizontal gas collectors, gas collection wells, and piping constructed in accordance with 6 NYCRR Section 363-7.1(e)(1). Vertical well installation shall comply with an average density of 200 foot spacing in each cell going forward.
- As soon as the retrofit (installation of gas collection horizontal pipes, and the placement of sufficient waste to effectuate gas collection) of cells 10 and 11 is done, cover shall be placed to achieve the required slopes necessary for stormwater management, intermediate soil cover shall be placed, and Waste Management shall discontinue waste disposal in those cells until the odor event is considered resolved.



- No later than February 28, 2018, Waste Management shall submit to DEC a design for the addition of geo-membrane cover to Cells 10 and 11 as a further odor prevention measure.
- Continue the development of an air monitoring plan in concert with the Fairport Central School District. No later than February 16, 2018, Waste Management shall provide to DEC a status of the development of that program.
- Waste Management shall, during its quarterly surface scans for methane required by its Air Pollution Control Permit, use 200 ppm of methane as the new action level and take all measures currently required when the level of 500 ppm is reached. During the scan events, Waste Management will also monitor for H2S at monitoring points around the landfill, provide a Community Update, and notify the Town of Perinton as well as DEC, of all data and resulting actions taken or planned in the event the level of 200 ppm of methane is detected.
- No later than February 16, 2018, Waste Management shall propose real time H2S monitoring, conducted separately from the methane scans, in locations where Waste Management has access to property and nearest the most impacted neighborhoods. All H2S results shall be reported to DEC and the Town on a timely basis.
- Waste Management shall maintain and keep operational the vibration prevention measures installed since January 2, 2018, and no later than February 16, 2018 submit to DEC a copy of the Standard Operating Procedures currently under development for that system.
- No later than February 23, 2018, Waste Management shall submit plan for ensuring back-up power is available for its gas control systems in the event of a power outage.
- No later than February 16, 2018, Waste Management shall obtain a sample of landfill gas from the main header and have it analyzed for a full suite of analytical parameters. The sample results are to be used for all appropriate modeling.

These requirements shall be considered effective immediately. No later than March 16, 2018, Waste Management shall submit an addendum to its Operation and Maintenance Manual which shall include these measures. Upon approval by DEC, it shall become an enforceable part of the company's Solid Waste Management permit.

ECL Article 71 provides that any person who commits the above violations is liable for significant civil penalties which may accrue on a daily basis for so long as a violation continues, and further provides that such person may be enjoined from continuing these violations. The Department hereby reserves all its rights under law and regulation, including but not limited to the right to assess penalties and to seek injunctive relief related to any odor-related violations, past, present, or future, and particularly with respect to further appropriate action regarding offsite odor issues. Nothing set forth herein should be read as a waiver of the Department's right

to seek monetary or injunctive relief regardless of whether Waste Management addresses current odor issues.

If you have any questions concerning this NOV, please contact the undersigned at 585-226-5454, or at [scott.foti@dec.ny.gov](mailto:scott.foti@dec.ny.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott J. Foti". The signature is fluid and cursive, with a large initial "S" and "F".

Scott J. Foti  
Regional Engineer

# Attachment 6

# HIGH ACRES LANDFILL

## ODOR ABATEMENT UPDATE



Department of  
Environmental  
Conservation

March 6, 2018

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DEC is committed to addressing the problem of odors originating from the Waste Management (WM) High Acres Landfill and issued a Notice of Violation (NOV) to WM on February 2, 2018 requiring them to take several actions to address odors at the facility. This fact sheet provides a summary of activities to date, including actions taken under the NOV and we will continue to keep the community updated on our actions.

### ACTIVITIES TO DATE

#### November, 2017

- Residents first contacted DEC management to express concern that odor issues from the High Acres Landfill had not been rectified and seek additional DEC intervention with the situation.
- DEC immediately contacted WM requesting a plan to address the issues and increased inspections.

#### December, 2017

- NYSDEC Commissioner Basil Seggos wrote WM demanding an expeditious resolution and requiring a response within five days.
- WM responded to the Commissioner, acknowledging the issue, committed to address it, and provided a list of actions to be taken, the last of which would be implemented by 3/31/18.
- DEC met with WM representatives on December 13 to review the situation.
- DEC requested a report from WM be submitted expeditiously and urged WM to directly advise residents and Town Officials about issues and planned actions.
- WM submits first of monthly reports to DEC and commences regular updates to the community.

#### January 2018

- DEC held discussions with the Town of Perinton and Perinton Conservation Board (PCB).
- A significant vibration event impacts the neighborhood;
- WM continues monthly reports and community updates describing measures undertaken and/or completed
- DEC received PCB recommendations
- Anti -Vibration system is installed to address the prior incident that caused the vibration event.

#### February 2018

- On February 2, DEC issued a Notice of Violation (NOV) with a series of expectations and requirements, including:
  - Ambient air monitoring at the Dudley/Northside Elementary School campus and in areas surrounding the landfill,
  - Several steps to improve landfill gas collection at the facility, including expediting measures that previously would not have been implemented until as late as 2023.
  - Additional measures outlined in the NOV are available by going to [www.dec.ny.gov](http://www.dec.ny.gov) and typing "High Acres Landfill" in the search box.
- DEC met with WM, the Town of Perinton Supervisor and the PCB regarding further details on implementation of new requirements;
- DEC sent a response to PCB Recommendations.
- DEC further enhanced its presence by deploying Law Enforcement details, including weekend patrols and immediate response to residents' complaints.

## STATUS OF ODOR / VIBRATION ABATEMENT MEASURES

Under DEC supervision, since Mid-November of 2017 the following measures have been implemented by WM to improve the gas collection and control system at High Acres to reduce odors and eliminate reverberations:

1. Removed a restriction in the 24-inch gas header which impacted efficiency of the collection system;
2. Designed and installed approximately 10,000 lineal feet of horizontal gas collection piping, and replaced, or installed other gas collection equipment in Cells 10 and 11 to improve the efficiency;
3. Installed synthetic liner in the roadside drainage swale in Cell 11 to prevent escape of fugitive gas;
4. Installed approximately 9-acres of geo-membrane cover on the North Slopes of Cells 10 and 11;
5. Installed a "jumper header" (new gas line) 1,600' (length) by 18/24" (diameter) to improve collection;
6. Installed an automated control system to monitor and control the landfill gas blowers if low levels of reverberations begin on either flare;
7. Revised the Gas Collection Phasing plan for Cell 12 to include additional horizontal/well spacing.

## STATUS OF COMPLIANCE WITH NOTICE OF VIOLATION

To date, WM has made on-time delivery of the submissions required by the NOV, which are briefly described below, and implementation of additional requirements remains ongoing.

- Complete odor abatement measures from December Plan: On schedule
- Requirement for horizontal gas collectors: Being implemented for all new cells, and the retrofit of existing cells is in progress, with completion due in March;
- Discontinuing the use of Cell 11 until the odor issue is resolved will be implemented when the retrofit is complete;
- The geo-membrane design has been approved, materials delivered and implementation is underway for the installation of an additional 9 acres;
- Air monitoring at the Dudley / Northside school: the 2-16-18 report was received; and the 90-day monitoring program is expected to commence on or before 3/8/18.
- Quarterly surface scans with H<sub>2</sub>S monitoring will be implemented at the next required scan due in March;
- Real time H<sub>2</sub>S monitoring at the perimeter of the facility is expected to begin no later than 3/8/18 Vibration prevention measures have been installed and delivery of the Standard Operating procedures has been done.
- Back-up power Plan: Received
- Sample of landfill gas: taken on schedule and results are pending

## NEXT STEPS

- **WM will install additional geo-membrane cover** on the South and East slopes of Cell 11 (see above). Materials are on site, trenching and pipe installation for the gas collection which will be under the geo-membrane has begun. Depending on weather, the target completion date is 3/31/18.
- **WM will continue to identify, replace and repair landfill gas collection wells, laterals, and headers** as needed, and the wells are now being monitored more frequently per the newly imposed requirements;
- **Monthly updates** on mitigation progress to NYSDEC and the Town of Perinton Conservation Board will continue as the remaining measures are completed;
- **Email notifications** for neighbors, state and local officials regarding completed and upcoming site activities (Community Updates) will continue;
- **All gas collection mitigation efforts in cells 10 and 11 such as trenching, laying pipe, or vertical well drilling which require intrusion into "old" waste, an activity which has caused significant odors will be complete by the end of March 2018.** The remainder of the retrofit, which includes the placement of sufficient waste to allow the new gas collectors to function, then the installation of soil to get a proper slope and the placement of cover, may take into April 2018.
- **No later than March 16<sup>th</sup>, 2018**, an addendum to the facility's Operation and Maintenance Manual incorporating the new requirements will be submitted and once approved will be incorporated into the facility's permit to ensure enforceability and applicability of these new requirements going forward.
- **Enhanced DEC presence** will continue as necessary, including weekends;
- **Ambient Monitoring in all four directions at the facility and school will begin no later than March 8, 2018.** Results will be available, and the monitoring plan is available on the Town's website.

For more information regarding DEC's ongoing actions, please contact DEC at [region8@dec.ny.gov](mailto:region8@dec.ny.gov)

# Attachment 7

# HIGH ACRES LANDFILL

## ODOR ABATEMENT UPDATE

March 28, 2018

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DEC remains committed to addressing the problem of odors originating from the Waste Management (WM) High Acres Landfill and issued a Notice of Violation (NOV) to WM on February 2, 2018 requiring them to take several actions to address odors at the facility. This fact sheet provides an update to the one issued by DEC and dated March 6, 2018, so will not repeat all the information contained therein. We will continue to keep the community updated on our actions, and this and other relevant information is posted on the Town of Perinton Website.

### STATUS OF COMPLIANCE WITH NOTICE OF VIOLATION

**To date, WM has made on-time delivery of the submissions required by the NOV. Some measures are complete (see March 6<sup>th</sup> Update) and the following updates the status of those measures still underway which are contained in the NOV:**

- Requirement for horizontal gas collectors: Being implemented for all new cells, and the retrofit of existing cells is now complete;
- The installation of an additional 9 acres of geo-membrane continues, with an expected completion date no later than March 31; (see below);
- Air monitoring for H<sub>2</sub>S at the Dudley / Northside school and around the perimeter of the Landfill property has commenced, with the results now being made available to the Town, DEC, and public on a weekly basis;
- The First Quarter surface scan with H<sub>2</sub>S monitoring has been completed, with results pending.

