



Inver Grove Heights Environmental Commission
Thursday, October 28, 2021, at 7:00 p.m.
City Council Chambers - 8150 Barbara Avenue

Meeting Agenda

1. Call to Order

2. Roll Call

3. Presentations - Items that do not require action.

- A.** Community Development Environmental Initiatives Update, January - October 2021

4. Announcements

- A.** Next Meeting - Thursday, November 18, 2021 - Regular Meeting 7:00 p.m. City Council Chambers. *Note: Meeting date is changed from regularly scheduled Thursday due to a holiday.*

5. Consent Agenda - All items on the consent agenda are considered routine and have been made available to the Environmental Commission at least two days prior to the meeting. The items will be enacted in one motion. There will be no separate discussion of these items unless a Commission member or citizen so requests, in which event the item will be removed from this agenda and considered in normal sequence.

- A.** Minutes of Thursday, April 22, 2021, Environmental Commission Meeting

6. Regular Agenda - Items Requiring an Action.

- A.** Environmental Commission Appointments

7. Public Comment - Public comment provides an opportunity for the public to address the Commission on items that are not on the agenda. Comments will be limited to three (3) minutes per person.

8. Administrative Presentations - Items that need to be discussed without any actions.

9. Commission Comments - An opportunity for Commissions to raise additional questions or comments.

10. Adjourn

Inver Grove Heights Environmental Commission
Virtual Meeting via Zoom
Thursday, April 22, 2021, at 7:00 p.m.

Item: 3A

Meeting Minutes

1. Call to Order

The Environmental Advisory Commission of Inver Grove Heights met virtually via Zoom on Thursday, April 22, 2021. Chair Trenzeluk called the meeting to order at 7:00 p.m.

2. Roll Call

Present: Chair Ted Trenzeluk, Commissioners; Sarah Brass, Katherine Teiken, Larry Moehring, Matt Mills, Robert Heidenreich and Nichole Boehmke

Absent: Commissioner Patricia Todd and Aditya Jayam (excused)

3. Presentations

A. Operational and Gas Migration Updates at Pine Bend Landfill

Ally Sutherland, Environmental Specialist, noted that Pine Bend Landfill is owned and operated by Republic Services. The landfill is currently operating under existing permits from the Minnesota Pollution Control Agency (MPCA), Metropolitan Council Environmental Services (MCES), Dakota County and the city. In 2018, Pine Bend Landfill requested city, county, and MPCA approval for a side slope capacity expansion. The city approved this request through a Conditional Use Permit amendment, Host Community Agreement amendment and Non-Conforming Use Certificate amendment.

In the first quarter of every year, Pine Bend Landfill submits an Annual Report to the MPCA to show compliance with their solid waste permit. Barr Engineering completes a technical review of this report on behalf of the city with the following items:

- Conditional Use Permit
- Non-Conforming Use Certificate
- Gas/Leachate Dual Extraction System
- Landfill Gas
- Surface Water
- Financial Assurance
- Contingency Action and Closure Plans
- Groundwater Quality

In December 2020, Barr Engineering's review of Pine Bend Landfill's 2019 Annual Report concluded that Pine Bend Landfill did not demonstrate full compliance with Minnesota Rule 7035.2815 Subpart 11 related to gas management at landfills. The city has requested that Pine Bend Landfill present progress to achieve compliance at the April 22, 2021 Environmental Commission Meeting. Pine Bend Landfill will also present operational updates related to the landfill.

Aaron Janusz, Environmental Manager of Pine Bend Landfill, presented a powerpoint presentation to the Environmental Commission on the operational and gas migration updates at Pine Bend Landfill. Tom Shustarich, Design Engineer with Stantec, was on the call as well. Powerpoint slides were presented as follows:

Republic Services Team

- Tyler Kraft, General Manager, 3 years
- Chris Parker, Operations Manager, 6 months
- Aaron Janusz, Environmental Manager, 14 years
- Office Staff (2) / Operators (8) / Mechanic (1) / Scalehouse/Lab/Laborer (3)
- Tom Shustarich, Stantec (formerly Wenck), Design Engineer, 19 years

