

INTRADEPARTMENTAL MEMORANDUM

FILE: Devils Lake (0154)

TO: Charles R. Hyatt, Director *CRH*
Division of Waste Management

THROUGH: Diana A. Trussell, Manager *DAT*
Solid Waste Program
Division of Waste Management

FROM: Carolyn M. Gurske, Environmental Scientist *CMG*
Solid Waste Program
Division of Waste Management

SUBJECT: Permit Application Review

DATE: July 1, 2024

Introduction

On April 13, 2023, the North Dakota Department of Environmental Quality (Department) received a permit application for a renewal for the City of Devils Lake inert waste landfill.

The City of Devils Lake currently owns and operates an inert waste landfill facility, regulated under Permit 0154, on approximately 40 acres, with 9.5 acres for the inert waste landfill located in the NE ¼ of Section 5, Township 154 North, Range 64 West in Ramsey County, ND. The City of Devils Lake is proposing to renew their permit to continue using the inert waste landfill and accepting inert waste for the Devils Lake area. The facility was first permitted in 1997.

Design

The landfill has an appropriate sign at the entrance that states the hours of operation, the permit number, contact information and prohibited waste and activities. The rest of the landfill is surrounded by a barbed wire fence and a gate.

The landfill is located on top of an area of collapsed glacial till and outwash sediment. Till that is made up of clay, silt, sand, and gravel is present at the surface for most of the site and is about 25 feet thick. The upper till layer of the site has a lower hydraulic conductivity and acts as a confining layer for the site so that water will not pass through easily. There is hilly topography due to several glacial advances. A large hill is located to the east and several smaller hills to the south of the property.

Several wetlands surround the landfills and small depressions exist within the site. The wetlands that are present to the south of the site are semi-permanent and appear to be ground

water discharge points. There are also several seasonal wetlands that discharge to the semi-permanent wetlands.

Base grades range from 33% on the side slope to 1% at the base. The grades are made to promote surface water runoff.

The area is protected from surface water run-on and run-off by construction of a perimeter berm. The southeast corner will be used as a sump to allow leachate to be pumped if it is necessary.

Each piece of landfill equipment is equipped with fire extinguishers and the landfill resides within a 9-1-1 service area.

Operation

Access is controlled and a qualified landfill operator will be present as needed to ensure proper operation and monitoring.

The inert waste will be unloaded near the southwestern portion of the landfill area, spread to the north and east, and compacted periodically to promote water drainage. Fill will be placed in approximately 1-to-2-foot lifts. Filling will progress generally from the north to the south and east. Compaction will be achieved by several passes of a bulldozer or compactor.

A 6-inch intermediate cover will be placed over the inert waste whenever disposal is interrupted for 90 days or at least twice per year. Waste and intermediate cover soils will be compacted and graded to promote surface water runoff.

The waste accepted is only inert and contains mostly furniture, carpet, building materials, construction debris, and glass. Yard waste consisting of grass, leaves, and smaller branches are composted on site. White goods and tires are stored on site and hauled periodically to be recycled.

The facility has plans for what to do based on weather conditions. During extremely windy weather, filling will only be performed in areas that are protected from the wind to minimize dust. Application of water will also be used to assist in dust control operations. Vegetation will be established for filled and covered areas. During cold weather, operations will be moved to lower areas to avoid the wind. Operations in the winter will be done in a timely manner to prevent the freezing of any unloaded material.

Closure

Postclosure care will continue for a minimum of 5 years. The site will be inspected at least four times a year, once in each season as well as after severe weather events. The final cover will be inspected for quality, erosion, and water drainage. The site security will also be inspected by checking the fencing and the entry gate.

If any inspections show a problem or a potential for one, appropriate corrective measures will be performed. Corrective measures include adding more soil to erosional areas, replanting vegetation, and fixing any security measures that need repair. Routine maintenance will also be performed on a basis of once per year for mowing unless it is needed sooner. Ditch cleaning will be performed as needed.

The City of Devils Lake is currently intending to remain in control of the site, however, if the area is sold, the deed will include any restrictions.

Compliance History

This facility has not been issued any Letters of Apparent noncompliance (LOANs) since the last permit was issued in 2013.

Solid Waste Management Rules (NDAC Article 33.1-20)

NDAC Section 33.1-20-02.1-05. Record of notice.

The record of notice was provided and it included the affidavit of an inert solid waste disposal facility. It was signed by Richard Johnson, the Mayor of the City of Devils Lake, on February 6, 2013.

NDAC Section 33.1-20-02.1-06. Property rights.

The site is owned by the City of Devils Lake and a warranty deed dated 1975, 2012 and 2013 was included.

NDAC Section 33.1-20-03.1-01. Preapplication procedures.

A preapplication is not required for an inert waste landfill.

NDAC Section 33.1-20-03.1-02. Permit application procedures.

NDAC Subsections 33.1-20-03.1-02(1) – (3)

The City of Devils Lake submitted both a hard copy and an electronic copy of the application and supporting documents. The application form was signed by both the owner and operator.

NDAC Subsection 33.1-20-03.1-02(4)

A public notice by the facility is not required for a permit renewal and no major modifications are being proposed.

