

INTRADEPARTMENTAL MEMORANDUM

FILE: Crosby Inert Waste Landfill (0151)

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SUBJECT: Permit Application Review

DATE: September 3, 2024

Introduction

On December 21, 2023, the North Dakota Department of Environmental Quality (Department) received a revised permit renewal application from the City of Crosby for the City of Crosby Inert Waste Landfill.

The City of Crosby currently owns and operates an inert waste landfill, and waste pile facility, regulated under Permit 0151 on approximately 15.2 acres located west of Crosby in the SW1/4, SE1/4, Section 30, TWP 163N, R 97W, Divide County. The existing site comprises approximately 15.2 acres and has been used for solid waste management activities since approximately 1912. The revised application proposes to add an additional 4.5 acres of inert waste landfill area to the south of the existing landfill area. In addition to disposing of inert waste, the facility also stores scrap metal such as major appliances for future recycling, yard waste such as grass and leaves for composting, concrete and asphalt/concrete for future recycling or disposal, and wood consisting primarily of trees and branches for possible beneficial reuse or open burning. The facility was first permitted as an inert waste landfill in 1994.

Design

A Certificate of Survey with meets and bounds information for the facility was included with the revised application. Engineering drawings showing survey information for the existing landfill area, and the proposed southerly landfill expansion area are included. Proposed expansion area landfill base grades, and proposed final waste height, and cap details were included in the revised application. The facility plans show the facility area encompassing approximately 19.7 acres.

A secured gate entrance is located at the southwest corner of the fenced area where the facility sign is posted.

Operation

Inert waste will be accepted from rural and city of Crosby residents and the facility has historically accepted about 2.01 tons per day for disposal based upon 4 days/week, 52 weeks/year. The facility will accept construction and demolition materials, wood for recycling or open burning, yard waste for composting, scrap metal for recycling, concrete, and asphalt concrete for recycling or disposal.

Closure

A closure plan was included, and the waste will be covered with two feet of final cover consisting of 12-inch compacted clay-rich layer, 6-inch rooting layer, and 6-inch topsoil layer with erosion control and vegetation.

Compliance History

The following items of noncompliance have been noted since 2017:

- Inadequate amounts of suitable plant growth material (SPGM) or topsoil stockpiled at the facility.
- Inadequate amounts of suitable earthen material stockpiled for covering waste at the facility.
- Inadequate soil cover over the waste.
- Filled areas at the northern and eastern waste toe slopes were graded too steep.
- Lack of an appropriate landfill sign.

The above items of noncompliance have been appropriately addressed by the facility, and no formal notices of violations have been issued to the facility.

Solid Waste Management Rules (NDAC Article 33.1-20)

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

A record of notice was filed with Divide County on October 26, 1994. The notice will need to be updated to include the proposed southerly inert waste landfill expansion area once it has been approved.

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

The City of Crosby is the owner of the land where the landfill facility is located.

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)

A completed application for a solid waste management facility permit form was submitted with the application. The application was signed by the President of Crosby, and a registered professional engineer.

An electronic, and paper copy of the application was provided to the Department.

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

A public notice by the facility is required. A public notice was published in The Journal on July 3, 2024 and July 10, 2024. A copy of the public notice and the affidavit of publication was provided to the Department on July 23, 2024.

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;

A completed application for a solid waste management facility permit form was submitted with the application.

An electronic copy of the application was provided to the Department.

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;

Inert waste will be accepted from rural and city of Crosby residents and the facility has historically accepted about 1.14 tons per day for disposal. The facility will accept construction and demolition materials, wood for recycling or open burning, yard waste for composting, scrap metal for recycling, concrete, and asphalt concrete for recycling or disposal.