### NEXT STEPS

- **WM will complete installation of additional geo-membrane cover** on the South and East slopes of Cell 11 Gas collection infrastructure beneath the geo-membrane is constructed and under vacuum, and all the geo-membrane has been placed. Detail work including the sealing around penetrations such as wells, is continuing with a target completion date of March 31;
- **All gas collection mitigation efforts in cells 10 and 11 such as trenching, laying pipe, or vertical well drilling which require intrusion into “old” waste, an activity which has contributed to odors, is complete.** The remainder of the work, which includes the placement of sufficient waste to allow the new gas collectors to function followed by the installation and grading of cover soil, continues;
- **Enhanced DEC presence** will continue as necessary to assist residents and to establish current conditions through direct observation, complaint response, and citizen interviews.

**For more information regarding DEC’s ongoing actions, please contact DEC at [Region8@dec.ny.gov](mailto:Region8@dec.ny.gov)**

# Attachment 8

# HIGH ACRES LANDFILL FACT SHEET

## ODOR ABATEMENT UPDATE – APRIL 2018

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**Introduction.** The New York State Department of Environmental Conservation (DEC) remains committed to addressing the problem of odors originating from the Waste Management (WM) High Acres Landfill and keeping area residents informed of ongoing actions. On February 2, 2018, DEC issued a Notice of Violation (NOV) to WM requiring them to undertake several actions to address odors at the facility.

This fact sheet provides an update to the DEC fact sheets of March 6 and March 28, 2018. It will be posted along with all other relevant information regarding DEC's efforts, including sampling reports, on the Town of Perinton website <http://www.perinton.org/highacres-landfill>.

### STATUS OF COMPLIANCE WITH NOTICE OF VIOLATION

**To date, WM has made on-time delivery of the actions required by the NOV and has completed several of the requirements (see March 6 and March 28 updates). The following is a status of measures still underway by WM:**

- The installation of an additional 9 acres of geo-membrane cover was nearly complete until damaged by high winds on April 4, 2018. Immediate steps to repair this damage are being taken. (see below);
- Air monitoring for hydrogen sulfide (H<sub>2</sub>S) gases at the Dudley / Northside school and around the perimeter of the landfill property continues. Results are provided to DEC and local officials and are now posted weekly on the [Town of Perinton website](#);
- The first-quarter surface scan with H<sub>2</sub>S monitoring has been completed, and a final report is being prepared. Preliminary results, subject to review and confirmation, indicate that exceedances of both the 200 ppm and 500 ppm action levels for methane occurred, and have since been addressed by WM as required by their air pollution control permit and applicable regulations.

### NEXT STEPS

- WM is repairing the damage from the wind event and will complete installation of additional geo-membrane cover on the south and east slopes of Cell 11 of the landfill. Replacement material installation is beginning the week of April 16, 2018 and is expected to be complete, weather permitting, by May 8, 2018;
- All gas collection mitigation efforts in Cells 10 and 11, which included trenching, laying pipe, or vertical well drilling that had previously caused odor issues, are complete. Additional waste continues to be placed to ensure proper function of the new gas collectors, followed by the installation and grading of cover soil for slope stability and surface water / gas control;
- Enhanced DEC presence will continue to assist residents and establish current conditions through direct observation, complaint response, and citizen interviews (see below).

### DEC'S NEW REPORTING HOTLINE - (585) 453-2416

DEC has established a more formal and comprehensive complaint response process to address issues and concerns of residents living near the High Acres Landfill. The new complaint system will allow DEC to respond directly to complaints, evaluate the situation, and talk directly to residents.

This new system provides a more effective method for DEC to address community concerns. The agency will use the information generated to evaluate the effectiveness of required mitigation steps taken by WM, and to determine if further steps are necessary. The data DEC has received from concerned residents to date has been valuable in helping to understand the extent of the concerns. We appreciate residents' efforts to alert us when problems arise.

## To report a complaint, call 585-453-2416

- An independent call center will answer the call and gather basic information such as name, address, phone number, location, type and duration of the observed complaint.
- That information will immediately be emailed to a DEC responder.
- DEC will have complaint response personnel in the neighborhoods from early morning until late evening, including weekends as needed, to respond and meet with the complainant as soon as possible. Calls placed after 10:00 PM and prior to 6:00 AM will be followed up on as soon as possible.
- DEC responders will ask for as many specifics about the event as possible, such as the time the odor was noticed, when it ended (if it is not ongoing when the responder arrives), how strong it was, and other relevant information. These visits will be short to avoid imposing on resident's time.
- Response personnel will document residents' information and note their personal observations of the conditions in the neighborhood at the time of response.

This system will improve DEC's ability to assess any continuing significant issue, including:

- Collection of more comprehensive, real time, and useful information from the people impacted.
- Simultaneous assessment of conditions at specific locations, leading to a better accounting of reports.
- Address concerns that the existing WM complaint hotline is unresponsive.
- Complaint logs will be made available to the Towns of Perinton and Macedon and to residents upon request. WM will have real-time notification of complaints, and call logs and related records will be a part of the DEC file with respect to this facility.

DEC remains committed to fully addressing concerns regarding the landfill. Now that the work required by DEC to mitigate the problems with gas collection at the landfill is nearly complete, it is critical to be able to comprehensively assess the effectiveness of those measures and the current situation and conditions in the neighborhood. We encourage all residents to use the new hotline and assist with our efforts to effectively evaluate conditions and future actions.

**For more information regarding DEC's ongoing actions, please contact DEC.**

### **CONTACT INFORMATION**

#### **New York State Department of Environmental Conservation**

Region 8

6274 E. Avon-Lima Road

Avon, NY 14414

P: (585) 226-5366 | F: (585) 226-2830 |

[Region8@dec.ny.gov](mailto:Region8@dec.ny.gov)

# Attachment 9

# High Acres Landfill | Odor Management Enhancements

## Infrastructure Improvements and Modifications

### Gas Collection System

#### Vertical Collection Wells

- Installation of 26 vertical gas wells since June 2017

#### Horizontal Collection

- Approximately 20,000 additional lineal feet of horizontal collection piping installed in Cells 10 and 11
- Approximately 2600 lf of horizontal gas collection pipes installed in Cell 12A to date

#### Future Commitment

- Gas Collection Phasing Plans revised to incorporate new regulatory guidance for horizontal well spacing

### Gas Conveyance and Control

#### Header Replacement

- Replaced 12 & 8-inch sub headers in Cell 10
- Installation of approx. 800-ft of sub header in Cell 5
- Installation of approx. 2,600 lineal feet of 18- and 24-inch gas collection header from the enclosed flare and WMRE plant to Cell 11
- Installation of approx. 4,000 lineal feet of lateral piping to new collection

#### Gas Well Dewatering

- Expansion of Gas Well Dewatering system to include over 100 wells

#### Improved Control

- Installation of 3,000 scfm utility flare to increase available vacuum in Cells 10, 11 and 12

#### Backup Power

- Commitment to install backup power generator for LFG control system

### Cover Enhancements

#### Exposed Geomembrane Cap

- Installation of approximately 18 acres of exposed geomembrane cap along the northern and eastern slopes of Cells 10 and 11

#### Enhanced Interim Cover

- Two foot thick interim soil cover being placed on top of intermediate cover soils along plateau on Cells 10 and 11

#### Cell 11 Road Side Swale

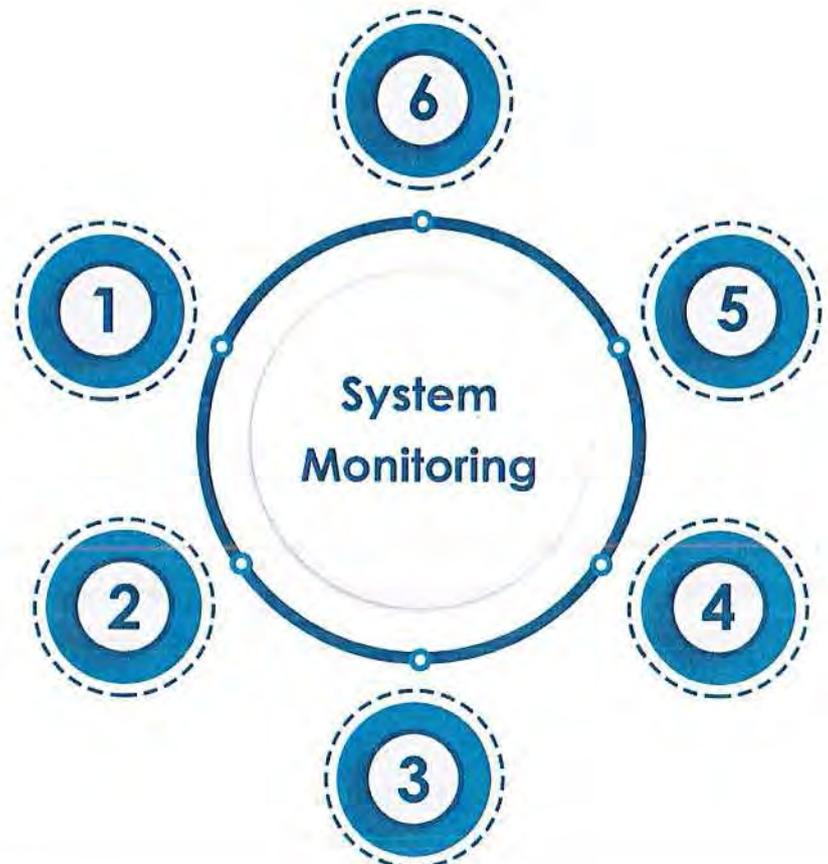
- Installation of 60mil HDPE Liner in the drainage swale

#### Future Commitment

- Revision of O&M Manual to reaffirm commitment to evaluate cover conditions and install additional geomembrane cover if conditions warrant.