Reviewed ariel photograph of the landfill footprint

- Reviewed future side slope expansion area
- Reviewed Fortistar plant location

Landfill Development

- MSW Landfill
 - MPCA Permit SW-45
 - Dakota County License/Host Agreement
 - Inver Grove Heights CUP/NCUC/Host Agreement
- Landfill Started September 1971
 - Phase 1 and Phase 2 built - Unlined
 - New environmental requirements passed in mid-1980's to line landfills and reduce environmental impact.
- Subtitle D (Engineered (lined) Landfill)
 - Phase 3 built - 1986
 - Phase 4 built - 1999
 - Phase 5 built - 2005 (Vertical Expansion to build up the landfill)
 - Phase 6 built - 2019 (Vertical Expansion to build up the landfill)

Landfill Information

- Total Area - 358.7 acres
 - Permitted landfill - 192.1 acres
 - Current footprint - 187.4 acres
 - Final cover area - 104.0 acres
- 2,000 tons MSW per day
- 3,000 cubic feet per minute of Landfill Gas
 - High-BTU plant - Fortistar plant that will convert landfill gas into 100% natural gas. Fortistar has an agreement with Xcel Energy to put the converted gas into Xcel Energy's natural gas pipeline.
- 9,000,000 gallons of leachate per year
 - Landfill leachate is hauled to MCES for treatment and disposal. The landfill hauls about 6-7 loads of leach to MCES daily.
 - 117th Street may be converted into a county road and as part of this project Pine Bend Landfill is considering installing a direct connection to the sewer system to dispose leachate instead of hauling the leachate.

How a Landfill Works (with diagram)

- Described filling and gas extraction process
- Dispose of gas through flaring or conversion to natural gas

- Described liner system made of compacted clay, 60 mil HDPE plastic liner and sump pump to manage leachate. Required to keep less than one foot of leachate on top of that liner.
- Described process to cover the landfill

Current Projects: Certificate of Need (CON)

- MPCA Process - Required for MSW Airspace. Pine Bend Landfill has about 6 months to a year of CON remaining. The landfill does not have sufficient CON to fill the landfill as they are currently permitted.
- CON Application Submitted August 2020
- Preliminary Determinations/Public Meeting - Spring. MPCA will discuss how to manage CON for the metropolitan area.
- Finalize Early Summer

Chair Trenzeluk asked if the city and county are involved in the CON process. Mr. Janusz responded that counties are the entity that request need for processing space. All three metro processing plants called HERC, Newport, and Red Wing have reached capacity. Once these processing plants had met capacity earlier this year, the MPCA opened the CON process for additional landfilling. The 2018 city agreements that were approved for the landfill expansion are contingent of CON being received. Mrs. Sutherland noted that the city has been involved in the expansion process through the local land use agreements the city has with the landfill. CON is an MPCA permitting process but the city and county have been aware the landfill is waiting to received CON from the state in order to expand.

Chair Trenzeluk stated that he is concerned about the possibility of the landfill closing given there may not be any additional regional options for landfill disposal and is wondering if the city has a role in moving this process forward. Mr. Janusz responded that the MPCA controls this process and is hopeful the public meeting will be held within the next few weeks.

Current Projects: Cell Construction - Cell 6D and 6B-1 (with diagram)

- Showed where new cells will be located and how slopes will be adjusted.
- They are trying to maximize the use of the existing landfills footprint by expanding the airspace

Current Projects: RNG Plant site plan - Fortistar Development

- 12,000 square foot processing facility to convert landfill gas to natural gas
- Project is currently under city review

Gas Migration

- Pine Bend Landfill is actively trying to comply with MN Rule 7035.2815 Subp. 11: Gas monitoring, collection, and treatment system. The concentration of any explosive gas must not exceed its lower explosion limit at the property boundary or 25 percent of its lower explosion limit in and around facility structures or any other on-site monitoring point.
- Landfill Gas (LFG) is 50% Methane
- Methane Lower Explosive Limit (LEL) is 5%
- Pine Bend Landfill is monitoring gas probes around the landfill. They want these to register at less than 5% LEL. They have struggled over the years to reach this 5% in a portion of the gas probes.

Gas Migration - Gas Collection System (with diagram)

- Reviewed the gas pipeline and well system diagram of the landfill.

Gas Migration - Gas Monitoring Probes (with diagram)

- Reviewed the gas probe diagram of the landfill.
- Probes detect gas migration off the property. One challenge of the site is how narrow the buffer area between the landfill and neighboring property is that they are trying to monitor for gas migration.
- Another factor is the unlined portion of the landfill. There is nothing in this area to keep the gas inside the landfill. They believe that some of the gas is coming out of the edges of the unlined area.