NDAC Subsection 33.1-20-03.1-02(5)

Notification to the North Dakota Public Service Commission is not required as the facility is not proposing to dispose of coal processing wastes in a mining permit area.

NDAC Subsection 33.1-20-03.1-02(6)

Applications for a solid waste management unit or facility permit must include the following information where applicable:

a. A completed application form, subsection 1;

The City of Devils Lake submitted both a hard copy and an electronic copy of the application and supporting documents. The application form was signed by both the owner and operator.

b. A description of the anticipated physical and chemical characteristics, estimated amounts, and sources of solid waste to be accepted, including the demonstration required by North Dakota Century Code section 23.1-08-14;

The site receives approved inert waste materials. The estimated annual waste flow is 7,500 cubic yards. The waste accepted is only inert and contains mostly furniture, carpet, building materials, construction debris, and glass. Yard waste consisting of grass, leaves, and smaller branches are composted on site. White goods and tires are stored on site and hauled periodically to be recycled.

c. The site characterization of section 33.1-20-13-01 and a demonstration that the site fulfills the location standards of section 33.1-20-04.1-01;

The application states that the depth to the uppermost aquifer unit is anywhere from 60 to 140 feet underground. There are no major glacial aquifers within a 2-miles radius of the landfill. Wetland areas were identified in the 2012 landfill expansion and because of that multiple wetlands were created throughout the areas in conjunction with a United States Army Corps of Engineers (USACE) project. A description of the local hydrogeology is also included and shows low hydraulic conductivity in the upper till layer, which makes it act as an aquitard.

d. Soil survey and segregation of suitable plant growth material;

A soils balance was completed for the site, and it was noted that the site would need soil from sources off site. The city has possible contacts to receive extra soils as needed.

A soil survey was included within the application. It includes a map of the local soils and the landfill boundary. It shows how much each soil type takes up of the survey area in acres and the percentage.

The yard waste compost will be utilized in the inert landfill for cover material.

e. Demonstrations of capability to fulfill the general facility standards of section 33.1-20-04.1-02;

A permanent sign with the appropriate information is posted at the entrance to the landfill. Nuisance dust is combated with the use of water to keep the amount of dust down. The personnel involved in the facility are included in the application and each have more than 15 years of experience. Loads are monitored by the landfill operator and the operator will reject any prohibited wastes. Water is directed away from the waste piles and there is an area in the southeast corner of the landfill for any possible contact water that would need to be pumped out. This facility has not had any noncompliance issues within the last 11 years.

f. Facility engineering specifications adequate to demonstrate the capability to fulfill performance, design, and construction criteria provided by this article and enumerated in this subdivision;

1) Transfer stations and drop box facilities, section 33.1-20-04.1-06.

The requirements of this section are not applicable as the facility is not proposing a transfer station or a drop box facility.

2) Waste piles, section 33.1-20-04.1-07.

The pads for the waste piles are sloped and graded to allow for surface and stormwater runoff. The compost piles are separate and only composting materials are allowed in the pile.

The facility has areas for composting, white goods and tires. Additional information can be found in the **Operations** section of this memo.

3) Resource recovery, section 33.1-20-04.1-08.

The requirements of this section are not applicable as the facility is not proposing any resource recovery activities.

4) Land treatment, section 33.1-20-04.1-09 and chapter 33.1-20-09.

The requirements of this section are not applicable as the facility is not proposing a land treatment facility.

5) Non-CCR surface impoundments, section 33.1-20-04.1-09 and chapter 33.1-20-08.1.

The requirements of this section are not applicable as the facility is not proposing any surface impoundments.

6) Any disposal, section 33.1-20-04.1-09.

There are documents included from Wenck showing the slopes, berms, and the proposed final grades of the waste, as well as what the grade will be made from and what the bottom is made from. They show the slopes of the landfill and where the access roads are. The inert waste will be unloaded near the southwestern portion of the landfill area, spread to the north and east, and compacted periodically to promote water drainage. Fill will be placed in approximately 1-to-2-foot lifts. Filling will progress generally from the north to the south and east. Compaction will be achieved by several passes of a bulldozer or compactor.

7) Inert waste landfill, chapter 33.1-20-05.1.

The permit application provided the appropriate documentation and diagrams for the City of Devils Lake inert landfill that shows the grades, the existing roads, fences, and the property boundaries.

There are documents included showing the slopes, berms, and the proposed final grades of the waste, as well as what the grade will be made from and what the bottom is made out of, which is a 12" native clay liner and the berms are also made of native clay. Cross sections are also included showing the top slope and the perimeter berms. They show what the material the final cover will be made out of, which includes an upper 12" of clay rich earthen compacted material that will be loosely placed with at least 6" to be suitable for plant growth.

8) Municipal waste landfill, chapter 33.1-20-06.1.

The requirements of this section are not applicable as the facility is not proposing a municipal waste landfill.

9) Industrial waste landfill, chapters 33.1-20-07.1 or 33.1-20-10.

The requirements of this section are not applicable as the facility is not proposing an industrial waste landfill.