## System Monitoring

1. Hired two additional fulltime staff members to support infrastructure construction and increase maintenance of landfill gas collection and conveyance system
2. Weekly well balancing being conducted in Cells 10/11 area
3. Quarterly surface scans being conducted at 200ppm action level
4. Continuous H<sub>2</sub>S monitoring being conducted around the perimeter of the site and at Northside Dudley Elementary Schools
5. Loci® Sentry H Automated Valves and Well Monitor Units installed to enhance monitoring and control of the gas collection system in various portions of the landfill
6. Automated Flare Reverberation Control installed to monitor and control the landfill gas burner response to flare reverberations begin on either flare to prevent vibrations.



## Operational Improvements



### Cover Placement

- Limited Alternate Operational Cover and supplement with soil cover
- Incorporated fine grained soils as daily cover
- Placement of enhanced daily and intermediate cover
- Stockpiling and placement of cover throughout working day to minimize working face size
- Pad foot roller utilized to “seal” working face cover at end of day



### Waste Acceptance/Screening

- Relocated waste operations from Cell 10/11 into Cell 12
- Reconfigured site development
  - Larger cells to provide more operational flexibility
  - Delay filling on plateau area of cells 10/11
  - Allow for high/low filling flexibility to account for weather conditions
  - Site development reconfigured from west-east to north-south to move operations further away from residents
- Extensive waste stream evaluation performed to identify and limit receipt of potentially odorous special waste materials
- Limited weekend waste acceptance/hours of operation



### Odor Neutralizers/Misters

- Use of granular odor control neutralizer at working face
- Application of neutralizer to waste at intermodal rail transfer station prior to container shipment
- Evaluate multiple odor neutralizer products and delivery mechanisms
- Use of water based neutralizer product in site water trucks and application to haul roads
- Install additional perimeter misting systems
- Implement portable misting units at working face
- Continued evaluation and field testing of odor neutralizer systems



### Odor Monitoring

- Certified odor training conducted for in house and third party personnel
- Third party routine off-site odor monitoring being conducted twice per day
- Real time odor investigations conducted in response to hotline calls
- Investigation results relayed to site operations personnel and Town real time



## Communications

- Onsite tours and individual meetings with residents
- Neighborhood updates tab was created on [www.highacreslandfill.wm.com](http://www.highacreslandfill.wm.com)
- Email notification system implemented for neighbors, state and local officials regarding completed and upcoming site activities
- Regular updates are provided to the NYSDEC and Towns of Perinton and Macedon
- Community connection group formed to allow more regular feedback and communication with residents
- Bi-monthly meetings with the Town of Perinton to discuss operational improvements and current construction.
- Community information meeting held at High Acres on Dec. 11, 2017
- Mitigation plan presented to Perinton Conservation Board Jan. 16, 2018
- Community information meeting held at High Acres on March 20, 2018

# High Acres Landfill | Odor Mitigation Status Update

## ACTIVITIES TO DATE

## STATUS

### June 2017

- **Landfill Gas Collection Wells** - Installation of 8 vertical gas wells

COMPLETE

### October 2017

- **Cell 5 Sub Header Replacement** – Installation of approx. 800-ft of sub header
- **Cell 10 Sub Header Replacement** – Replace 12- and 8-inch sub headers in Cell 10

COMPLETE  
COMPLETE

### November 2017

- **Horizontal Collectors in Cells 10 and 11** – Installation of 4 additional collectors
- **Cell 11 Road Side Swale** – Installation of 60mil HDPE Liner in the drainage swale
- **Gas Header Restriction** – Locate and remove restriction in 24-inch gas header

COMPLETE  
COMPLETE  
COMPLETE

### December 2017

- **Cell 11 Horizontal Gas Collection** – Design, approval and installation of approx. 10,000 lineal feet of horizontal gas collection piping in Cell 11
- **High Acres Landfill Information Fair** – Community information meeting held on Dec. 11, 2017
- **Gas Collection Phasing Plans** – Revision of the Gas Collection Phasing plan to include additional horizontal/well spacing

COMPLETE  
COMPLETE  
COMPLETE

### January 2018

- **Waste Placement in Cell 12A** – Waste placement activities initiated on Jan. 9, 2018
- **Town of Perinton Conservation Board Presentation** – Mitigation Plan presented to Board Jan.16, 2018
- **Cell 11 Exposed Membrane Cap** – Installation of approx. 9 acres of Exposed Membrane Cap on the North Slope of Cell 11
- **Gas Header Installation** – Approx. 2,600 lineal feet of 18- and 24-inch jumper Gas collection header from the enclosed flare and WMRE plant to Cell 11
- **Flare Reverberation Control System** – To eliminate any reverberations caused by the landfill gas flares, an automated control system was installed to monitor and control the landfill gas blowers if low levels of reverberations begin on either flare

COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE

### February 2018

- **Additional Fulltime Staff Members** – Hired two additional fulltime staff members to support infrastructure construction, increase maintenance of landfill gas collection and conveyance system
- **Landfill Gas Collection Wells** – Installation of 18 gas collection wells in Cells 10/11

COMPLETE  
COMPLETE

### March 2018

- **Locl® Sentry H Automated Valves and 6 Well Monitor Units** – Installed to enhance monitoring and control of the gas collection system in various portions of the landfill
- **Collection Installation** – Installation of an additional 6 horizontal collectors across Cells 10 and 11 (4,900 lf total)
- **Lateral Piping Installation** – Installation of approx. 4,000 lineal feet of lateral piping to new collection
- **Cell 12A Horizontal Gas Collection** – Installation of the second layer of horizontal gas collection pipes in Cell 12A (approx. 2,600 lf total)
- **East Slope Cell 11 Horizontal Collectors** – Installation of 8 horizontal gas collection pipes on the East slope
- **High Acres Information Fair** – Community informational meeting held on March 20th

COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE

### May 2018

- **Exposed Membrane Cap** – Completion of exposed membrane cap and wind defender
- **Utility Flare** – Installation of 3,000 scfm utility flare to increase available vacuum in Cells 10, 11 and 12

COMPLETE  
COMPLETE

### On-Going Communications

- Onsite tours and individual meetings with residents
- Neighborhood Updates tab on [www.highacreslandfill.wm.com](http://www.highacreslandfill.wm.com)
- Email notification system for neighbors, state and local officials regarding completed and upcoming site activities
- Monthly updates to NYSDEC and Towns of Perinton and Macedon

ON-GOING

## PROPOSED/ON-GOING IMPROVEMENTS

## ANTICIPATED DATE

### Horizontal Collector Cell 12 A

- Installation of third row of horizontal collectors in Cell 12 A

June 2018

### Backup Power Generator for LFG Flares

September 2018

### Gas Well Decommissioning System

DECORRISYS et al.

Attachments

March 2018

### Evaluation and Field Testing of Odor Neutralizer Systems

Ongoing

# Attachment 10

## NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

### Regional Director, Region 8

6274 East Avon-Lima Road, Avon, NY 14414-9516

P: (585) 226-5366 | F: (585) 226-9485

[www.dec.ny.gov](http://www.dec.ny.gov)

September 24, 2018

Mr. Jeffrey G. Richardson  
Sr. District Manager  
Waste Management of New York, LLC  
425 Perinton Parkway  
Fairport NY 14450

Dear Mr. Richardson:

As you are aware, this Department is in the process of preparing a formal response to the Petition submitted by Linda Shaw, Esq. on behalf of her clients dated July 25, 2018.

On September 20, 2018, we were able to access through the Town of Perinton website the letter from Waste Management ("WM") to the Town dated September 14, 2018 containing certain commitments and other information relative to further efforts to be taken to minimize odors from the High Acres facility. While the Town and WM are not in the position to dictate to DEC what aspects of your agreement we will enforce or how and when my staff will meet or otherwise conduct our business, we remain committed to work with both parties as we have throughout the pendency of this problem, as well as on behalf of the residents of Perinton and Macedon towards achieving an improved situation in the neighborhoods. We look forward to that continued cooperation, and are in the process of reviewing your agreement with the Town to assess how its terms may fit within the context of WM's Part 360 permit and O&M Manual.

In addition, on September 20, 2018, we received WM's response to the residents' petition. The response was voluminous, and staff has begun its review of the information contained in it.

While a more complete response to the Petition will be forthcoming soon, our review of the relevant information from residents, my staff, and the company, including your recent set of commitments to the Town, has resulted in a determination that an interim operational measure, as described below, is appropriate.

Commencing October 1, 2018, WM is not to dump rail waste on any operating day prior to 10:15 a.m. In addition, no rail cars containing waste are to be left on site overnight (exclusive of the night of delivery). In short, WM is directed to process all the rail cars on the business day following delivery. In recognition of the shorter operating hours on Saturday, cars delivered on Friday which could not be processed on Saturday, may be stored until Monday, so long as that does not prevent any cars delivered through the weekend from being processed on Monday as well. To the extent this directive impacts delivery schedules or the number of cars received, we trust you will make appropriate arrangements with CSX.



The rationale for this directive follows.

We support the plan to study the rail traffic contained in your commitment to the Town of Perinton. As we have discussed on several occasions, there is a need to establish delivery times, any delays in the downstate transfer process, and related logistical issues that your study will address. We also support the 12-month period of study as it will aid the evaluation of whether, in fact, rail cars are more "ripe" in summer months, even if the delivery times are the same, due to outdoor temperature. The directive to delay daily rail waste disposal will inform the analysis of whether the widely held view that NYC waste presents a different and significant contribution to a problem has merit, and this measure can be implemented while the study is underway.

In addition, attached you will find a chart my staff prepared breaking down, by time of day, the contacts received by this office following completion by WM of the fugitive gas mitigation measures in mid-May. We used the period between May 25<sup>th</sup> and the end of the summer to evaluate the current situation in order to avoid the analysis being impacted by conditions existing while the mitigation measures were being implemented, since during that time there is no debate about the existence of odors at an unacceptable level. While it is not universally the case (see, e.g. July 23<sup>rd</sup> and 24<sup>th</sup>) it is clear that a majority of notifications received on many of the "bad" days, i.e. when the wind is from the SSE, are received prior to 10:00 a.m. The second attachment removes the pre-9:30 a.m. column, and the difference in the totals is apparent and significant.