Gas Migration - Probe Detail (with diagram)

- Showed diagram of a gas probe and how it monitors gas

Gas Migration - Probe Monitoring

- 39 probes, with varying elevations, monitored quarterly
- Probes with exceedances monitored monthly
- Historical exceedances on east, south, and west side of landfill
 - Unlined area
 - Narrow buffer area
- Currently no off-site impacts
 - Recycling Center 2006 geoprobe
 - Installed building monitor
- Working with MPCA since 2006 on their rule. City included compliance of this rule in the CUP with the landfill.
- Currently 8 probes with intermittent exceedances

Gas Migration - IGH CUP

- April 9, 2018 Res. No. 18-69, Condition 14
- Compliance with MN Rule 7035.2815 for six consecutive months prior to January 1, 2025
- No waste acceptance if compliance is not met
- Annual updates to Environmental Commission in Q1
- Progress reports in MPCA Annual Report
- City review and comment on work plans and reports

Gas Migration - Timeline

- 2006 - Geoprobe investigation and "fingerprint" analysis
 - No detections across railroad tracks to the north
 - Detection near Recycling Center across railroad tracks
 - Installed building monitor at Recycling Center
- 2012 - Probe evacuation
 - Apply vacuum to two probes and monitor
 - No decrease in methane concentration
- 2013/14 - Geoprobe investigation
 - Installed more probes on east and west side of landfill
 - One exceedance on east side (Recycling Center)
 - Exceedances on West 100

Gas Migration - 2013 Geoprobes (with diagram)

- Reviewed diagram of 2013 probe locations

Gas Migration - Timeline (with diagram)

- 2015 - Geoprobe investigation and Work Plan
 - Geoprobes at 5 locations adjacent to probes
 - Proposed installing passive vents

Gas Migration - Timeline (with diagram)

- 2016/17 - Passive Vents and Work Plan
 - Passive vents installed adjacent to MMP17. Saw a little success but not as much as expected.
 - Proposed installing wind turbines

Gas Migration - Timeline

- 2017/18 - Passive Vents and Work Plan
 - Turbines installed on passive vents at MMP17
 - Passive vents installed adjacent to MMP22 and MMP24
- 2019/20 - Monitoring

Gas Migration - Timeline (with diagram)

- Reviewed graph of intermittent exceedances. Noted they see seasonal variations and are trying to determine the cause of these.

Gas Migration - Source Controls

- Active Gas Collection
 - 216 collection points - gas wells, horizontals, leachate risers
 - 2020 - Phase 4 new gas header, Phase 5 new horizontal collection
 - 2021 - Well redrills and piping repairs
- Phase 6 Sideslope Expansion
 - Additional liner/cover
 - Additional gas wells

Gas Migration - Summary/Next Steps

- 2021 - Gas Migration Report and Workplan - May
- Passive Vents
 - Probes with vents trending downward
 - Intermittent exceedances
 - Continue monitoring
- Geoprobe Investigation and Vacuum/Flare Pilot
 - Geoprobe borings at property boundary
 - Connect passive vents to vacuum source and flare
- Still determining the best solution and how to manage this. They are seeing downward trends with intermittent exceedances and are continuing to monitor and plan how to meet gas migration requirements.

Chair Trenzeluk stated that the timeline of exceedances indicated trends of two probes and asked if the exceedances seen in other probes follows the same trend. Mr. Janusz responded in the affirmative and noted that the work plan will include data from all probes. They are

investigating why the concentration level of the probes stays below 5% for several months then intermittently spikes. The purpose of the MN rule is to ensure gas is not migrating off site. There are currently no exceedances off site, but they want to meet the exceedance standards on their site where the probes are placed to avoid potential migration off site in the future.

Commissioner Brass asked if the Fortistar plant will help alleviate the gas migration problem. Mr. Janusz responded that they will be changing the flow of the gas. They are not certain what will happen, but they could potentially see better collection.

Commissioner Moehring asked if the changes in the exceedance trends are based on what comes into the landfill. Mr. Janusz responded that no waste has been put into the unlined portion since the late-1980's. The active cells are in the lined section of the landfill and therefore are sectioned off from the unlined portion and should not affect that area.