10) TENORM waste landfill, chapters 33.1-20-07.1 or 33.1-20-10 and 33.1-20-11

The requirements of this section are not applicable as the facility is not proposing a TENORM waste landfill.

11) Special waste landfill, chapter 33.1-20-07.1;

The requirements of this section are not applicable as the facility is not proposing a special waste landfill.

12) CCR unit, chapter 33.1-20-08;

The requirements of this section are not applicable as the facility is not proposing a CCR unit.

13) Municipal solid waste ash landfills, chapter 33.1-20-10;

The requirements of this section are not applicable as the facility is not proposing a municipal solid waste ash landfill.

14) Regulated infectious waste unit, chapter 33.1-20-12;

The requirements of this section are not applicable as the facility is not proposing a regulated infectious waste unit.

g. The plan of operation of section 33.1-20-04.1-03;

The facility is only open by appointment, with the times being 9AM or 1PM Monday through Friday. The facility is locked when not in use and a permanent sign detailing the facility name, permit number, acceptable wastes and contact information.

The inert waste will be spread to the north and east and compacted periodically to promote water drainage. Fill will be placed in approximately 1-to-2-foot lifts. Filling will progress generally from the north to the south and east. Compaction will be achieved by several passes of a bulldozer or compactor.

A 6-inch intermediate cover will be placed over the inert waste whenever disposal is interrupted for 90 days or at least twice per year. Waste and intermediate cover soils will be compacted and graded to promote surface water runoff.

The waste accepted is only inert and contains mostly furniture, carpet, building materials, construction debris, and glass. Yard waste consisting of grass, leaves, and smaller branches are composted on site. White goods and tires are stored on site in discrete areas and hauled periodically to be recycled.

During extremely windy weather, filling will only be performed in areas with calmer wind to minimize dust. Application of water will also be used to assist in dust control operations. Vegetation will be established for filled and covered areas. During wet weather conditions, temporary berms and ditches are provided to divert water from the active landfill site. Temporary roads are maintained with gravel. It is up to the discretion of the operator if landfill operations will continue in all types of weather.

h. Demonstration of the treatment technology of section 33.1-20-01.1-12;

The requirements of this section are not applicable as the facility is not proposing to treat waste.

i. The place where the operating record is or will be kept, section 33.1-20-04.1-04;

The operating record is kept at Devils Lake Sanitation Building, 205 2nd St NE, Devils Lake, ND 58301

j. Demonstration of capability to fulfill the groundwater monitoring, sections 33.1-20-08-06 or 33.1-20-13-02;

The requirements of this section are not applicable as the facility is an inert waste landfill and groundwater monitoring is not required.

k. Construction quality assurance and quality control;

Since this is a renewal for the facility, the construction quality assurance and quality control have been submitted to the Department before and have been approved. Permit drawings and sketches were previously provided to the Department and were included with the permit application.

l. Demonstrations of capability to fulfill the closure standards, section 33.1-20.1-04.1-05 and otherwise provided by this article;

The final cover will consist of a minimum of 24 inches of cover soils, of which the lower 12 inches will be compacted clay fill. The next 6 inches will be subsoil or rooting zone, and the top 6 inches will be uncompacted topsoil. The area will be seeded with grass and the final cover grade will be 20% providing stability for the waste mass.

The seed mixture for the facility includes Switchgrass, Big Bluestem, Indiangrass, and Slender Wheatgrass. The Department will be notified of the upcoming phase close or the final closure. The estimated closure date of the facility is 2040.

m. Demonstrations of capability to fulfill the postclosure standards, section 33.1-20-04.1-09 and otherwise provided by this article; and

The postclosure care period will be the City of Devils Lake's responsibility. Routine inspections of the site will occur at least four times a year, one for each season. These inspections will check for erosion problems, water damage, vegetation quality, and site security. If any problems arise, the appropriate measures will be taken including adding more soil and replating vegetation when needed.

Drainage ditches will be inspected four times a year as well as after major storm events. Maintenance if needed will be done within 10 days after inspection.

An annual report describing inspections, observations, and corrective actions will be prepared and submitted to the Department by March 1.

A copy of the contingency plan is kept at the City of Devils Lake's Sanitation Office. The contingency plan has two categories, event triggered, and inspection triggered.

Event triggers include severe rainfall, fire, and other unanticipated events. Inspection triggers include vegetation distress, erosion, surface drainage problems, and other findings.

Many events trigger contingencies which require an emergency response. In the event of emergencies, the City of Devils Lake's personnel will be contacted immediately. The contingency plan includes provisions for how to handle different situations.

n. A disclosure statement as required by North Dakota Century Code section 23.1-08-17.

A disclosure statement that meets the requirements of this section was submitted to the Department on April 13, 2023.

Conclusion

Based on the submitted application and items discussed above, City of Devils Lake has shown that the inert waste landfill renewal meets the requirements of the North Dakota Solid Waste Management Rules. It is proposed that the Department grant City of Devils Lake a permit with the conditions listed in Permit 0154. The proposed permit length is for a period of 10 years because the site has maintained a good compliance record.

CRH:DAT:CMG
Attachment