This pattern of the early morning notifications has been consistent over time. Different suggestions as to why this occurs have been made, including meteorology in the early morning, the creation of an early issue as the prior day's cover is removed, and the simple fact that in the early morning residents are out to begin their school/work day. Whether it is one factor or some combination, given the information available to us and your agreement to focus on rail as a potential factor, this directive is appropriate as an aide to the analysis.

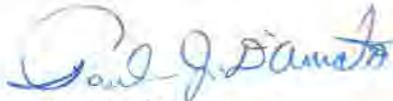
The delay in dumping this waste stream also means that it will commence during our monitor's normal work hours, which will assist in our continuing assessment and oversight of the situation.

Finally, we recognize the inherent problems with the extent of the information contained in the FAFE app. notification system, and have discussed that issue on several occasions with the residents' counsel, encouraging them to provide more complete and useful information through the Hotline and/or odor complaint log we made available. However, despite the obvious shortcomings in their system, it remains the case that on the "bad" days, there has been a general corroboration, by our staff, Towpath, or both, of the existence of some level of detectable odor, even if of limited duration, and again often most noticeable in the early morning. As a result, we are not, as WM has suggested, prepared to ignore the information received from that system.

Again, while we will provide a more complete response to the petition in the coming days, there is no reason to delay the implementation of this interim measure. Absent a determination by DEC to the contrary, this directive is to remain in place through the completion of the company's 12-month rail study. This is without prejudice to our directing further appropriate measures in the future.

Thank you for your continued cooperation in the effort to address these issues.

Very truly yours,



Paul J. D'Amato  
Regional Director

Attachments

cc: G. MacLean  
S. Foti  
L. Schwartz, Esq.

# Attachment 11

## NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

### Regional Director, Region 8

6274 East Avon-Lima Road, Avon, NY 14414-9516

P: (585) 226-5366 | F: (585) 226-9485

[www.dec.ny.gov](http://www.dec.ny.gov)

October 5, 2018

Mr. Jeffrey G. Richardson  
Sr. District Manager  
Waste Management of New York, LLC  
425 Perinton Parkway  
Fairport NY 14450

Dear Mr. Richardson:

This is in response to the two letters received from Waste Management ("WM") dated September 26<sup>th</sup> and 28<sup>th</sup>, and is also in furtherance of the discussion we had on October 2, 2018 relative to the need to move forward with meaningful efforts to minimize to the extent possible any remaining negative off - site impacts caused by odors from the High Acres facility.

As you know, the directive to delay on an interim basis the deposition of solid waste delivered by rail contained in my letter dated September 24, 2018 was an attempt to separate that waste stream for a limited period each day to assess any impact such a delay would have on the detection of odors in the neighborhoods surrounding the facility. As you are aware, there has been a focus on whether rail waste has a significant incremental impact on off - site odors, and we recognized in our letter the commitment made by WM to the Town of Perinton to undertake a study designed to evaluate many aspects of the rail waste issue. The additional directive to process all rail cars the day they are received, was likewise an effort to minimize the time, particularly during what may remain of warm weather this year, that rail containers with waste are stored on site.

The two WM letters expressed concerns regarding both directives, in terms of impacts on operations and an ability to fully comply, given your assertions that CSX has significant control over delivery schedules. It remains somewhat curious as to the reasons why WM has, according to your counsel, such limited control over the delivery of a commodity that you pay to ship. However, we recognize that shipping logistics will be evaluated as part of your study. It was not my intention to create an unachievable requirement, but rather to inform the analysis by adjusting one significant variable associated with the operation. And despite the protestations, we remain of the belief that adjusting the deposition of rail waste, even if for a more limited duration, has the potential to provide useful information.



After further consideration and discussion, and for the reasons described below, we are willing to adjust the directives contained in my September 24<sup>th</sup> letter. Most significantly among those reasons is the set of commitments made by WM to this agency to move forward on further odor control measures, and to expedite the study of incoming waste.

As a result, the following measures will be taken by the dates indicated:

- WM will, within 90 days of the date of this letter, submit for the Department's review a Comprehensive Odor Control Study, along with a design for implementation. This is intended to result in the implementation of a permanent, year-round set of physical and /or other measures to decrease the frequency, severity, and geographic extent of offsite odors;
- WM will build and have ready for use at least 18 months of constructed, surplus cell capacity. This includes the acreage recently approved for use as part of Cell 12B. This requirement is designed to provide operational flexibility in terms of location of working faces, elevations of areas used, etc. in order to adjust operations based on weather conditions;
- WM will, on or before November 1, 2018, submit a revised, comprehensive, and updated Gas Collection and Control System ("GCCS") Plan to the Department. The plan will, among other measures described therein, provide detail and memorialize the commitment to place horizontal gas collection in accordance with the recently modified Part 363 regulations, as well as demonstrate plans to meet or exceed the requirements of the applicable NSPS standard(s);
- WM will expedite completion of the study of materials delivered by both truck and rail referenced in its September 14, 2018 letter to the Town of Perinton. We appreciate the goal of studying the entire system through all four seasons, and are also interested in any information that can only be collected in warm weather, such as temperature in containers, impact of temperature on level of odor, etc. However, we see no reason why the analysis of logistics, such as the origin, location, collection and transport time for the waste streams whether transported by rail or truck, and addressing issues with CSX such as scheduling /delivery issues, should take 10 -12 months. That being the case, we expect delivery of the study, with the exception of those aspects which must be evaluated in summer months (which can serve as a supplement to the study) on or before February 15, 2019;
- WM will continue to delay the deposition of rail waste on a daily basis through the month of October. Taken together with what we have already observed, this should provide enough days of various wind direction to assist the analysis as intended by my original letter. In addition, a return to normal operation in November will help inform the analysis with respect to the impact of cooler temperatures on waste/odor conditions, and avoid a lengthy delay in our attempt

to reach any conclusions about volumes or origin of waste impacting odors as well as any further necessary measures to be taken;

- With respect to the remaining days in October, in order to be consistent going forward with the way we previously compiled notifications received from the FAFE app. and the hotline and provided them to you, WM may begin rail waste deposition at 9:30 a.m. rather than 10:15. This slight adjustment will still provide the desired gap between truck and rail waste being deposited. And while we expect that every possible effort will be made to empty cars on the day of delivery as directed, given the limited weekend hours of operation and WM's assertion that its ability to comply depends in large part on the need to work on the CSX scheduling issues over the coming weeks, we will not impose the 24-hour requirement, but rather expect that any car delivered will be emptied within 48 hours of delivery.

Of course, we reserve all rights to adjust a position or demand as additional information is collected.

Thank you for your attention to and anticipated cooperation in this matter.

Very truly yours,



Paul J. D'Amato  
Regional Director

**Attachments**

cc: G. MacLean  
S. Foti  
L. Schwartz, Esq.

# Attachment 12



**HIGH ACRES LANDFILL &  
RECYCLING CENTER**  
A WASTE MANAGEMENT COMPANY  
425 Perinton Parkway  
Fairport, New York 14450  
585-223-6132  
585-223-6898 (Fax)

September 14, 2018

Honorable Michael G. Barker  
Perinton Town Supervisor  
1350 Turk Hill Road  
Fairport, New York 14450

Dear Supervisor Barker:

We write to provide an update to you and to the Town Board concerning the extensive efforts undertaken by Waste Management of New York, LLC (“Waste Management” or “WMNY”) to address community concerns and improve operations at the High Acres Landfill and Recycling Center (“High Acres” or “Facility”). We also want to reiterate Waste Management’s commitment to continue to work with the Town of Perinton, and the New York State Department of Environmental Conservation (“DEC”) on implementing and documenting meaningful and actionable improvements and enhancements at the Facility, including providing additional information on those which have already been implemented.

Waste Management is committed to addressing the Town’s concern with off-site migration of undue odors through the modification of the O&M manual or if appropriate, instituted as part of other agreements that concern facility operations. Both the Town and Waste Management acknowledge that some off-site odors will be generated as part of any landfill operation; however, Waste Management remains fully committed to the community and the Town’s leadership to operate as a good neighbor as it has been for nearly 50 years.

To that end, WMNY is committed to undertaking and implementing the following measures to minimize to the extent feasible off-site odor concerns. Waste Management and the Town are actively engaged in defining reasonable timeframes to complete these measures, and an approximate timeline for the implementation of these measures is provided in *italics*. The implementation of some of these measures may be reliant on third parties outside the control of Waste Management or the Town, therefore further discussions to refine certain scopes of work and completion dates will continue through to the end of the month.

These measures include the following:

- Reviewing and adopting an appropriate procedure using the more objective ASTM standard based on the N-butanol scale to gauge odor intensity/duration and determine the need for further actions (*on-going & 2-months*);

- Implement real time responses to odor complaints and verification thereof by trained third-party consultant using the N-butanol scale (*on-going*);
- The installation of an enhanced permanent mist barrier system and an enhanced perimeter mist barrier system (*3-months*);
- Reviewing, identifying and implementing additional operational and/or technical measures that would effectively address any undue off-site gas and garbage odors (*on-going*);
- Continue monitoring currently in place for H<sub>2</sub>S and methane (*on-going*);
- WMNY will provide the Town of Perinton on an annual basis with a 5 year fill progression plan (or update) that demonstrates sufficient constructed capacity to allow for high/low fill scenarios for operational flexibility, as appropriate;
- Implementing bi-weekly progress meetings with the Town and DEC to discuss operations at the landfill (*1-month*);
- DEC Inspection Staff and Waste Management operations staff to appropriately address any deficiencies that DEC and WMNY conclude contributed or likely contributed to undue off-site odors within specific timeframes to be established by the Town, WMNY and DEC (*3-months*);
- Provide copies of specific engineering details for tying into the membrane covered upper side-slopes of Cells 10 and 11, with those plans being reviewed and approved by DEC after consultation with the Town (*6-months prior to tie-in*);
- Undertaking a study of materials delivered by both truck and rail to the Facility to determine the nature and extent of undue odors, if any, contributed by the same; identify additional mitigative measures to reduce as feasible undue odors and implement those measures, to the extent practical and effective, to control odors (*Initiate the study within 1-month. The overall duration of the study will be 10-12 months in order to evaluate potential seasonal affects. However, Waste Management and the Town will develop interim milestone deadlines for various phases of the study and implement recommended measures from each phase as/if it is determined they will effectively reduce odors, prior to completing the entirety of the study.*)

In addition to the commitment of future resources to address undue off-site odors, this letter summarizes the status of the various improvements already undertaken in a collaborative effort by the Town and Waste Management at High Acres to minimize such off-site odors. The

extensive infrastructure measures implemented cost more than \$4 million to design and construct, and were constructed by Waste Management on an expedited basis, including during extended hours on holidays and weekends. Indeed, the work Waste Management undertook as detailed herein would have normally taken approximately a year and a half to complete, but was finished in less than five months.