Commissioner Mills asked if there is a trend of exceedances not occurring at deeper probes but at higher probes instead. Mr. Shustarich stated the exceedances vary from location to location and they think that may be due to geology and depth of the waste. The gas migration trends shown in the powerpoint for the two probes are pretty typical but not exact at all locations. Some of the deeper wells may show higher exceedances than the shallower wells so there is no correlation that can be drawn.

Commissioner Teiken asked what Pine Bend Landfill has learned from other landfills and asked what next steps are if what they are currently doing doesn't work. Mr. Shustarich stated they started with the passive vents based on the state's recommendation. The State used passive venting for remediation projects through their closed landfill program. Pine Bend Landfill saw some success with this but not to the extent they were hoping for. The next step is to look beyond a passive system and into an active system. The workplan will include how a vacuum system can actively collect the gas. Mr. Janusz noted that once you actively collect the gas then you need to determine what to do with it. The solution for collection and disposal varies based on the methane concentration of the gas.

Commissioner Teiken asked if an active system would use a lot of energy. Mr. Shustarich responded in the affirmative.

Chair Trenzeluk asked if there are any callers on the line. Mark Gade, IT Manager, stated there are no callers on the line.

Chair Trenzeluk requested that we consider setting up a tour of the landfill for commissioners. Mrs. Sutherland noted that she had planned to set up a tour of the nearby recycling center owned by Republic Services in 2020 and 2021 but tours have been unavailable then limited due to COVID-19. When tours for the landfill and recycling center become readily available, she will notify the commissioners.

Chair Trenzeluk requested that Mrs. Sutherland update the commission on future CON updates. Mrs. Sutherland noted she would.

4. Announcements

- A. Next Meeting - Thursday, May 27, 2021 - Virtual Regular Meeting 7:00 p.m.
- B. Commissioner Applications Due Monday, May 3, 2021 at 4:30 p.m.

5. Consent Agenda

A. Minutes of Thursday, February 25, 2021 Environmental Commission Meeting
Motion by Commissioner Teiken, seconded by Commissioner Brass to approve the minutes from Thursday, February 25, 2021 as submitted.

Ayes: 7
Nays: 0 Motion carried.

6. Public Comment

7. Regular Agenda

8. Administrative Presentations

9. Commission Comments

Commissioner Teiken asked if there are any additional updates on the Xcel Energy Partners In Energy Program. Mrs. Sutherland stated that the Energy Action Plan was approved by the City Council on March 8, 2021. The city is now moving into implementation of the plan with help from the Xcel Energy Partners In Energy facilitators as of this month. She will be meeting next week with communications and Partners In Energy facilitators to review the Energy Action Plan workplan and identify priorities for Q2 and Q3 of this year. The workplan includes specific tactics and suggested timelines so she will be using this to guide implementation. Mrs. Sutherland will be sharing environmental initiative updates with the Environmental Commission later this fall about our Energy Action Plan, GreenStep Cities, and recycling grant updates. The city kicked off implementation by hosting a virtual home energy efficiency presentation provided by Center for Energy and Environment over earth week this week. Once allowed by COVID protocols, workshops will be held in-person.

Commissioner Teiken asked if the webinars will be shared electronically. Mrs. Sutherland responded that people who signed up for the workshop will receive the recording, but she will be looking into how to share the videos on the website as well. Hosting virtual workshops is a new process for the city. The city would prefer residents attend the workshops in person in the future but will be considering options to share recordings.

Chair Trenzeluk reminded the commission to keep an eye out for emails promoting sustainability workshops held by Resilient Cities and Communities.

10. Adjourn

Motion by Commissioner Heidenreich, seconded by Commissioner Boehmke to adjourn at 8:04 pm.

Ayes: 7
Nays: 0 Motion carried.



Environmental Commission Staff Report

TITLE: Community Development Environmental Initiatives Update, January through October 2021.

Meeting Date:	October 28, 2021
Item Type:	Presentations
Contact:	Ally Sutherland, 651-604-8511
Prepared by:	Ally Sutherland

PURPOSE/ACTION REQUESTED

Provide the Environmental Commission an update on environmental related projects overseen by the Community Development Department. No action from the Commission is required.

BACKGROUND

Ally Sutherland, Environmental Specialist, will present an update to the Environmental Commission on the following Community Development environmental initiatives from January - October 2021:

- Minnesota Pollution Control Agency Certificate of Need (CON) process
- Community Waste Abatement Grant
- Energy Action Plan / Xcel Energy Partners In Energy
- GreenStep Cities