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;

Hydrogeologic suitability of the site for use as a landfill is marginal at best, however, it has been approved for use as an inert waste landfill due to the nature of the waste accepted at the facility. The Divide County Groundwater Studies Bulletin has the landfill site mapped as outwash plain/channel fill and dune sand which developed in association with stagnation of the most recent glaciation phase in Divide County (see attached map). A gravel pit associated with the outwash is located in the NE1/4 of the SE1/4 of Section 30, approximately one-quarter mile northeast of the landfill. Detailed soil maps from the unpublished Divide County Soil Survey characterize the landfill area as well drained sandy loam and loamy sand soils formed in upland outwash plains. A drainageway adjacent and northeast of the landfill is mapped as poorly drained glacial till, however, indicating the upland sands may be relatively shallow. Glacial till ground moraine lies east and west of the outwash mapped in Section 30, indicating the Crosby Landfill outwash area is of minor extent, which may minimize some concerns related to possible groundwater contamination from the former dump. According to the Divide County Groundwater Study, the city of Crosby obtained public water supplies from wells in the outwash plain west of town until 1941. An alternative water source was developed because the outwash plain aquifer source was not dependable in dry years. The aquifer is a water table, or "surficial," aquifer of only local importance.

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

A high intensity soil survey was conducted at the facility to identify and quantify suitable plant growth material (SPGM). Zero cubic yards of SPGM were identified according to the soil survey included with the application. According to the soil survey, 12,543 cubic yards of subsoil were estimated to be present at the facility.

The facility is addressing the shortage of SPGM through off-site projects and soil amendments.

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

The application adequately addresses the general facility standards through the facility's Plan of Operation. Additional information can be found in **g. The plan of operation of section 33.1-20-04.1-03** section of this memo.

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 application shows a clean wood pile for open burning or recycling, compost pile, concrete pile, and a scrap metal pile for recycling.

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 application is not proposing a land treatment facility; however, petroleum contaminated soil has been spread and treated via an approved variance from the Department immediately south of the currently fenced landfill area and within the area of the proposed inert waste landfill Cells 1-5. The treated soil has been appropriately monitored for petroleum concentrations in accordance with the Department's Guideline 7. The follow-up monitoring results show acceptable levels of hydrocarbons.

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.

The facility is an existing inert waste landfill for the disposal of inert waste. The facility also stores scrap metal such as major appliances for future recycling, yard waste such as grass and leaves for composting, concrete and asphalt/concrete for future recycling or disposal, and wood consisting primarily of trees and branches for possible beneficial reuse or open burning with an approved burn variance from the Department.

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

The application addressed these requirements through the Plan of Operations and Closure Plan. Additional information can be found in the **Design** section, **Operations** section, **Closure** section, and **g. The plan of operation of section 33.1-20-04.1-03** section of this memo.

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 application includes a plan of operation that addresses the plan of operation requirements. It includes detailed information on:

- Site Access and Traffic Control
- Fill Progression

- Waste Handling
- Waste Acceptance and Rejection Procedures
- Equipment
- Surface Water and Erosion Control
- Wet Weather Conditions
- Litter Control
- Cold Weather Operations
- Dust Control
- Fire Protection
- Emergency Services
- Worker Safety
- Security
- Inspection
- Annual Report
- Petroleum Contaminated Soil
- Personnel Training

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 for the facility is located at the City of Crosby Offices.

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;

After closure, the City of Crosby, and a Professional Engineer will certify the facility was closed in accordance with the rules.

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

A closure plan was included, and the waste will be covered with two feet of final cover consisting of 12-inch compacted clay-rich layer, 6-inch rooting layer, and 6-inch topsoil layer with erosion control and vegetation.

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

The application included information on post closure care including maintaining the integrity and effectiveness of the final cover, making necessary repairs and monitoring the facility for 5 years after closure.

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

A disclosure statement was included with the application.

Conclusion

Based on the submitted application and items discussed above, the City of Crosby has shown that the renewal meets the requirements of the North Dakota Solid Waste Management Rules. It is proposed that the Department grant the City of Crosby a permit with the conditions listed in Permit 0151. The proposed permit length is for a period of 10 years because the facility has a history of good compliance.

CRH:DAT:BJT
Attachment