We note that off-site gas odors which were a concern and resulted in Waste Management constructing numerous enhancements to the Facility (as well as extensive operations and other modifications), are not currently prevalent to the point of presenting a significant concern. However, WMNY will continue to monitor and address any future off-site odor concerns as appropriate, as well as fully maintain those enhancements at the Facility. Please also note that while Waste Management has been and remains ready and willing to work with the community to address legitimate issues, it does not concede the validity of any claims asserted or the relief sought by a non-governmental organization and its supporters in a Petition concerning the Facility recently filed with DEC, nor does Waste Management concede the validity of any claims filed or relief sought by such NGO and by others regarding proceedings filed in federal or state court concerning the Facility, as Waste Management is vigorously defending each of those proceedings. As such, neither this letter, nor the commitments made in it constitute admissions of any kind.

Further, in addition to the infrastructure associated with gas collection and control system and other measures that were constructed, the following cover enhancements and operational improvements were implemented, as well as instituting a monitoring program not seen at any other operating facility.

#### **INFRASTRUCTURE ENHANCEMENTS FOR GAS COLLECTION, COVER ENHANCEMENTS, MONITORING PROGRAM AND OTHER OPERATIONAL IMPROVEMENTS**

- Replaced underperforming gas extraction wells and impaired gas conveyance pipes;
- Installed a new 18"-24" diameter vacuum header pipe from the gas plant and flare location to Cell 11;
- Installed approximately 20,000 lineal feet of additional horizontal gas collection line as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Implemented free draining slip form wells and additional horizontal collection in Cell 12;
- Installed 60 mil HDPE liner in the drainage swale for Cell 11;

- Weekly gas well balancing conducted in Cells 10 and 11, and bi-weekly for the remainder of the Facility site, to maximize gas collection and odor reduction as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Installed a new utility flare in the area of Cells 10, 11 and 12 to enhance odor reduction (in addition to the extensive infrastructure improvements referenced herein);
- Installed approximately 2,600 lineal feet of horizontal gas collection pipes in Cell 12A;
- Replaced 8" and 12" sub-headers in Cell 11 and installation of approximately 800 feet of sub-header in Cell 5;
- Upgraded of the gas dewatering system to include over 100 wells focusing on the Cell 10/11 Area;
- Committed to install a backup power generator to operate the LFG collection and control system when power is not available as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Installed over 18 acres of geo-synthetic cover;
- Committed to the placement of two-foot-thick interim soil cover on top of the plateau of Cells 10 and 11;
- Quarterly surface scans conducted at a 200 ppm action level and taking concomitant measures when such scans show results above such action level when the regulations and requirements at issue provide for action levels at a much higher level (500 ppm) as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Continuous H<sub>2</sub>S monitoring conducted around the perimeter of the Facility and at the Northside/Dudley Elementary School as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Installed automated valves and well monitor units to enhance monitoring and control of the gas collection system in various portions of the Facility;

- Installed automated flare reverberation control measures to monitor and control the Facility gas blowers if low levels of reverberations begin on either flare to prevent undue vibrations as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board; and
- Utilized alternative equipment on cover soils to better seal intermediate cover materials.

In addition to the extensive infrastructure enhancements and cover improvements, Waste Management also instituted (and is instituting) numerous operational enhancements that include:

- The hiring of additional staff to monitor and maintain the Facility's gas infrastructure with 24/7 availability;
- Increased the frequency and content of community outreach and communication both by direct correspondence and other methods;
- The placement of enhanced daily and intermediate cover;
- Stockpiling and placement of cover throughout the working day to minimize working face size;
- Utilized alternative equipment on cover soils to better seal intermediate cover materials;
- Relocated waste operations from Cell 10 and 11 to Cell 12 as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board;
- Reconfigured site development to delay filling on the plateau of Cells 10 and 11 as recommended by the Perinton Conservation Board and concurred with by the Perinton Town Board and utilize larger cells to provide more operational flexibility;
- Reconfigured site development to proceed from North to South instead of West to East, to move the next area of cell construction further away from Perinton Parkway;
- Performed expanded waste stream evaluations to identify and limit potentially odorous special waste material;
- Implemented of additional odor neutralizers and misters and continued evaluation of multiple odor neutralizer and delivery mechanisms;

- Applied odor agents to waste containers during the summer season at the intermodal rail transfer stations;
- Installed additional perimeter misting systems as well as the use of portable misting units; and
- Provided Odor monitoring, including certified training conducted for in-house and third-party personnel, as well as provided third-party routine offsite monitoring and follow up, along with providing results of same to site operations personnel and to the Town.

Furthermore, while the DEC issued a Notice of Violation dated February 2, 2018 (“NOV”), Waste Management had already proposed most of the measures identified in the NOV. In fact, it had already begun substantial construction of these measures with some actually completed at the time the NOV was issued. Moreover, Waste Management complied with each of the NOV’s requirements and as indicated, would have done so even in the absence of an NOV being issued because of Waste Management’s commitment to the community, and the Town’s leadership. Please find enclosed summaries that set out each of the enhancements completed, as well as the dates they were constructed or implemented.

Last, Waste Management is also committed to adopt additional measures not currently being implemented or identified herein to improve operations and as feasible, to address undue off-site odors. Waste Management will also provide the Town with information concerning soil cover to ensure it is appropriate. We will continue to work with the Town and DEC to respond in real time (as we have already begun to do as referenced above) regarding concerns when significant events warrant such a response.

Waste Management is proud of its nearly 50 year positive and collaborative working relationship with the Town of Perinton. We remain ready, willing and able to work with the Town to implement and document meaningful and actionable enhancements at the Facility as discussed herein. Waste Management will make staff available at the Town’s convenience to work out the details of the measures it has committed to undertake with Town representatives (in addition to that already in process and being implemented).

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jeffrey G. Richardson/SOP". The signature is stylized and includes a large loop at the end.

Jeffrey G. Richardson  
Sr. District Manager  
Waste Management of New York, LLC

# High Acres Landfill | Odor Management Enhancements

## Infrastructure Improvements and Modifications

### Gas Collection System

#### Vertical Collection Wells

- Installation of 26 vertical gas wells since June 2017

#### Horizontal Collection

- Approximately 20,000 additional lineal feet of horizontal collection piping installed in Cells 10 and 11
- Approximately 2600 lf of horizontal gas collection pipes installed in Cell 12A to date

#### Future Commitment

- Gas Collection Phasing Plans revised to incorporate new regulatory guidance for horizontal well spacing

### Gas Conveyance and Control

#### Header Replacement

- Replaced 12 & 8-inch sub headers in Cell 10
- Installation of approx. 800-ft of sub header in Cell 5
- Installation of approx. 2,600 lineal feet of 18- and 24-inch gas collection header from the enclosed flare and WMRE plant to Cell 11
- Installation of approx. 4,000 lineal feet of lateral piping to new collection

#### Gas Well Dewatering

- Expansion of Gas Well Dewatering system to include over 100 wells

#### Improved Control

- Installation of 3,000 scfm utility flare to increase available vacuum in Cells 10, 11 and 12

#### Backup Power

- Commitment to install backup power generator for LFG control system

### Cover Enhancements

#### Exposed Geomembrane Cap

- Installation of approximately 18 acres of exposed geomembrane cap along the northern and eastern slopes of Cells 10 and 11

#### Enhanced Interim Cover

- Two foot thick interim soil cover being placed on top of intermediate cover soils along plateau on Cells 10 and 11

#### Cell 11 Road Side Swale

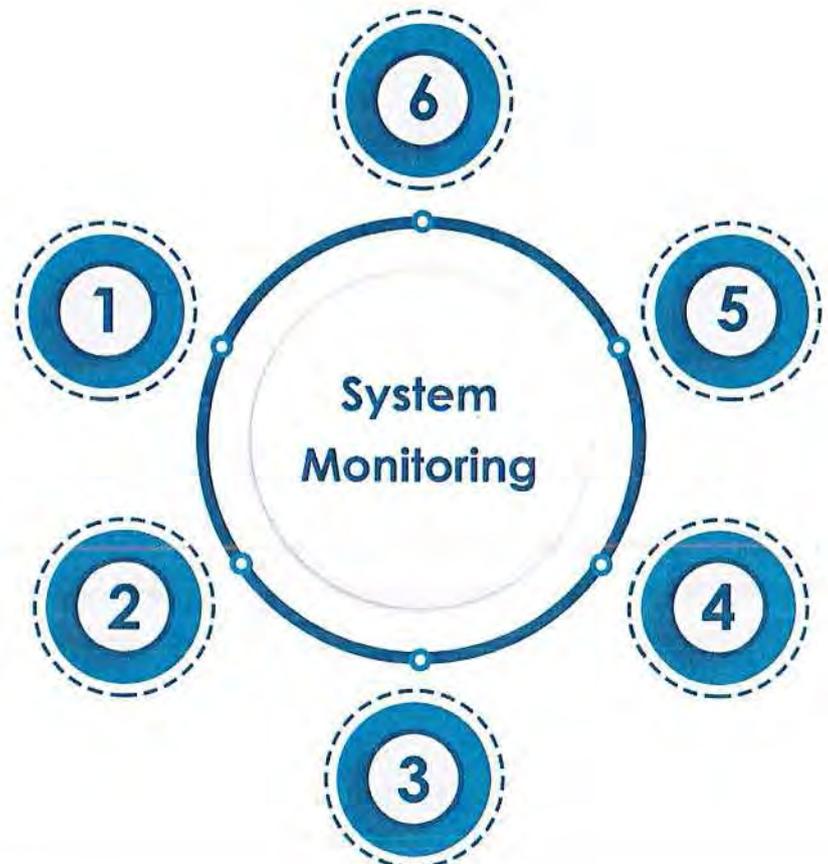
- Installation of 60mil HDPE Liner in the drainage swale

#### Future Commitment

- Revision of O&M Manual to reaffirm commitment to evaluate cover conditions and install additional geomembrane cover if conditions warrant.

## System Monitoring

1. Hired two additional fulltime staff members to support infrastructure construction and increase maintenance of landfill gas collection and conveyance system
2. Weekly well balancing being conducted in Cells 10/11 area
3. Quarterly surface scans being conducted at 200ppm action level
4. Continuous H<sub>2</sub>S monitoring being conducted around the perimeter of the site and at Northside Dudley Elementary Schools
5. Loci® Sentry H Automated Valves and Well Monitor Units installed to enhance monitoring and control of the gas collection system in various portions of the landfill
6. Automated Flare Reverberation Control installed to monitor and control the landfill gas burner response to flare reverberations begin on either flare to prevent vibrations.



## Operational Improvements



### Cover Placement

- Limited Alternate Operational Cover and supplement with soil cover
- Incorporated fine grained soils as daily cover
- Placement of enhanced daily and intermediate cover
- Stockpiling and placement of cover throughout working day to minimize working face size
- Pad foot roller utilized to “seal” working face cover at end of day



### Waste Acceptance/Screening

- Relocated waste operations from Cell 10/11 into Cell 12
- Reconfigured site development
  - Larger cells to provide more operational flexibility
  - Delay filling on plateau area of cells 10/11
  - Allow for high/low filling flexibility to account for weather conditions
  - Site development reconfigured from west-east to north-south to move operations further away from residents
- Extensive waste stream evaluation performed to identify and limit receipt of potentially odorous special waste materials
- Limited weekend waste acceptance/hours of operation



### Odor Neutralizers/Misters

- Use of granular odor control neutralizer at working face
- Application of neutralizer to waste at intermodal rail transfer station prior to container shipment
- Evaluate multiple odor neutralizer products and delivery mechanisms
- Use of water based neutralizer product in site water trucks and application to haul roads
- Install additional perimeter misting systems
- Implement portable misting units at working face
- Continued evaluation and field testing of odor neutralizer systems



### Odor Monitoring

- Certified odor training conducted for in house and third party personnel
- Third party routine off-site odor monitoring being conducted twice per day
- Real time odor investigations conducted in response to hotline calls
- Investigation results relayed to site operations personnel and Town real time



## Communications

- Onsite tours and individual meetings with residents
- Neighborhood updates tab was created on [www.highacreslandfill.wm.com](http://www.highacreslandfill.wm.com)
- Email notification system implemented for neighbors, state and local officials regarding completed and upcoming site activities
- Regular updates are provided to the NYSDEC and Towns of Perinton and Macedon
- Community connection group formed to allow more regular feedback and communication with residents
- Bi-monthly meetings with the Town of Perinton to discuss operational improvements and current construction.
- Community information meeting held at High Acres on Dec. 11, 2017
- Mitigation plan presented to Perinton Conservation Board Jan. 16, 2018
- Community information meeting held at High Acres on March 20, 2018

# High Acres Landfill | Odor Mitigation Status Update

## ACTIVITIES TO DATE

## STATUS

### June 2017

- **Landfill Gas Collection Wells** - Installation of 8 vertical gas wells

COMPLETE

### October 2017

- **Cell 5 Sub Header Replacement** – Installation of approx. 800-ft of sub header
- **Cell 10 Sub Header Replacement** – Replace 12- and 8-inch sub headers in Cell 10

COMPLETE  
COMPLETE

### November 2017

- **Horizontal Collectors in Cells 10 and 11** – Installation of 4 additional collectors
- **Cell 11 Road Side Swale** – Installation of 60mil HDPE Liner in the drainage swale
- **Gas Header Restriction** – Locate and remove restriction in 24-inch gas header

COMPLETE  
COMPLETE  
COMPLETE

### December 2017

- **Cell 11 Horizontal Gas Collection** – Design, approval and installation of approx. 10,000 lineal feet of horizontal gas collection piping in Cell 11
- **High Acres Landfill Information Fair** – Community information meeting held on Dec. 11, 2017
- **Gas Collection Phasing Plans** – Revision of the Gas Collection Phasing plan to include additional horizontal/well spacing

COMPLETE  
COMPLETE  
COMPLETE

### January 2018

- **Waste Placement in Cell 12A** – Waste placement activities initiated on Jan. 9, 2018
- **Town of Perinton Conservation Board Presentation** – Mitigation Plan presented to Board Jan.16, 2018
- **Cell 11 Exposed Membrane Cap** – Installation of approx. 9 acres of Exposed Membrane Cap on the North Slope of Cell 11
- **Gas Header Installation** – Approx. 2,600 lineal feet of 18- and 24-inch jumper Gas collection header from the enclosed flare and WMRE plant to Cell 11
- **Flare Reverberation Control System** – To eliminate any reverberations caused by the landfill gas flares, an automated control system was installed to monitor and control the landfill gas blowers if low levels of reverberations begin on either flare

COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE

### February 2018

- **Additional Fulltime Staff Members** – Hired two additional fulltime staff members to support infrastructure construction, increase maintenance of landfill gas collection and conveyance system
- **Landfill Gas Collection Wells** – Installation of 18 gas collection wells in Cells 10/11

COMPLETE  
COMPLETE

### March 2018

- **Locl® Sentry H Automated Valves and 6 Well Monitor Units** – Installed to enhance monitoring and control of the gas collection system in various portions of the landfill
- **Collection Installation** – Installation of an additional 6 horizontal collectors across Cells 10 and 11 (4,900 lf total)
- **Lateral Piping Installation** – Installation of approx. 4,000 lineal feet of lateral piping to new collection
- **Cell 12A Horizontal Gas Collection** – Installation of the second layer of horizontal gas collection pipes in Cell 12A (approx. 2,600 lf total)
- **East Slope Cell 11 Horizontal Collectors** – Installation of 8 horizontal gas collection pipes on the East slope
- **High Acres Information Fair** – Community informational meeting held on March 20th

COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE  
COMPLETE

### May 2018

- **Exposed Membrane Cap** – Completion of exposed membrane cap and wind defender
- **Utility Flare** – Installation of 3,000 scfm utility flare to increase available vacuum in Cells 10, 11 and 12

COMPLETE  
COMPLETE

### On-Going Communications

- Onsite tours and individual meetings with residents
- Neighborhood Updates tab on [www.highacreslandfill.wm.com](http://www.highacreslandfill.wm.com)
- Email notification system for neighbors, state and local officials regarding completed and upcoming site activities
- Monthly updates to NYSDEC and Towns of Perinton and Macedon

ON-GOING

## PROPOSED/ON-GOING IMPROVEMENTS

## ANTICIPATED DATE

### Horizontal Collector Cell 12 A

- Installation of third row of horizontal collectors in Cell 12 A

June 2018

### Backup Power Generator for LFG Flares

September 2018

### Gas Well Decommissioning System

DECORRISYS et al.

Attachments

March 2018

### Evaluation and Field Testing of Odor Neutralizer Systems

Ongoing

# Attachment 13



# MEMO

TO: Michael G. Barker, Town Supervisor & the Perinton Town Board  
FROM: Perinton Conservation Board  
CC: E. Williams, R. Kozarits, R. Place, L. Stid  
DATE: 5/8/18  
Re: **MEH Consulting: High Acres Landfill – Air Monitoring Summary**

---

Pursuant to recommendations #2 & #7 made by the Perinton Conservation Board on 1/24/18, the Perinton Town Board has requested that the NYSDEC compel Waste Management (WM) to conduct hydrogen sulfide (H<sub>2</sub>S) monitoring and to use this monitoring as a “surrogate” to predicting the presence of other hazardous conditions (e.g. the presence of volatile organic compounds or VOC’s) that could impact area residents that surround the High Acres Landfill facility. Additionally, the Conservation Board suggested that specific H<sub>2</sub>S monitoring be conducted at the Northside Dudley Elementary school.

The Town has since retained MEH Consulting, LLC to review the first 5-weeks of monitoring data and render a health-risk assessment. The H<sub>2</sub>S monitoring data summary and analysis is attached.



14-216

May 8, 2018

Mr. Michael Barker  
Town Supervisor  
Town of Perinton  
1350 Turk Hill Road  
Fairport, New York 14450  
Email: [mbarker@perinton.org](mailto:mbarker@perinton.org)

Re: High Acres Landfill – Air Monitoring Summary  
Waste Management Monitoring Stations – Hydrogen Sulfide Data Evaluation  
Fairport, New York

---

Dear Mr. Barker:

ME Holvey Consulting, LLC (“MEHC”) was retained by the Town of Perinton to review and provide support regarding the air monitoring being conducted for ambient hydrogen sulfide levels by Waste Management (“WM”).

The objective of the summary is to evaluate the hydrogen sulfide levels at the five (5) monitoring locations around the perimeter of the High Acres Landfill.

### **Background**

The High Acres Landfill operated by WM has been the source of foul-smelling odors since the Summer of 2017. The odors had been frequent and lasting extended periods of time. The odors have been identified as a “rotten egg” smell and “garbage”.

WM has identified the issues with the landfill gas collection systems and have engineered and installed controls to mitigate the odors. This information can be found on the WM High Acres Landfill website.

As part of the assessment of the on-going mitigation implementation, WM has installed ambient air monitoring devices to assess the hydrogen sulfide concentration around the community surrounding the landfill, including the Dudley Elementary School.

Data provided by WM for the High Acres landfill show the gas generated at this site is composed of approximately:

- ! 47% methane;
- ! 33% carbon dioxide;
- ! 13% nitrogen;
- ! 1.4% oxygen; and,
- ! 6% a combination of other gases, including non-methane organic compounds (“NMOCs”) and reduced sulfur compounds such a hydrogen sulfide (“H2S”).

NMOCs include compounds such as trichloroethylene, benzene, and vinyl chloride. A large fraction of the NMOCs found in landfill gas are volatile organic compounds (“VOCs”). When VOCs combine with nitrogen oxide in the atmosphere they will form ozone. A much smaller fraction of the NMOCs are hazardous air pollutants (HAPs).

NMOCs and hydrogen sulfide typically represent 0.01% – 0.6% and 0% - 1%, respectively, of the total volume of landfill gas.

Hydrogen sulfide levels may also be considered as an indicator of the potential level of individual VOCs. In most cases, landfills do not emit enough VOCs to increase their concentrations above the background levels found in the community.

MEHC evaluated the 2010 WM High Acres Landfill Gas sampling data. The samples were collected from the gas wells for the purpose of the emissions modeling. The samples were measured for VOCs and Sulfur Compounds, including hydrogen sulfide. The data was reviewed and noted the following correlation:

<i>Sample ID</i>	<i>Individual VOC Concentration</i>	<i>H2S Concentration</i>
LFG-001/005	160 ppb - 22,000 ppb	120,000 ppb
LFG-002/006	150 ppb - 20,000 ppb	150,000 ppb
LFG-003/007	160 ppb - 19,000 ppb	51,000 ppb
LFG-004/008	160 ppb - 19,000 ppb	73,000 ppb

The above data was used for emissions modeling by WM. The concentration of hydrogen sulfide is significantly higher than the individual VOC levels. This supports the concept that low or non-detected hydrogen sulfide levels would also signify much lower VOC concentrations.

### **Acrulog PPB – Ambient Hydrogen Sulfide Monitor**

The Acrulog PPB Hydrogen Sulfide monitors measures low levels of hydrogen sulfide in real time. The Acrulog PPB monitor uses a customized H2S Electrochemical sensor. The monitor auto zeros before each sample (this adjusts for any temperature change or sensor shift) and the sample stream is humidity conditioned to a constant Relative Humidity. The monitor was factory calibrated prior to installation. Re-calibration is required every six (6) months. A monitor “bump” check is scheduled to be performed monthly.

The resolution of the H<sub>2</sub>S PPB monitor is 1 ppb to 2000 ppb. A measurement is taken every 10 minutes with the following cycle:

- 1.! One (1) minute purge
- 2.! Six (6) minute thermal equilibration
- 3.! Three (3) minute sample collection

The air is monitored every 10 minutes in a 24-hour day. To calculate the one-hour average – six (6) data points collected in an hour are averaged. The Acrulog PPB is currently scheduled to continuously monitor the air for 90 days.

### **Monitoring Station Locations**

Five (5) Acrulog air monitors were installed around the North, South, West, and East perimeters of the High Acres Landfill. The monitors are located at the far edges of the landfill in near proximity to communities of concern. One (1) air monitor was also installed on the Dudley Elementary School rooftop.

### **Hydrogen Sulfide Results – Week 1 through Week 5**

#### *Week 1 Monitoring Results (March 6 – March 13, 2018):*

The first week of the Air Sampling did not find detectable levels of hydrogen sulfide at the East, West, or Dudley Monitoring Stations.

The North Monitoring Station had one (1) detectable hydrogen sulfide reading of:

- ! March 8, 2018 at 3:23 pm – 3 ppb.

The South Monitoring Station had three (3) detectable hydrogen sulfide readings of:

- ! March 7, 2018 at 11:28 am – 5 ppb
- ! March 7, 2018 at 12:28 pm – 3 ppb
- ! March 11, 2018 at 6:28 pm – 3 ppb

The levels were below the NYSDEC 10 ppb 1-hour threshold.

#### *Week 2 Monitoring Results (March 13 – March 20, 2018):*

The second week of the Air Sampling did not find detectable levels of hydrogen sulfide at any of the air monitoring stations.

#### *Week 3 Monitoring Results (March 21 – March 27, 2018):*

The third week of the Air Sampling did not find detectable levels of hydrogen sulfide at the East, West, or Dudley Monitoring Stations.

The North Monitoring Station had one (1) detectable hydrogen sulfide reading of:

- ! March 21, 2018 at 12:31 pm – 5 ppb.

The South Monitoring Station had three (3) detectable hydrogen sulfide readings of:

- ! March 21, 2018 at 2:33 pm – 4 ppb
- ! March 23, 2018 at 8:53 pm – 3 ppb
- ! March 23, 2018 at 9:03 pm – 6 ppb

The levels were below the NYSDEC 10 ppb 1-hour threshold.

*Week 4 Monitoring Results (March 28 – April 3, 2018):*

The fourth week of the Air Sampling did not find detectable levels of hydrogen sulfide at any of the air monitoring stations.

*Week 5 Monitoring Results (April 4 – April 10, 2018):*

The fifth week of the Air Sampling did not find detectable levels of hydrogen sulfide at any of the air monitoring stations.

### **Action Thresholds**

The NYSDEC (6 NYCRR-NY 257-10.3) has a one-hour standard of 10 parts per billion (ppb) or  $14.0 \mu\text{g}/\text{m}^3$ . The standard is based on the fact that odors can unreasonably interfere with the comfortable enjoyment of life and property. Results below the 10-ppb averaged over one (1) hour are not considered to meet this threshold.

The current air sampling data shows that the hydrogen sulfide readings are not at a level of concern.

### **Hydrogen Sulfide Information**

Hydrogen Sulfide level information provided by the Agency for Toxic Substances & Disease Registry (ATSDR) include the following Minimal Risk Levels (MRLs). MRLs are derived when reliable and sufficient data exist to identify the target organ(s) of effect or the most sensitive health effect(s) for a specific duration for a given route of exposure. An MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure.

MRLs include ample safety factors to ensure protection of sensitive human populations., including children.

The following are the ATSDR MRLs for hydrogen sulfide:

- ! ATSDR MRL Acute Duration (1 to 14 days) Inhalation - 70 PPB
- ! ATSDR MRL Intermediate Duration (>14 to 364 days) Inhalation – 20 PPB

Again, the air testing results at each of the air monitoring stations are below these established thresholds. At this time, odors have become sporadic and transient. The ATSDR thresholds are based on an extended duration and daily exposure.

There have been community concerns regarding the Lyndon Road Baseball fields and the landfill odors. The West Air Monitoring Station has shown no detectable levels of hydrogen sulfide since the installation on March 6, 2018. The Lyndon Road Baseball Fields are beyond this monitoring station which identifies the hydrogen sulfide is not at a level of concern.

The identified hydrogen sulfide levels and therefore, the associated individual VOCs show the concentrations below the potential for health risks.

Please call me at (585) 690-3361 if you have any questions or comments.

Respectfully Submitted,



ME Holvey Consulting, LLC by Mary Ellen Holvey, CIH  
Senior Industrial Hygienist

References:

Toxicological Profile for Hydrogen Sulfide and Carbonyl Sulfide  
(<https://www.atsdr.cdc.gov/toxprofiles/tp114.pdf>)

Health Consultation - Evaluation of Community Exposures and Concerns Related to Fenimore Landfill  
([https://www.atsdr.cdc.gov/hac/fenimorelandfill\\_hc\\_final\\_may112016\\_508.pdf](https://www.atsdr.cdc.gov/hac/fenimorelandfill_hc_final_may112016_508.pdf))

<https://www.atsdr.cdc.gov/HAC/landfill/html/appe/ctmwlg.pdf>

# Attachment 14

ANTHONY J. VILLANI, P.C.  
ATTORNEYS AT LAW

66 WILLIAM STREET ■ LYONS, NEW YORK 14489 ■ 315-946-9707 ■ FAX 315-946-0373 ■ E-mail: [ajvlaw@rochester.rr.com](mailto:ajvlaw@rochester.rr.com)

November 6, 2018

*Via Email and First Class Mail*

Paul J. D'Amato, Regional Director  
Region 8 - NYS Department of Environmental Conservation  
6274 East Avon-Lima Road  
Avon, New York 14414

*Re: Response of the Town of Macedon, Wayne County, New York to the Petition of Fresh Air for the Eastside, et al, dated July 25, 2018 for Modification of the Part 360 Solid Waste Management Facility Permit issued by DEC to Waste Management of New York, LLC to operate the High Acres Landfill located in the Towns of Macedon and Perinton, New York.*

Dear Mr. D'Amato:

Please be advised that we represent the Town of Macedon, Wayne County, New York. In furtherance of your e-mail letter of October 17, 2018 to Town Supervisor Sandy Pagano and Deputy Supervisor, Paul Kenyon, we have been directed by the Town Board to make the following comments on the above referenced Petition.

As we read the Petition, the complaints seem to center around odor generated by (1) landfill gas and (2) odor associated with the landfilling of municipal solid waste delivered to the landfill by rail. We will address these concerns *seriatim*.

#### LANDFILL GAS

Most of the allegations of the Petition as to this issue are directed to what is called "fugitive emissions" of landfill gas allegedly caused or exacerbated by the absence of horizontal gas collectors. The Town of Macedon is reluctant to comment as both the landfill gas produced and the methods of mitigation are all located in the Town of Perinton. Accordingly, the Town of Macedon had no authority to oversee the operations subject to the Petition. As we understand it, the landfill has been in operation since 1972. Landfilling has only begun this year in the Town of Macedon and post dates the complaints herein. Therefore, it is doubtful that the minor landfilling to date in Macedon has produced landfill gas in sufficient quantity to cause or significantly exacerbate the conditions alleged in the petition. Town records show relatively few complaints from Macedon residents. In addition, the Town Board understands that gas odors that were noted last year and earlier this year have been addressed by Waste Management as is further set forth in exhibits F, G and H below.

Going forward however, the Town of Macedon wishes to assure the Department that it will work with Waste Management to reduce landfill gas emissions. To that end, the Town of Macedon and Waste Management have been engaged in discussions for some time as to technologies directed to the reduction of landfill gas emissions. This is acknowledged by the Petitioners who refer to the option given to Macedon to take 1200 CFM of landfill gas. While Macedon, at the time, was considering conversion to electricity, it is now exploring more environmentally friendly ways to reduce these emissions. The Town of Macedon will continue to work with DEC and Waste Management in the future to mitigate landfill gas emissions.

## MSW ODOR

Petitioners further allege that rail access to the landfill has created additional odor problems as a result of the failure of Waste Management to properly manage rail car waste. The petition offers no empirical data or evidence as to the source of the odors, i.e. rail, truck or simply an increase in the amount of MSW landfilled. Petitioners allegedly trace the complaint to the approval, by the Macedon Town Board, of Waste Management's application for rail access to the landfill. In addition, Petitioners allege that in paragraphs 78 *et seq.* of the Petition, increased methane levels resulting from an increase in the amount of landfilled materials and that MSW from New York City "cooks" in sealed rail cars so that, rather than be dissipated during transportation, the sealed odors are all released at the landfill.

As to any increase in volume, the Town of Macedon defers to the limits imposed by DEC. It is the understanding of the Town that Waste Management is not exceeding its permitted capacity.

As to the odors allegedly sourced in the "cooked" rail cars, Petitioners allege in paragraphs 85 and 86 of the Petition that the Town of Macedon conducted an inadequate environmental review of Waste Management's application for railroad access because the Town of Macedon did not fully consider the impact of increased waste product and the impact of odors resulting from MSW sitting in rail cars for longer periods than in trucks.

In fact, the Town of Macedon looked very closely at these two aspects. The work the Town has done with Waste Management and the Town of Macedon's commitment to reducing landfill gas emission is set forth above. Further, it is acknowledged at paragraph 80 of the Petition that Macedon considered an increase in the deposit rate or increased volume.

As to odors allegedly exacerbated by rail rather than truck transport, the Petition sets forth no data showing the relative sourcing of any odors among the various possible causes: truck, rail, method of disposal, rain, wind direction, etc.

In any event, the application for approval and the approval (with SEQRA review) conducted by the Town of Macedon was proper and has never been challenged in any Article 78 proceeding. Copies of the application, engineering studies, SEQRA review, DEC consent and approval are attached and submitted herewith. As is evident therein, the Town of Macedon adequately considered the fact that the railroad cars were sealed which is the basis of Petitioners'

complaint. As a result, we believe the written record disputes the allegations of the Petition.

Macedon decided, and we believe correctly, that there would be no significant odor impact from rail delivery of waste. Moreover, the Town determined that rail delivery would be a significant improvement and reduce environmental impacts by reducing truck traffic to the landfill. The Town of Macedon believes this finding is consistent with the “STRATEGIES TO REDUCE LARGE TRUCK TRAFFIC IN LOCAL COMMUNITIES” attached hereto as Exhibit D. This study showed a significant amount of large truck traffic hauling MSW from downstate to the Finger Lakes. As is represented by Waste Management in its letter of June 30, 2016, attached hereto as Exhibit E:

Materials now managed by rail have the equivalent of removing more than 70 trucks per day or nearly 18,000 long haul truck trips per year.

Since these appear to be round trip numbers, the total is really closer to 36,000 one way trips per year. The Town of Macedon defers to DEC to convert the diesel fuel to pounds of carbon dioxide not released into the atmosphere by removing these trucks from the road, but it is clearly a significant reduction. Since most of these trucks arrived from the east, Perinton residents, who make up the vast majority of the petitioners, may not have been aware of the burdensome truck traffic prior to the construction and operation of the rail access but residents of Wayne County are relieved by the reduction. Removing possible parochialism, the Town of Macedon believes its decision resulted in several overall environmental and traffic safety benefits. In addition, as with the landfill gas emissions, the Town records show relatively few complaints from Macedon residents on this issue.

Attached hereto are the following exhibits demonstrating the intense review of the Town of Macedon to this application.

#### EXHIBIT A

Copy of the FEAF filed by Waste Management, SEQRA findings of the Macedon Town Board and Negative Declaration. Of significance is page 14 which shows a potential impact of 50% increase in land fill deposit rate. The Macedon Town Board became the lead agency with the consent of DEC as shown in Exhibit C.

#### EXHIBIT B

Engineering study prepared by Civil & Environmental Engineers dated April, 2013 submitted in support of the application. The study deals with odors throughout and was considered by the Town Board.

#### EXHIBIT C

Consent of DEC to Macedon as lead agency.

EXHIBIT D

NYDOT publication "STRATEGIES TO REDUCE LARGE TRUCK TRAFFIC IN LOCAL COMMUNITIES" dated September 8, 2008.

EXHIBIT E

Letter of Waste Management to the Town of Macedon dated June 30, 2016 demonstrating the reduction in truck traffic to the landfill.

EXHIBIT F

Letter from Harris Beach, attorneys for Waste Management, dated September 28, 2018 to DEC reiterating its commitment to resolve any outstanding issues with DEC.

EXHIBIT G

Letter from Harris Beach, attorneys for Waste Management, dated March 1, 2018 giving a history of the complaints underlying the petition and the response by Waste Management.

EXHIBIT H

Letter dated September 14, 2018 from Waste Management to the Supervisor of the Town of Perinton setting forth the actions Waste Management was willing to undertake to "address community concerns and improve operations at the High Acres Landfill."

The Town of Macedon believes it adequately reviewed and approved this project and sees no purpose in reopening it SEQRA review. As a result, the Town finds no basis to voluntarily open this matter for further review based on the data provided to date.

Very truly yours,



Anthony J. Villani

cc: Macedon Town Board

# Attachment 15

## **WM's Use of Horizontal Collectors in Cells 10 and 11**

WM's use of horizontal gas extraction wells ("horizontal collectors") in cells 10 and 11 did not permanently impair gas collection and control in these cells. Horizontal collectors are not a cure-all means of landfill gas collection. Historically, vertical gas extraction wells have been the primary means of collecting landfill gas, particularly over the long term. Generally, horizontal collectors are designed to assist in the short term, extracting low quality gas from recently buried waste where operation of vertical extraction wells is not yet feasible. They are usually expected to have a limited life span because the waste mass settles over time, typically crushing them, and because liquids that can accumulate in the collectors also may impair them. The earlier in time and lower in the waste mass that a horizontal collector is located, the more likely it operates at a reduced level, or no longer functions. For these reasons, DEC expects that, other than the topmost layer, many of the horizontal collectors previously installed in cells 10 and 11 by now operate at a reduced level or have completely stopped functioning; they were not intended to do otherwise. Therefore, any concern that a lack of horizontal collectors throughout the waste mass could permanently impact planned gas collection in cells 10 and 11 is misplaced.

Moreover, WM's use of horizontal collectors in these cells complied with the Part 360 permit. As is further explained below, by the time cells 10 and 11 were placed in operation, the Parkway Expansion Phase III Permit Drawing 26 governed the use of horizontal collectors in these cells. Drawing 26 does not specify any absolute maximum spacing. Rather, Drawing 26 denotes "typical" location and spacing of horizontal collectors, allowing cell operation to remain more flexible, based on actual conditions in the field and the professional judgement of engineers retained by WM.

WM's September 20, 2018 response to the Petition includes drawings from Golder Associates, WM's engineering consultant, depicting gas management infrastructure installed in and adjacent to cells 10 and 11 from 2009 to 2018. The Golder drawings show that horizontal collectors routinely were installed in and adjacent to cell 10 during 2009, 2011, 2012, 2013, 2014, 2015, 2017, and 2018, and in and adjacent to cell 11 during 2013, 2014, 2015, 2017, and 2018. Also, the construction certification reports for cell 11 reflect routine installation of horizontal collectors. In fact, the cell 11 construction certification reports (dated November 2013, October 2014, and October 2015) indicate that the horizontal collectors were installed from an elevation of approximately 470 feet amsl at the north end of the cell southward to 488 feet, extended upward along the intermediate bench to approximately 540 feet amsl, and continued upward to approximately 620 feet amsl.

While cells 10 and 11 have been constructed as part of the Phase II expansion, the operational requirements for the entire site were updated in 2008, as part of the DEC's approval of the Phase III expansion. Consistent with the regulation in effect at that time (see, 6 NYCRR 360-2.9, stating, "The operation and maintenance manual for a landfill must contain a comprehensive description that reflects the day-to-day operations throughout the active life of the facility"), the Parkway Expansion Phase III application

documents provide that the newer operational requirements contained in the application were intended to apply site-wide, including, among other things, the placement of horizontal gas collectors in the Phase II landfill. (See, for example, the January 2006 O&M Manual §6.4, “Landfill Gas Collection,” which addresses the placement of horizontal gas collectors, among other things.) Also, the January 2006 Parkway Expansion Phase III Engineering Report states that the Parkway Expansion Phase III permit modification application was intended to encompass not only the future Phase III landfill area, but also the existing Western Expansion (WEX) and Parkway Expansion Phase I landfills, and the Parkway Expansion Phase II landfill (including cells 10 and 11). As a result, WM was required to install the horizontal collectors in accordance with the later Phase III Drawing 26 rather than the superseded Phase II Drawing 29.

To describe what operational requirements pertained to the installation of horizontal collectors in cells 10 and 11, the Petition mistakenly references the High Acres Parkway Expansion Phase II permit drawings, specifically Note 3 on Drawing 29, which states that “[t]he vertical spacing of the gas extraction and collection system shall not exceed 75 feet” (Petition paragraph 52). As a result, the Petition incorrectly concludes that, at a minimum, two additional layers of horizontal gas collection trenches were required to have been installed in cell 11 but were not.

In any case, horizontal gas collectors generally had been installed in accordance with vertical spacing not exceeding 75 feet in those cells. More specifically, based on DEC’s review of the Golder drawings, the following table (presenting vertical cross sections of two locations, one in cell 10 and the other in cell 11, using information from the Golder drawings) demonstrates that WM generally installed horizontal collectors within vertical spacing not exceeding 75 feet:

<b>Cell</b>	<b>Location</b>	<b>*Top of Primary Leachate Collection System</b>	<b>Approximate Elevations of Horizontal Gas Collectors</b>	<b>†Top of Landfill</b>
<b>10</b>	N 1126500 E 822500	485 ft.	527 ft., 570 ft., 600 ft., and 640 ft.	644 ft.
<b>11</b>	N 1126500 E 823000	477 ft.	477 ft., 520 ft.	586 ft.

\*Top of Primary Leachate Collection System elevations (in feet amsl) are from the cell 10 and 11 construction certification reports dated January 2008 and November 2013 respectively and are approximate.

†Top of Landfill elevations (in feet amsl) are from the Interim Grading Plan for Cells 10/11 dated January 29, 2018 and are approximate.